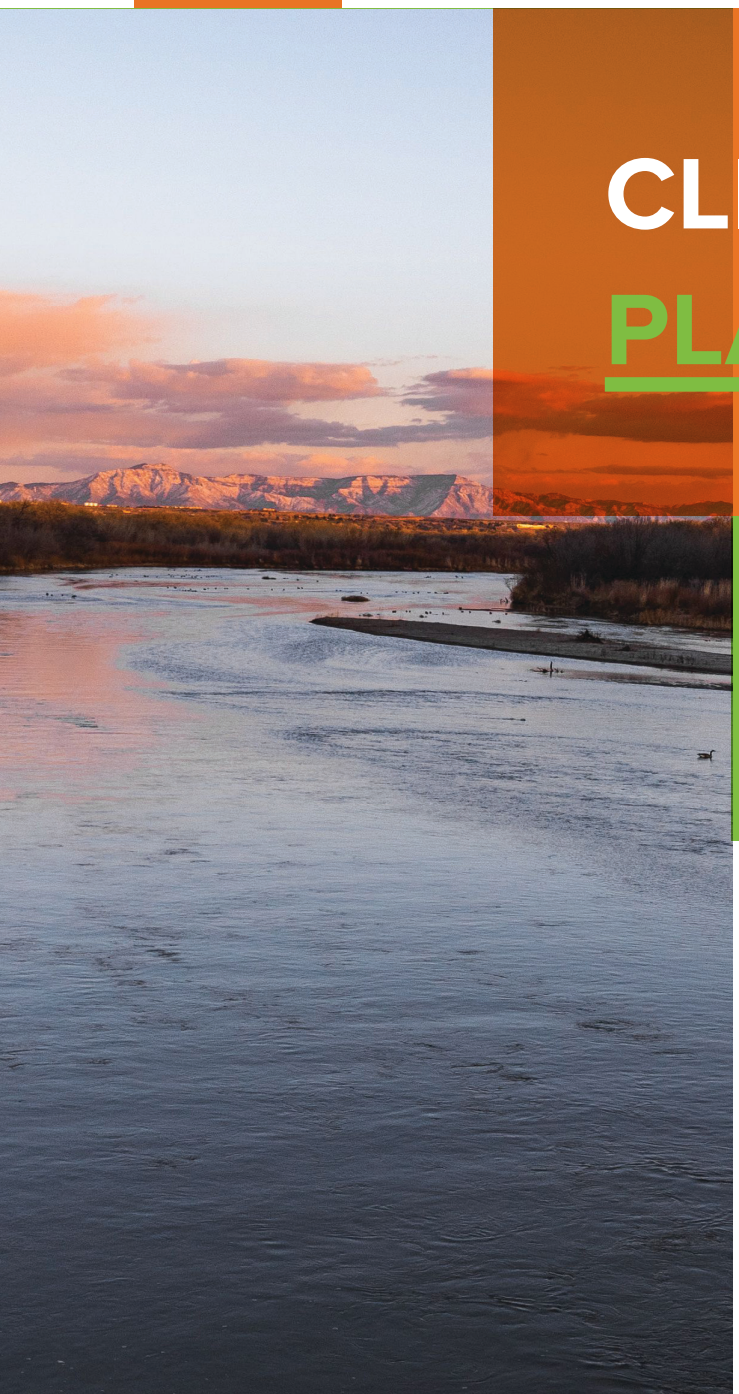
City of Albuquerque

ONE ALBUQUERQUE



CLIMATE ACTION PLAN 2021

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LETTER FROM MAYOR KELLER

The natural beauty of Albuquerque is part of what makes our city home. I was lucky to grow up here watching the sunset on the Sandias, playing in local parks, hiking in the foothills with my family, and escaping to nature in the Bosque. These places give us the space to reflect on our lives and dream about our city's future. In a place where water is scarce, protecting our natural resources is a cultural legacy that has been passed down for generations, and leaving Albuquerque cleaner and healthier than when we found it has been one of my top priorities as mayor.

The reality of climate change threatens our landscapes and the health of our city, and we can't wait to fight back. In just over three years, we've made incredible progress: We've installed 38 solar projects at city-owned buildings, ranking us third in solar per capita, added the first electric vehicles and electric buses to the City's fleet and built dozens of charging stations across the city, changed every streetlight to more sustainable LEDs, achieved LEED for Cities Silver certification, and partnered with the Bloomberg Philanthropies American Cities Climate Challenge to fund real reform. All of this has kept us in line to reach our goal of 100% renewable energy use by 2025.

This 2021 Albuquerque Climate Action Plan relies on the voices of our frontline communities—those impacted first and worst by climate crises—who advocated for 50 strategies to shape Albuquerque's climate agenda for years to come. These strategies define actions to limit Albuquerque's contributions to climate change and outline next steps to prepare for a climate we know is already changing. We have a long way to go to undo historic environmental injustice, especially in communities of color. This plan is a step toward a future where we are leaving a better Burque for future generations.

Thank you to the community, the Climate Action Task Force members, New Mexico First, the Sustainability Office, as well as all the policy advisors and City staff who led the creation of this plan. This process saw incredible engagement from across the city – with over 3,000 Burqueños offering additional input through surveys, meetings and public comment. I am so grateful to see the diverse communities across Albuquerque share their voices in a common cause.

ONE ALBUQUERQUE climate action plan

ACKNOWLEDGMENTS

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EXECUTIVE SUMMARY

Issues of climate and sustainability are central to the livelihoods of all Albuquerque residents. To effectively guide the fight against the climate crisis for years to come, community members, city staff and policy experts came together to develop the 2021 Albuquerque Climate Action Plan. This plan is both a response to City Resolution R-19-187's declaration of a climate emergency, and an update of the City's 2009 Climate Plan.

A critical component of the Climate Plan's goals, method and success is its rootedness in community. Collaboration with and direction from Albuquerque's frontline communities – those who have been and will be impacted "first and worst" by the climate crisis – have guided the entire plan-creation process. The Office of Sustainability also contracted with local non-profit New Mexico First to mediate all steps of the plan's development and ensure effective community engagement and representation.

The Climate Plan's core authors are the 19 members of the Climate Action Plan Task Force. These community leaders and advocates were carefully chosen through an application process which focused on applicants' representation of and connections to Albuquerque's frontline communities. Based off of the results of a city-wide survey and later task force consensus, the plan's policy recommendations are organized under the following themes:

- Sustainable Buildings
- Renewable Energy
- Clean Transportation
- Waste & Recycling
- Economic Development
- Education & Awareness
- Climate Conscious Neighborhoods & Resources

Throughout late 2020 and into early 2021, the task force met with experts from the city government and community in order to learn about and discuss the most pressing climate-change related challenges facing Albuquerque. During these deliberations, task force members developed consensus on their values, goals and strategies for tackling climate change.

The task force generated an initial list of specific recommendations to address their collectively-created goals for climate action in Albuquerque. These recommended strategies were then reviewed by the general public through a city-wide survey and two public comment meetings. Community feedback was central to the task force's redrafting process, which focused on refining and prioritizing their final strategies. The task force then concluded their deliberations by developing metrics to facilitate future action and follow-up reporting on implementation.

The Office of Sustainability is committed to guiding the implementation of the task force's recommended climate action strategies. The months of community conversations represented in this final plan have generated a pathway to action made stronger by the voices it represents and the local knowledge it contains. Ultimately, progress towards a more equitable and climate-conscious Albuquerque requires coordinated action between the City and all members of the community, and this Climate Action Plan lays the groundwork for this collaborative future.

INTRODUCTION

With the Sandia Mountains to the east and the Rio Grande at its core, Albuquerque is host to a unique natural environment that has long shaped and inspired deep connections to nature. These connections are shared by all residents, just as all are threatened by the current climate and ecological crises. While calls for climate action are global and resounding, there is also great need to refine action to the local contexts of place and history, and with the recognition that not all communities are impacted equally.

Following the call of City Resolution R-19-187's declaration of a climate emergency, as well as the City's commitment to fulfilling the greenhouse gas (GHG) reduction goals outlined by the **Paris Climate Agreement**[1], the City of Albuquerque committed to creating a plan for climate action driven by the diverse communities which live, work and play here. Critical to this process has been uplifting the voices and experiences of those residents who continue to be impacted by disparities in energy burdens, health outcomes and accessibility among other challenges.

These continued disparities require that the 2021 Climate Action Plan (CAP) center the experiences of Albuquerque's frontline communities **– communities that will be impacted "first and worst" by the effects of climate change. These communities include Indigenous, Black and other communities of color, as well as communities of low-income and other groups that face greater exposure to pollution and climate hazards with more limited resources to respond.** Albuquerque's frontline communities' perspectives highlight how climate action transcends a passion for caring for the natural environment; climate action is necessary to ensure and further justice and wellbeing in economies, governance and public health.

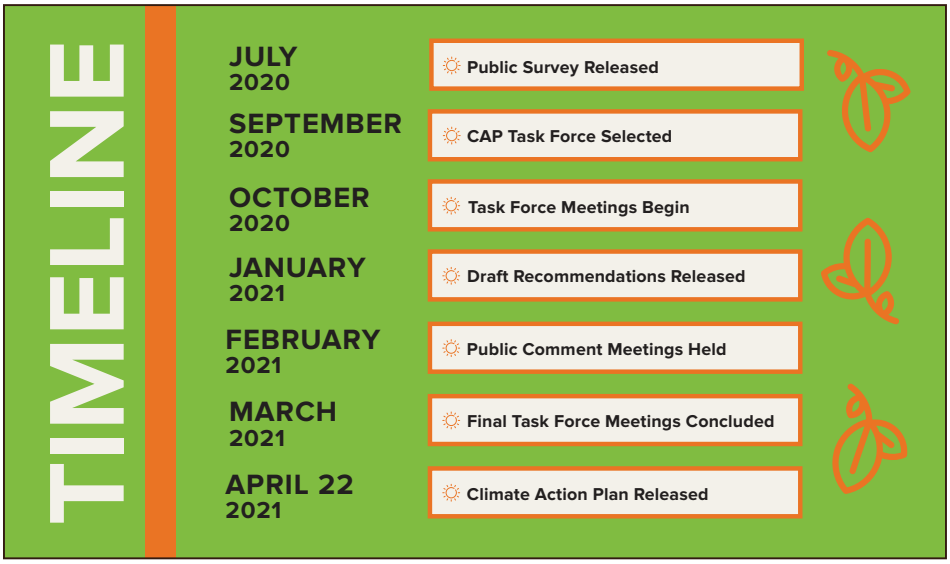
This plan is both a call to action and a statement: we must act now in order to counter the global and local effects of climate change, and we must ground this action in the voices of those who have felt, and will continue to feel, these effects most intimately. Moving forward with a commitment to equity in grounding sustainability-related action will allow Albuquerque to progress towards a future in which the city's abundance is equitably experienced.

PROCESS

Following nationwide conversations about the role equity must play in all policies, it was clear that Albuquerque's 2021 Climate Action Plan's methods of gathering knowledge, aspirations and recommendations to tackle the climate crisis had to be grounded and directed by frontline communities' concerns. Critical to this process was the contracted support of New Mexico First as the facilitators of the planning process. New Mexico First is a non-profit organization focused on supporting deliberative processes that identify and uplift community policy priorities.

[1] In 2018, Mayor Keller signed the Paris Climate Agreement, committing the City to reducing its GHG emissions by 26-28 percent from 2005 levels by 2025. "Mayor Tim Keller Pledges to Meet Paris Climate Agreement Goals," City of Albuquerque, n.d. https://www.cabq.gov/mayor/news/mayor-tim-keller-pledges-to-meet-paris-climate-agreement-goals.

The City initiated the planning process in the summer of 2020 by distributing a city-wide survey to gauge public priorities on issues of climate and sustainability.[I] While collecting and assessing survey results, the Sustainability Office and New Mexico First worked together to recruit a Climate Action Plan Task Force through an open application process. The task force application prioritized Albuquerque residents who were engaged with or represented frontline communities, and who had the relevant experience and connections to share awareness about climate action with their networks. Task force members were offered modest stipends as compensation for their shared knowledge, time and commitment in the plan-creation process.



The chosen task force consisted of 19 members. These community leaders represented a diverse array of neighborhoods from all throughout Albuquerque.[2] The group held connections to local organizations in fields ranging from energy services to advocacy for undocumented community members to the promotion of local agriculture. During task force meetings, the knowledge and lived experiences of the group were furthered by the input of local experts from the City and the greater Albuquerque community who shared policy updates and relevant context during the task force's series of deliberations.

Throughout the fall of 2020 and into early 2021, the task force convened for discussion in a total of thirteen deliberation meetings, all facilitated by New Mexico First and augmented by City support staff. The themes of these meetings aligned with policy topics conveyed by the 2009 Climate Action Plan, as well as specific topics that emerged as priorities in the CAP Public Survey. In addition to City staff, policy advisors from relevant organizations, institutions and community groups presented to task force members on context and updates of the various topics discussed.

Through conversation and consensus, the task force drafted a robust, preliminary set of 130 strategies to address 20 collectively-created, Albuquerque-specific sustainability goals. This list of draft recommendations was released to the public in February of 2020 to initiate the plan's period of public comment. This public comment period consisted of two virtual meetings and an online survey in which community members could rank task force recommendations and provide open-ended feedback.[II]

Public comment meetings were facilitated by New Mexico First and organized so that participants could discuss recommendations by theme with task force members and City resource staff. These meetings were

[2] See Appendix C: Task Force Neighborhood Representation for additional details.

attended by over 50 community members and produced over 200 public comments. Following the public comment process, New Mexico First compiled and analyzed the community input generated by almost 400 survey responses, meeting outcomes and City of Albuquerque staff comments into the CAP Public Comment Report.

The CAP Public Comment Report was used to inform the task force's final deliberations in March 2021. The comprehensiveness of the public's input and comments helped the task force further refine and rethink the recommended strategies ultimately included in the Climate Action Plan. After incorporating this community feedback into a list of final strategies reflective of the priorities and hopes of all of Albuquerque, the task force held their final meeting to define the methods and metrics which would be used to implement and assess progress on the plan.

OUTCOMES

Ultimately, the task force created a Climate Action Plan that includes 50 strategies covering the topics of sustainable buildings, renewable energy, clean transportation, recycling and waste, economic development, and climate conscious neighborhoods and resources. Together, the updated 2021 strategies present focused, actionable pathways to fulfilling a vision of a more sustainable and equitable Albuquerque with opportunities for engagement for all members of the greater community. In all cases, these strategies are coupled with metrics which will be used by the Sustainability Office to guide the trajectory of future climate action, as well as to assess Albuquerque's progress towards greenhouse gas mitigation and climate justice in future years.

In order to effectively counter local greenhouse gas emissions and strengthen climate justice efforts, a Climate Action Plan must yield concrete action. During and beyond the Climate Plan's initial implementation in Summer 2021, the Sustainability Office will initiate collaboration across City departments, utilities, community organizations and others to engage and amplify mobilization and communication on the plan's strategies. To maintain the plan's community-rootedness, the Sustainability Office will host quarterly community meetings to provide updates and gather input regarding CAP implementation. Finally, the Office will complete yearly, follow-up reporting on Albuquerque's progress towards these strategies.

CAP Public Engagement

Over ***3,000*** CAP Survey ***responses***

19 CAP Task Force ***members***

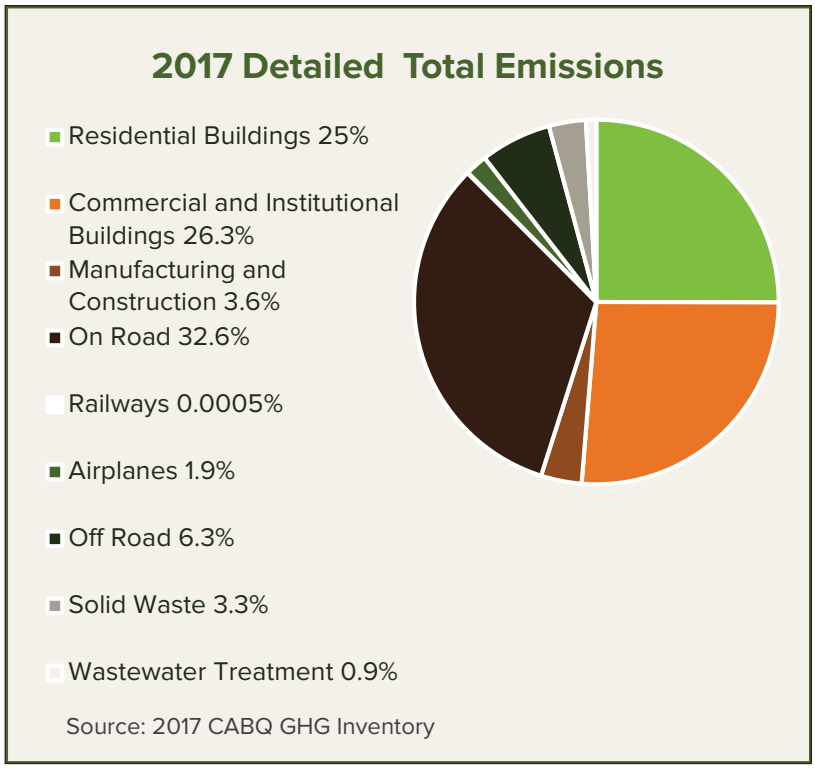
15 total ***deliberations*** and ***meetings***

Over ***600*** public ***comments***

Participation from ***36*** ***zip codes***

GUIDING PRINCIPLES

Over the course of six months of deliberation, the task force's wisdom and perspectives translated into values which guided the group through their climate action discussions. Beyond an explicit commitment to equity, the task force's shared values included a recognition of the interconnectedness of climate issues; an intention to refocus responsibility on systemic – rather than individual – action; and a desire to embrace multicultural and Indigenous knowledge systems. By maintaining these values throughout the plan-creation process, the task force generated a Climate Action Plan which thoroughly invokes the guidance and needs of local stakeholders. The task force's agreed-upon overarching guiding principles are the following:



1. Center all climate mitigating actions in communities with an explicit commitment to equity, inclusion, and accessibility. Decisions and action must be taken in partnership with, rather than on or for, frontline communities.

2. Climate issues are interconnected, and Albuquerque must strive for and implement high-impact solutions that address multiple challenges with coordinated strategies.

3. Move beyond policies that focus primarily on the role and responsibility of individuals and look at larger systemic issues.

4. Protect and respect agricultural land and water use.

5. Support state and other policies that strengthen the City of Albuquerque's commitment to social justice.

Additional guiding principles are stated in relevant sections of the plan in bold; Appendix B contains the full summary of guiding principles.

ABOUT THE PLAN

This Climate Plan contains recommended policy strategies which are organized by topic and accompanied by relevant context for and highlights of task force intent and discussions. Appendix B contains a summary table of all recommended strategies alongside the following, implementation-supporting metrics:

- **Initiation Phase:** the point at which action on the strategy should be initiated. Strategies designated as "ongoing" reflect the need for continuous action following their initial implementation.
- **Priority:** this metric captures the impact level – either primary or secondary – of constraints and benefits. Constraints and benefits categorized as "primary" are foreseen to be most impactful, while "secondary" constraints and benefits reflect impacts that are expected to be meaningful but less intensive.
- **Constraints:** this metric identifies the challenges or areas demanding change which might hinder the implementation of a specific strategy.
- **Benefits:** this metric highlights the expected advantages of a strategy's implementation.
- **Favorable Policy Environment:** this metric, informed by the collective knowledge of the task force, identifies whether strategies align with pre-existing policy that could be used to advance implementation.

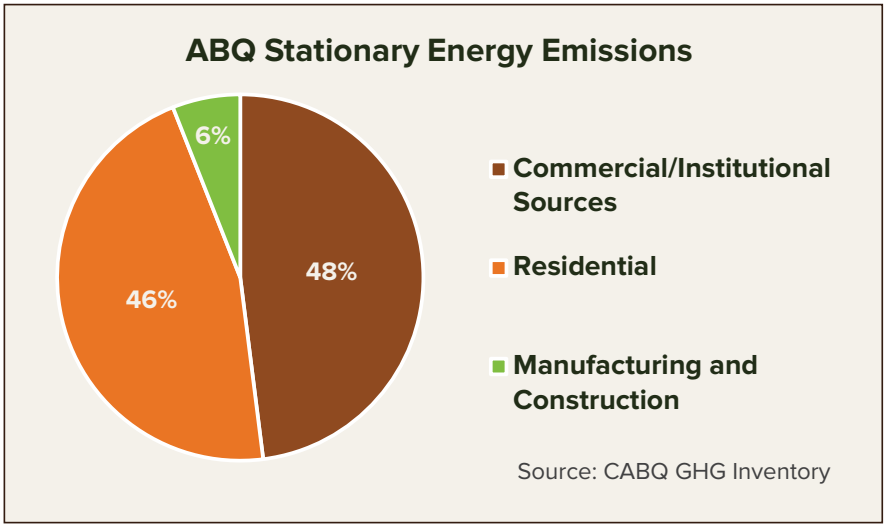
Throughout the CAP planning process, supplemental reports were developed to capture outcomes from key stages of the process, as well as data on the state of GHG emissions in Albuquerque. These reports, in addition to the foundational 2009 Climate Action Plan, are referenced and linked throughout the digital version of this document and include:

- 2009 Albuquerque Climate Action Plan (developed under the administration of Mayor Martin Chavez), https://www.cabq.gov/sustainability/documents/2009-climate-action-plan.pdf
- The City of Albuquerque Greenhouse Gas Inventory (2008 – 2017 inventory) https://www.cabq.gov/sustainability/documents/city-of-albuquerque-ghg-inventory-3.pdf
- New Mexico First Climate Action Plan Survey Results Report, https://www.cabq.gov/sustainability/documents/nmf-report-cabq-climate-action-survey.pdf
- Climate Action Plan Public Comment Report, https://www.cabq.gov/sustainability/documents/final-cap-public-comment-analysis-report.pdf

Climate Action Plan Task Force meeting minutes, agendas, recordings and additional materials are available at https://www.cabq.gov/sustainability/climate-action-plan **and** https://www.cabq.gov/sustainability/climate-action-plan/cap-task-force.

SUSTAINABLE BUILDINGS

Buildings of all types have a multifaceted role to play in improving Albuquerque's sustainability and growing an equitable, greener economy. Our homes and places of work all use energy, water and materials that create environmental strains. According to the City's most recent Greenhouse Gas Inventory, the energy generated to power Albuquerque's buildings accounts for 55 percent of the city's total annual greenhouse gas emissions, equivalent to 3,189,800 metric tons of carbon dioxide.[III]



Although transitioning Albuquerque's energy sources to be emissions-free by 2040 will help to alleviate buildings' GHG contributions, the adoption of these renewable resources will be gradual.[IV] The city can accelerate its overall climate response by promoting energy efficiency, a method of climate action achieved by improving buildings so that they use less energy. Increasing buildings' efficiency can create cost savings for residents, support job creation, increase comfort and safety in homes, and allow for greater electrical grid expansion.[V]

The CAP Task Force, recognizing energy efficiency's many environmental and human benefits, discussed a range of solutions. Foremost, the task force prioritized frontline communities' ability to access and benefit from efficiency technologies, as these residents' utility bills often demand disproportionately high percentages of their household incomes, also known as "energy burdens".[3] Programs to support building efficiency measures often include financial incentives, such as utility rebates; however, public awareness of these programs are vital to their deployment.[VI]

Another strategy discussed by the task force was energy use disclosures – the practice of informing potential homebuyers and tenants of a home's energy use costs (including potentially disproportionate costs) before leases or purchase agreements are signed. In jurisdictions throughout the United States, energy use disclosures are enacted by law to help residents make informed decisions by understanding the full cost of housing, while also incentivizing property owners to invest in energy efficiency.[VII] The task force also advocated for offsetting the energy impacts of heat by expanding opportunities for incorporating drought tolerant vegetation and trees in frontline communities.[VIII]

Large scale options were also seen by the task force as necessary to ensure greater building sustainability. The task force called for energy efficiency standards to be consistently and regularly updated following Al-

[3] The term "energy burden" refers to how much of a household income is spent on energy costs. In Albuquerque, the average energy burden is 2 percent of household income. However, in many neighborhoods, residents of low-income often experience average energy burdens of 6 percent or higher.

buquerque's adoption of the 2018 International Energy Conservation Code. Other priorities included a focus on urban infill development to reduce sprawl and resource strains, as well as electrifying buildings to facilitate the increased incorporation of electricity created by renewable sources instead of natural gas. All CAP sustainable buildings and development strategies align with the task force's agreed-upon principle to **embrace culturally appropriate strategies for green building standards that respect and support sustainable indigenous building practices** in order to better-align the community with the traditional knowledge which has long spearheaded effective climate conscious living.

DID YOU KNOW?

In 2020, the City of Albuquerque adopted the 2018 International Energy Conservation Code, setting more energy efficient standards for new construction. Estimates show this code will result in an increase of 40% energy savings from the City's prior code.

Source: EPA

SUSTAINABLE BUILDINGS RECOMMENDATIONS

Green Buildings & Development	Support local and state legislation that prioritizes urban infill, brownfield redevelopment and renovations, rather than new developments/new construction.
	Support consistent and timely adoption of local and state legislation that requires developers and home builders to continue to meet current energy standards for newly constructed or renovated buildings and homes.
	Prioritize the electrification of new City facilities and major renovations to existing City facilities, and support code requirements for electrification of private commercial and residential buildings.
Energy Efficiency for Frontline Communities	Explore opportunities to expand usage of drought tolerant plants, especially in frontline communities, utilizing existing plant guidance from the Albuquerque Bernalillo County Water Authority and the City of Albuquerque.
	Promote access to programs that give incentives for window replacement, insulation, lighting, appliance upgrades, and other energy efficiency improvements for people with low- income.
	Support new legislation that requires energy disclosure during sale or lease of buildings, home or rental properties.

RENEWABLE ENERGY

Renewable energy is energy generated from sources that are not depleted by use (e.g., solar, wind, geothermal and hydropower), and offer an alternative to more carbon intensive fuels (e.g., coal, oil and natural gas). With its 350 sunny days a year and high elevation, Albuquerque has exemplary environmental conditions for solar energy generation, and great potential to further increase development in the solar sector. Recent policy and technological advancements have spurred widespread local adoption of solar infrastructure by the private sector, homeowners and governments, allowing Albuquerque to become a national leader in solar.[IX]

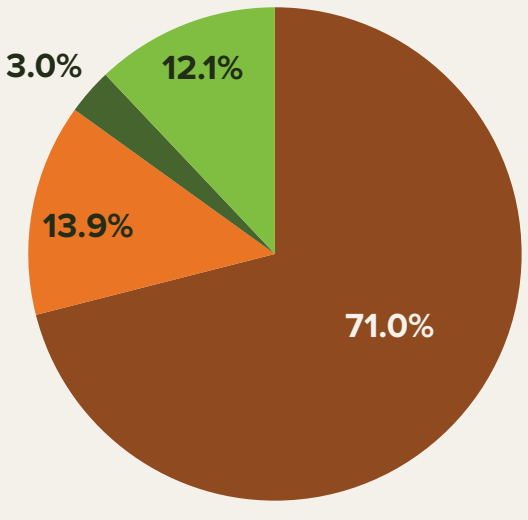
DID YOU KNOW?

In 2020, Albuquerque was named the top 3 city in the U.S. for most solar installed per capita.

Source: Environment America

In Albuquerque, the electrical utility is the Public Service Company of New Mexico (PNM), an investor-owned utility (IOU), regulated by the New Mexico Public Regulation Commission (PRC). Currently, PNM generates energy from coal, natural gas, nuclear, solar, wind and geothermal sources; the amounts and types of energy PNM generates is based on consumer demand, which changes hour-to-hour, and season-to-season.[X] In accordance with the Energy Transition Act, PNM has committed to increasing its reliance on solar and phasing out all of its coal and some of its natural gas-fired power plants to achieve the goal of 100 percent emissions-free energy generation by 2040.[XI] Similarly, the City of Albuquerque has committed to achieving 100 percent renewable energy use for government operations by 2025 – the accompanying graphic shows anticipated City renewable energy usage by 2022.

Projected CABQ Renewable Energy Usage in 2022 (MWh)



Source: City of Albuquerque

Task force discussions regarding energy went beyond the importance of increasing renewable energy adoption, instead centering on the concepts of a decentralized grid and its future modernization. In the traditional energy generation model, power is generated from a central facility and then distributed to buildings via power lines. Advancements in solar energy technology have reimagined the traditional energy model by creating opportunities to generate power at the same site where it is needed, creating more distributed energy generation. Examples of distributed energy include community solar projects, which allow for community members to have access to non-utility owned solar when their homes are not conducive to rooftop solar installation.[XII]

Acknowledging the anticipated influx in renewable energy availability, the task force engaged in deep discussions on pursuing more widespread and equitable access to renewable energy for all Albuquerque residents. While the task force's recommendations primarily focus on finding new pathways for more democratic systems of energy deployment, the group also emphasized the importance of investing in additional infrastructure and technologies such as microgrids, battery storage and grid modernization. The task force recognized these technologies as vital to advancing more distributed energy generation, renewable energy adoption and future power grid security.

RENEWABLE ENERGY RECOMMENDATIONS

Renewable Energy Development	Support local and state-wide standards for community solar programs, micro-grid establishment and grid modernization prioritizing low income areas.
	Form partnerships with neighborhoods, businesses, institutions, and utilities to increase solar development prioritizing frontline communities.
	Create mechanisms for frontline communities to engage in decision-making regarding the ownership, generation, storage, distribution of, and transition to renewable energy.

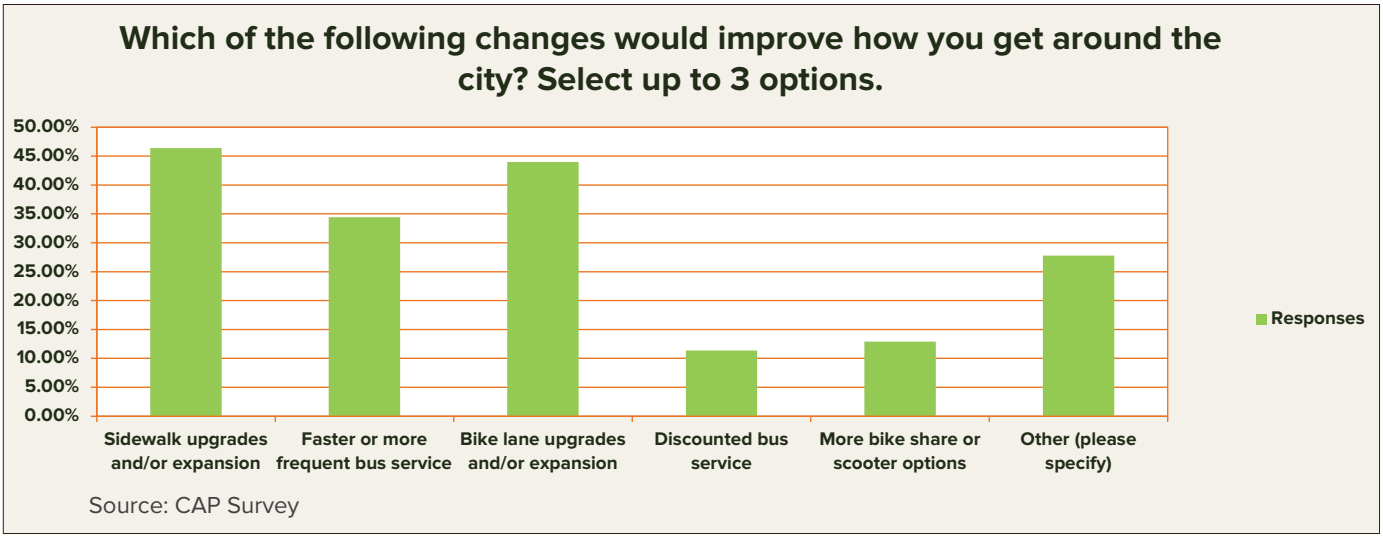
CLEAN TRANSPORTATION

As the state's major transportation hub and most populated metro area, issues of transportation factor largely into Albuquerque's ability to achieve equitable and emissions-reducing climate action. Albuquerque is a sprawled and car-centric city, attributes which are reflected in the city's high rates of transportation-related greenhouse gas emissions. In 2017, 40 percent of Albuquerque's emissions – equivalent to 2,310,992 metric tons of carbon dioxide – were sourced from transportation, with the bulk of these emissions being caused by on-road transportation.[XIII]

Albuquerque's first electric bus debuted on January 31, 2020. The City aims to purchase 5 more electric busses by the end of 2021.

There are a myriad of options for low or zero emissions transportation in Albuquerque. The 2020 Public CAP Survey found that survey participants saw improving public transit and active transportation options within the city as the community's greatest priorities. The city's public transit program, ABQ RIDE, currently serves all of Albuquerque, using ridership and traffic data to further the efficiency, accessibility, and convenience of its routes.[XIV] ABQ RIDE is working to reduce the emissions of its fleet by pursuing electric batteries and other carbon-reducing technologies to power its busses.[XV] Since 2019, the City has also prioritized the introduction of electric and hybrid vehicles through new policy,[XVI] and has also exponentially expanded the local availability of electric vehicle charging stations.[XVII]

CAP Task Force deliberations yielded the group's shared recognition of how **public transit is often the primary mode of transportation for frontline communities, therefore the most highly prioritized mode for the task force, as it is currently the most practical and affordable transportation option.**



Source: CAP Survey

Public transit was also buoyed as an effective means of reducing greenhouse gas emissions, increasing on-road safety and supporting public health. In regards to demand for public transit in Albuquerque, the task force saw issues of safety, access and cultural norms as main barriers. The group's recommended strategies address these challenges and ultimately seek to increase public transit ridership, a vital component of an enduring and effective transit system.[XVIII]

Other forms of transportation also factored into the development of the task force's transportation strategies, showcasing how all climate-related actions must be both emissions-reducing and equity-increasing. Acknowledging the priorities of the CAP Public Survey, the task force uplifted the need for active transportation infrastructure upgrades; this recommended strategy aligns with many of the efforts currently being advocated by Albuquerque's Vision Zero campaign. The adoption of carbon-reducing vehicle technologies and their integration into frontline communities were also seen as opportunities to make Albuquerque a safer, more environmentally resilient and accessible city for all.

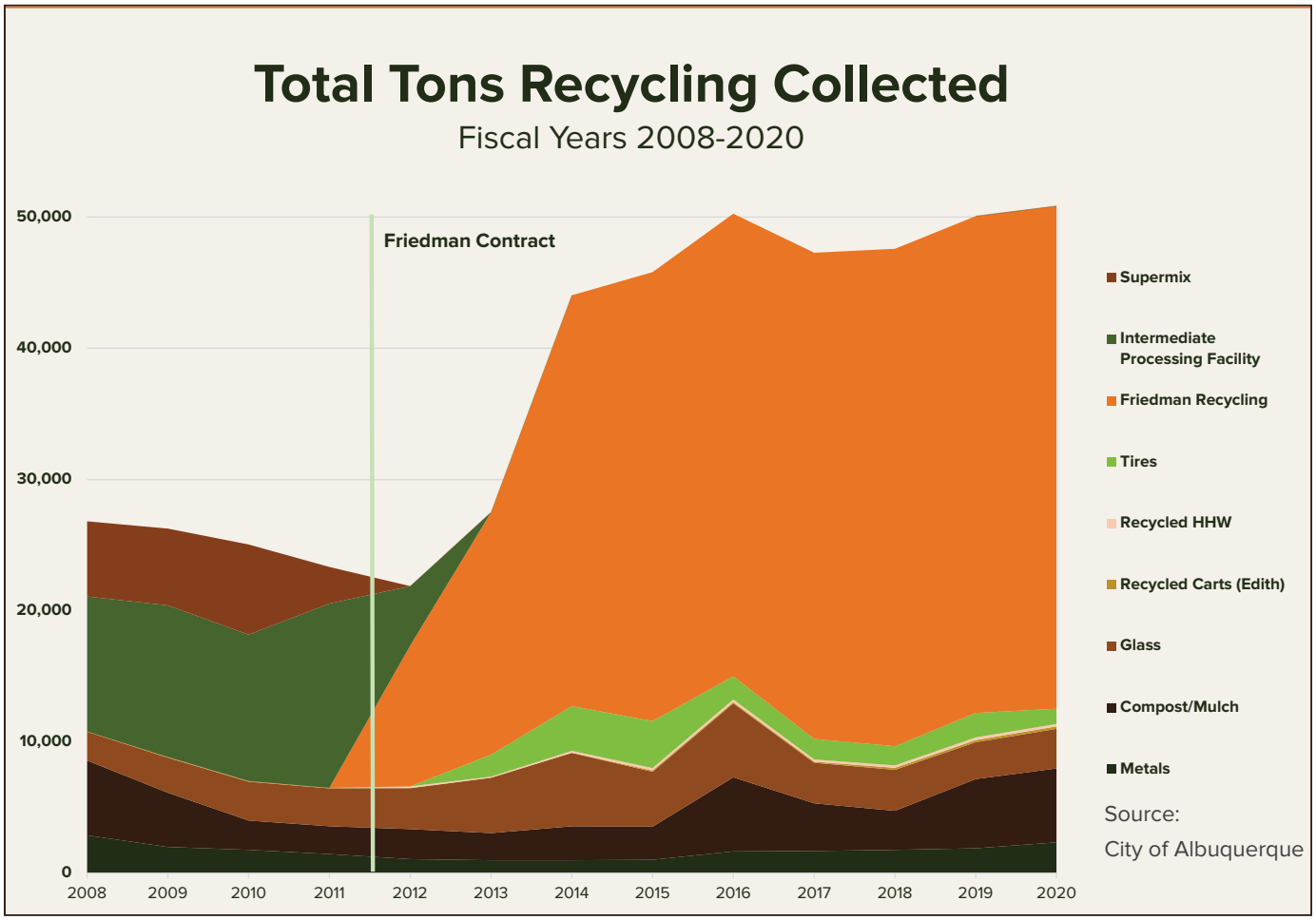
By summer 2021, the City will have added over 30 new EV charging stations to Albuquerque.

CLEAN TRANSPORTATION RECOMMENDATIONS

Transit Access & Investment	Increase funding for public transit and invest in free public transit for transit dependent riders, prioritizing youth, students, older persons, and residents with low incomes.
	Treat public transportation as a public good, fund it effectively, and market it as a socially responsible and affordable option emphasizing rider safety and autonomy.
	Reevaluate routes and increase access to transit, prioritizing low-income neighborhoods, seniors, and people with disabilities, also specifically target access to outlying neighborhoods, adjacent communities, and public green and open spaces.
	Improve the “last mile” - the distance between public transportation and people's residence or workplace - with possible bike and ride sharing options.
Active Transportation & Transit Safety	Improve safety of buses and bus stops for vulnerable populations (e.g., women and children, people with disabilities, older persons) by improving lighting, visibility, protection from the elements, and epidemic-safe strategies.
	Invest in City-funded sidewalk improvement for safety and accessibility for all users and especially people with limited mobility.
	Prioritize equity, transparency and accountability when making investments to improve transportation safety.
	Improve and create bike and walking infrastructure, especially in low-income and older neighborhoods.
Transit Public Education	Increase public education around greenhouse gas emissions that explain the positive impacts of walking, biking, and public transit (e.g., improved health, personal financial savings, decreased emissions, cleaner air, etc.), as well as the negative impacts of private transportation (e.g., health implications such as asthma, traffic congestion, etc.).
	Partner with the media to feature bus rider stories in an effort to combat fear and prejudice while highlighting advantages and accessibility.
Vehicle Emissions Reduction	Transition mass transit to zero emissions fuel sources.
	Sustain efforts to convert city fleet vehicles to electric where feasible.
	Promote rideshare options with electric vehicles, prioritizing increased options for frontline communities.

WASTE & RECYCLING

Waste contributes uniquely to the climate crisis not only through its disposal, but also at every stage of a product's life cycle. The City's 2020 Greenhouse Gas Inventory found that in 2017, Albuquerque's disposed-of waste produced the equivalent of 243,627 metric tons of carbon dioxide, or about 4 percent of the city's total greenhouse gas emissions. Methane, an especially potent greenhouse gas, contributed significantly to these emissions.[XIX] This total, while far from insignificant, only highlights the direct environmental impacts of waste disposal. A full picture of how waste in Albuquerque affects environmental and social resilience requires looking holistically at a product's life cycle emissions, which includes the indirect effects of waste, such as an item's production, transportation and litter impacts on ecosystems.



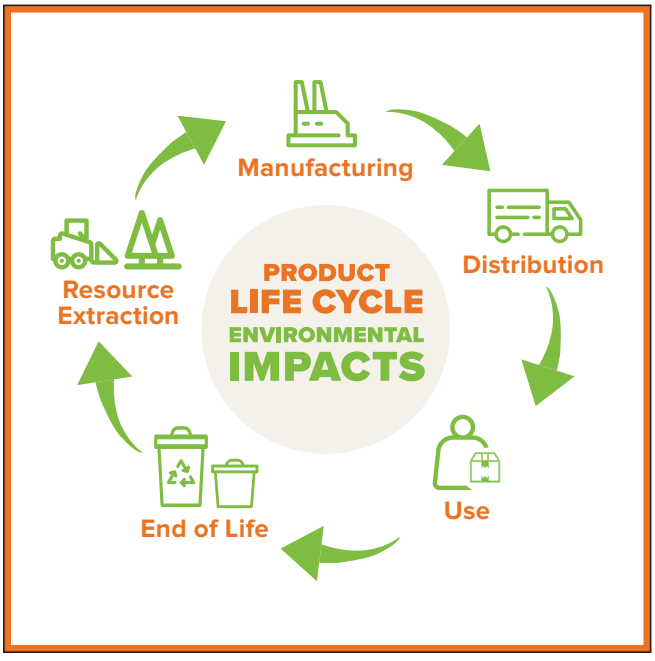
Within Albuquerque, waste typically takes on one of four forms: trash destined for the landfill, recyclables, wastewater or green waste. Since the release of the 2009 Climate Action Plan, Albuquerque has witnessed great improvements in both the amount of waste it recycles and the sustainability measures in place at its Cerro Colorado Landfill.[XX] To increase the diversion of green waste from the waste stream, the landfill currently uses mulch – generated from the City's biannual green waste pick-ups – as an evapotranspiration cover for the landfill. Methane capture takes place at both the landfill and the Albuquerque Bernalillo County Wastewater Treatment Plant.[XXI] Additionally, the City has pursued efforts to reduce single-use plastics.[XXII]

DID YOU KNOW?

Estimates show more than half a trillion plastic bottles will be sold in 2021 and only an estimated 1/3 will be recycled. By using a reusable water bottle, you could prevent an average of 156 plastic bottles annually.

Source: Beyond Plastic

For the task force, discussions on waste and recycling reflected the group's appreciation of circular economies, concern for equitable economic development, and awareness of the nuances of climate action within frontline communities. The task force discussed plastics pollution policy, community composting, reuse programs and local job creation as means of improving Albuquerque's waste-related sustainability.[26] Additionally, the task force called for the transformative action that is the comprehensive reimagining of waste systems. For example, if fewer items were created as or considered to be disposable, communities could reduce waste production and focus on ensuring that potentially disposable products are recycled or repaired into items of value instead of entering the landfill.



Task force discussions on waste did not shy away from acknowledging and assessing waste's complex entanglement with issues of sustainability and climate justice. In hopes of respectfully motivating and involving community residents with local waste reduction efforts, the group discussed how to encourage reductions in waste production while ensuring that frontline community members gain from the tangible benefits of these actions. Ultimately, the group's recommendations present a vision of Albuquerque in which more products are repurposed instead of going to the landfill, and that recognizes the importance of putting the onus of change on corporations and systems rather than individual community members. Themes related to these strategies harken back to the CAP Task Force's guiding principle to **move beyond policies that focus primarily on the role and responsibility of individuals and look at larger systemic issues.**

WASTE AND RECYCLING RECOMMENDATIONS

Recycling, Composting, & Waste Reduction	Fund physical infrastructure and coordination for neighborhood and school composting, including educational programs about how to compost and benefits for greenhouse gas reduction, soil health, regenerative agriculture, native crops, local foods and plant-based diets.
	Promote methods of recycling, reuse, and composting in frontline communities -- highlighting their health and environmental benefits with the support of community-based educators (i.e., promotoras).
	Use public policy to reduce plastic waste in the public sector.
	Increase accountability for corporate producers and polluters, including but not limited to the reduction of construction and other waste and increased electronic and textile recycling.

ECONOMIC DEVELOPMENT

As Albuquerque, like many other communities across the globe, mobilizes and bolsters efforts to tackle the climate crisis, the redefinition of local economic activity will factor significantly into climate mitigation. Although estimates show that the U.S. leads in the global green economy, numerous initiatives have identified there is still untapped potential to create economic growth by transitioning from extractive to regenerative economic activities.[XXIV] Strong examples of potential job growth and investment opportunities include waste reuse, local food and agriculture, energy efficiency and renewable energy among others.[XXV] As New Mexico scales up its renewable energy adoption, estimates project that, by 2030, these actions could create up to 8,830 new jobs in New Mexico's clean energy economy and stimulate over $4.6 billion of new investment.[XXVI]

Efforts to improve local, sustainable and equitable economic development, as well as community-engaged governance are visible in recent initiatives from the City of Albuquerque. The City's Jobs Training Albuquerque (JTA) workforce development program gives preference to companies in the renewable and alternative energy product manufacturing industry.[XXVII] Additionally, the City's Rail Yards redevelopment work focuses on seeking out and listening to community voices when undertaking projects meant to enact policy change, develop new infrastructure, or create new jobs.[XXVIII] Furthermore, state-level deliberations are solidifying strategies for effectively achieving a Just Transition away from natural resource extraction for New Mexico's economy (i.e., oil, gas and mineral extraction).[XXIX]

The task force maintained that community-building and equitable economic development are integral components of effective climate change mitigation. Although economic activity has often been cited as a cause of widespread environmental degradation, the task force also saw it as a potential means of repairing environmental harms and supporting local communities. In the group's discussions, the guiding principle

Projected NM Clean Energy Jobs by 2030

Energy Source	Installed Capacity	Existing Jobs	Added Capacity	Projected New Jobs
SOLAR	753	2,520	1,997	7,120
WIND	1,112	1,040	1,831	1,710
TOTAL CLEAN ENERGY JOBS		3,560		8,830

Source: Natural Resources Defense Council, 2019

outlining the intent of economic development recommendations was to **leverage and direct funds to support reparations efforts to redress harms caused by environmental injustice to frontline communities.** Central to this belief is the importance of localized, community-based job creation – a strategy which could help to boost community interest in sustainability and reduce transportation related issues by averting the need for long commutes.

The group strongly voiced the need to enact economic policies which align with Just Transition principles, such as developing economic activity that supports both environmental and worker health. The task force emphasized that there were many employment and investment opportunities that are sustainable and celebrate – rather than exploit – environmental systems. Some of the specific sectors identified in the following strategies include local food and agriculture, waste, recycling and renewable energy. Finally, the group shared that just as important as opportunities for growth and investment are the ways in which these opportunities are rooted in equitable partnerships.

DID YOU KNOW?

New Mexico has steadily increased energy efficiency jobs with over 8% growth and 462 jobs added between 2018 and 2019.

Source: 2020 U.S. Energy & Employment Report

ECONOMIC DEVELOPMENT RECOMMENDATIONS

Economic Investment	Provide community and economic development opportunities while restoring the land, water, and air while investing in members of frontline, underrepresented, and economically disadvantaged communities and local infrastructure.
	Localize systems of production, for example food and agriculture, to reduce transportation time and emissions.
	Strengthen our local food system, shorten the supply chain, reduce greenhouse gas emissions, and support the local economy by increasing community gardens and promoting local farm-to-fork culinary tourism in frontline communities through coordinated community education and collaboration.
Job Creation in Frontline Communities	Provide community and economic development opportunities while restoring the land, water, and air and investing in frontline, underrepresented, and economically-disadvantaged communities and local infrastructure.
	As a workforce development strategy, co-create jobs with family-supporting wages in frontline communities that have historically experienced systematic underinvestment and disinvestment.
	Develop community and economic development opportunities that mitigate climate change and increase human-nature interaction via local recycling efforts, processing yard waste to compost, earn-while-you learn and apprenticeship opportunities for solar and community solar installation, land revitalization for community gardens (using City-owned vacant lots) and other green redevelopment efforts.

EDUCATION & AWARENESS

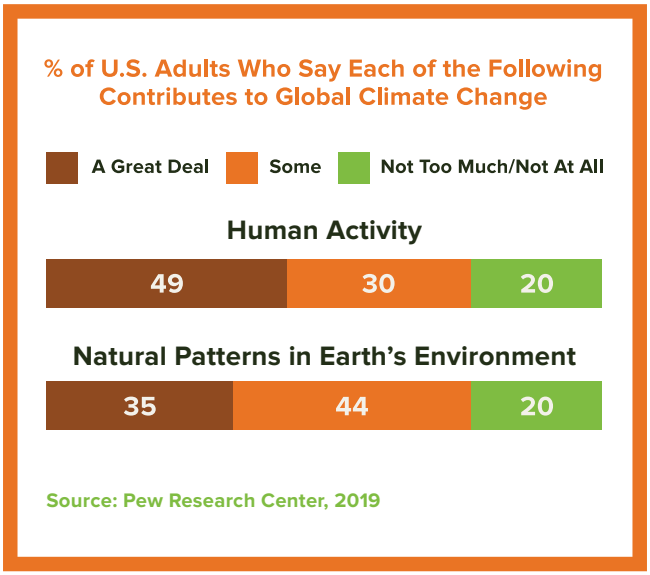
Undoubtedly, the education and awareness communities receive and maintain are fundamental drivers of current and future action. Whether messaging is shared from families, friends, media or schools, the information people receive and how it is interpreted can catalyze change. However, education and public messaging on sustainability topics face unique challenges. Issues such as climate change, water, soil and air quality are complex, with technical barriers to understanding and complicated takeaways. Effective marketing often relies on simple, actionable behavior changes, but combating climate change requires large, systemic reforms. All sustainability messaging difficulties are compounded by deliberate efforts to deny and refute the scientific findings identifying climate change and its impacts.[xxx]

DID YOU KNOW?

In 2013, APS committed to reducing their water and energy use by 20% by 2023. To date, these facilities-focused improvements resulted in greenhouse gas emissions reductions equal to 5,188 metric tons of carbon dioxide.

Source: APS

In regards to climate change and public education, lessons in New Mexico's public schools are informed by both national and state-specific standards, in addition to many teachers' incorporations of outdoor education, classroom experimentation and innovative field trips. Adopted by New Mexico in 2018, the Next Generation Science Standards incorporate climate science- and sustainability-related content at every K-12 grade level, with explicit mentions of climate change in middle and high school curricula.[xxxi] Additionally, the New Mexico STEM Ready! Science Standards present state-specific standards that prompt students to consider local sustainability-related issues like energy production and human-environment relations.[xxxii] In Albuquerque, sustainability-related curricula items include the district-wide school gardens program and Albuquerque Public School's (APS) focus on energy conservation.[xxxiii]



The task force's deliberations on issues pertaining to sustainability education and awareness revealed common themes that highlighted the importance of broadly increasing overall messaging and education, as well as tailoring outreach to resonate with specific communities to inspire individual and collective efforts. As a guiding principle, the task force agreed to **prioritize culturally responsive public education efforts that are multi-media, multi-generational, multi-lingual and include the arts and sciences.** Another broad intent of the group was to empower large-scale change via the sharing of information that cuts through complexity and notes the real consequences of climate inaction. It is the task force's hope that – collectively – media attention, the collection and sharing of data, commitment from regional leaders and public education can all act in concert to fuel further and deepend responses to the climate crisis.

EDUCATION AND AWARENESS RECOMMENDATIONS

Climate Emergency Mobilization Efforts	Annually convene regional climate action summit led by frontline and Indigenous communities.
	Routinely monitor progress toward activities that impact greenhouse gas reductions (e.g., new tree plantings, City and utility renewable energy usage and production, etc.) by creating an accurate, timely and accessible data dashboard on the City of Albuquerque Sustainability Office website.
	Publish daily vehicle emissions data (actual or estimated) and correlate it with daily ozone and particulate pollution data. Allow for visualization of numerical data through the use of a color-coded map.
	Partner with local media to launch a climate action public service announcement campaign to educate on climate change challenges and opportunities for action.
Public Sustainability Education	Partner with Albuquerque Public Schools (APS) to make traditional ecological knowledge, climate change and school gardens part of all APS curricula.
	Invest in public education campaigns about mitigating climate change in partnership with frontline communities on a wide range of climate issues including but not limited to: fossil fuels, carbon dioxide and other greenhouse gases, waste and recycling, climate impacts on ecosystem health, consequences of bio-diversity loss, green jobs, embodied energy, contributions of animal agriculture to greenhouse gases and deforestation, green washing and tainted water supplies.
	Educate residents about the energy and water nexus, as well as waste generation and consumption, to support education campaigns and reduce waste in both the public and private sectors.

CLIMATE CONSCIOUS NEIGHBORHOODS & RESOURCES

As an arid, high-desert city, Albuquerque has always felt the constraints of water scarcity and heat. The advancement of climate change compounds these existing challenges and requires adaptation to new conditions. Looking to the future, projections show that climate driven changes to the region will result in decreases in water availability, a rise in summer wildfires and extreme heat, among other impacts.[XXXIV] Albuquerque is already feeling these effects: the last decade has been the warmest on record with the observed number of extremely hot days (at or above 100°F) greater than 17 days per year. Local frontline communities are at heightened risk of heat-related illnesses during these instances of unprecedented heat.[XXXV] Preparing for impending climate change impacts in Albuquerque requires increased attention to conserving and protecting water resources, ensuring sustainable development and increasing local quantities of trees, green spaces and vegetation.

Challenges spurred by climate change illustrate the interconnectedness of our resources and the need to thoughtfully strategize their use. Greenhouse gas emissions can be mitigated by increasing tree canopy and green spaces, effectively creating a carbon sink and reducing heat.[XXXVI] However, planting efforts must also strike a delicate balance among greening efforts, available water resources and agricultural support. Such balance is seen in current Albuquerque tree planting and water conservation initiatives that work in tandem. For example, in the recently launched Let's Plant Albuquerque campaign, a broad coalition of government, community and educational organizations formed a unified campaign to promote community tree plantings and share public resources to increase "climate-ready" tree and plant use that use less water.[XXXVII]

Albuquerque Green Stats

11,862 trees planted **since 2018**

23% total land **area dedicated to** ***green space***

87% **of residents live within a** ***10 minute walk to a park***

400 miles **of bike trails and paths**

Nearly ***300*** **city owned and operated** ***parks***

The task force's conversations on the myriad of topics in this section presented the opportunity to envision an Albuquerque of dynamic climate justice, greenhouse gas mitigation efforts and future climate adaptation. In alignment with the priorities highlighted in the CAP Public Survey, the task force identified additional supports for increasing trees, vegetation and citywide community gardens. Guided by their agreed-upon principle to **protect and respect agricultural land and water use,** the task force strategized deeply on the future potential of additional green infrastructure and water protection efforts, acknowledging actions such as increasing mulch and water reuse practices to mitigate heat and conserve water. Finally, task force strategies called for the preservation and expansion of wetlands and green spaces on the conditions that such initiatives **use equity and access to prioritize future open space and park development or rehabilitation.**[XXXVIII]

The task force also observed that future development must also be carefully planned to prevent further strain on resources and contributions to sprawl and transportation-driven emissions. As Albuquerque is not immune to environmental justice issues, the task force stressed how past land use and housing practices have created present-day inequities.[XXXIX] The task force therefore urged citywide entities to **create greater equity standards and practices to prevent clustering of locally undesirable land uses in frontline communities.** The task force also sought to ensure that planning processes **are taken in partnership with, rather than on or for, frontline communities,** referencing Valle de Oro National Wildlife Refuge's community engagement model as inspiration.[XXXX]

CLIMATE CONSCIOUS NEIGHBORHOODS AND RESOURCES RECOMMENDATIONS

Greening Efforts in Frontline Communities	Prioritize development and maintenance of green spaces, community gardens and food forests within a 10-minute walk of all residential spaces.
	Improve safe trails and biking infrastructure and ensure that these are equitably distributed to increase access to and enjoyment of open space by all residents.
	Ban use of glyphosate products (i.e., Roundup), plant climate ready food forests, incentivize replacing rock with natural mulch, and promote understory vegetation to reduce water run off, improve aquifer health and other environmental functions.
	Reduce the heat island effect and address wildlife needs by increasing vegetation cover city-wide, creating a tree preservation ordinance, and updating the street tree ordinance to prioritize “greening” in frontline communities.
Sustainable Development & Land Use Planning & Practices	Create city-wide sustainable development goals to address climate change and require that every new development submit a sustainability plan.
	Strengthen city-wide planning processes by using community engagement models rooted in environmental justice, such as the one used by the Valle del Oro National Fish and Wildlife Refuge.
	Create opportunities for the City of Albuquerque to purchase farmland that might otherwise be slated for development in order to expand wetlands to improve water supply, habitat, and outdoor recreation.
	Invest in green infrastructure (including rain water collection) and incorporate green infrastructure and green storm water infrastructure into new construction projects to address urban heat island effects and water greenspaces, prioritizing frontline communities with less vegetation and lower access to air conditioning.
Water Conservation & Smart Planning	Create and monitor a Climate Action Plan water budget that supports climate mitigation efforts. Develop a water security strategy through collaboration and data sharing with the Albuquerque Bernalillo County Water Utility Authority and other water management entities.
	Revise the City Water Code and other applicable policies to increase gray and black water reclamation and other water-saving technologies in new buildings, and when feasible, in existing buildings as well.
	Review City land use practices to address water shortages and determine best practices to conserve water while respecting private agricultural needs and practices.

CONCLUSION

Listening to the voices of community – whether they be from the task force or all of Albuquerque – is a critical step towards ensuring that the city's sustainability goals not only reflect local needs, but can also be translated into progress. From the onset of the City's efforts to update its climate strategies, it was clear that the longevity of any future plan would rely on the commitment of Albuquerque's residents, especially those who deeply understood the dire need for change. Notably, these meetings and the creation of this plan occurred under the influence of two crises: climate change and the COVID-19 pandemic. The socio-economically disproportionate burdens of COVID-19 served as stark reminders to the task force of the need to root climate action in climate justice.

DID YOU KNOW?

62% of CAP Survey participants had confidence that they could make a difference in climate change

This Climate Action Plan is an important marker of dedication and momentum, but ultimately it must be utilized as an instigator for local action, change and improvement by all of Albuquerque. This plan's inclusion of metrics and other means of measurability is one component of the City's commitment to achieving the goals generated by the task force and reinforced by the greater community. In addition to quarterly check-in meetings, the City will review and assess progress towards the goals and strategies included in this plan on an annual basis. However, the work of building community and climate resilience in Albuquerque is not and cannot be a responsibility solely held by the City. As is outlined in the strategies and metrics of the plan, a variety of community stakeholders – organizations, individuals, institutions and grassroots movements – must come together to make climate action in Albuquerque as energized, dedicated and transformative as possible. The task force emphasized throughout deliberations that everyone's mindsets and behaviors matter, and that all residents have individual and collective roles in mitigating climate change.

The 2021 Climate Action Plan will serve as a resource that will not only direct, inform and assess progress towards the City's climate change mitigation priorities, but will also serve as a rich arsenal of community knowledge for years to come. By uplifting the voices of frontline communities, this process has deepened the array of resources available to those who are curious about how communities in Albuquerque have, do and will interact with issues of sustainability. This plan is an invaluable resource for not only climate action, but also for building community and solidarity through the sharing of stories, perspectives and ideas.

APPENDIX A

ACRONYMS AND DEFINITIONS

Acronyms

ABCWUA: Albuquerque/Bernalillo County Water Utility Authority
CAP: Climate Action Plan, the Plan
EV: Electric Vehicle
ETA: Energy Transition Act
GHG: Greenhouse gas
IECC: International Energy Conservation Code
IPCC: Intergovernmental Panel on Climate Change
JTA: Job Training Albuquerque
LED: Light-emitting diode
LEED: Leadership in Energy and Environmental Design
NMPRC/PRC: New Mexico Public Regulation Commission
NMMFA: New Mexico Mortgage Finance Authority
MRCOG: Middle Rio Grande Council of Governments
NMDOT: New Mexico Department of Transportation
PNM: Public Service New Mexico
PPA: Power purchase agreement

Definitions

Active Transportation: Any self-propelled, human-powered mode of transportation, such as walking or bicycling.

Adaptation: Also known as "climate change adaptation," this is the process of adjusting to current or expected climate change and its effects. It, like climate change mitigation, is one way to respond to climate change.

Battery Storage: Also known as utility-scale battery systems, these are stationary power storage systems that can be connected to distribution/transmission networks or power-generation assets, primarily for the storage of renewable energy. Utility-scale storage capacity ranges from several megawatt-hours to hundreds. Lithium-ion batteries are most prevalent.

Biodiversity: The biological variety and variability of life on Earth. Biodiversity is typically a measure of variation at the genetic, species and ecosystem level.

Brownfield: A property for which expansion, redevelopment or reuse may be complicated by the presence or potential presence of a hazardous substance, pollutant or contaminant.

Carbon Sink: A forest, ocean or other natural environment that accumulates and absorbs carbon dioxide from the atmosphere.

Climate Change: A change in global or regional climate patterns, in particular a change apparent from the mid to late 20th century onwards and attributed largely to the increased levels of atmospheric carbon dioxide produced by the use of fossil fuels.

Climate Change Mitigation: Efforts to reduce or prevent greenhouse gas emissions.

Climate Justice: A term used to frame global warming as an ethical and political issue, rather than one that is purely environmental or physical in nature.

Community Solar: any solar project or purchasing program, within a geographic area, in which the benefits of a solar project flow to multiple customers such as individuals, businesses, nonprofits and other groups. In most cases, customers are benefiting from energy generated by solar panels at an off-site array.

Compost: A means of recycling organic materials, such as food and yard waste, into a nutrient-rich soil amendment. Composting can be practiced on a variety of scales, from the backyard to the municipal.

Decoupling: The regulation of a utility in which – in an effort to target the profitability of high usage of gas, electricity or water – profits and utility sales are disconnected

Distributed Energy Generation: Decentralized electricity production that occurs in multiple, smaller-scale sites, meaning that electricity is produced by a variety of flexible (typically renewable) sources and requires less long-distance travel.

Electric Vehicle: Vehicles that are powered by a battery and electric motor which must be recharged by electricity instead of gasoline. Also known as battery-electric vehicles or "EVs", these vehicles do not produce any tailpipe emissions.

Energy Burden: The measure of how much of a household's income is spent on energy costs. Higher utility bills are often linked to aging homes, resident inability to cover costs for home improvement etc. Barriers preventing some energy improvements for low-income residents commonly include access for renters, as well as qualifying for program support. Increasing energy efficiency initiatives, improving reach of existing programs and making the public more aware of available energy efficiency programs are potential solutions.

Energy Disclosure: Also known as an "energy rating," this is the practice of evaluating the energy efficiency of a home or building and making the information known to consumers.

Energy Efficiency: Utilization of improved technology or infrastructure that uses less energy to perform the same function.

Energy-Water Nexus: This concept refers to the many relationships between energy production and water, reminding us that energy production – both electric and oil and gas – requires water (to cool power plants, for hydraulic fracking, etc), and that the processing and treatment of water requires energy (to power treatment plants and pumps, for example).

Environmental Justice: The fair treatment and intentional, meaningful involvement of all people – regardless of race, color, ethnicity, education level or income – with respect to the development, implementation and enforcement of environmental laws, regulations and policies.

Energy Transition Act: A New Mexican law enacted in 2019 that shifts New Mexico's electric utilities from fossil fuel-dependent forms of energy production to renewable energy sources, while also addressing issues of economic development and job creation.

Evapotranspiration Cover: A type of cap placed over contaminated material, such as soil, landfill waste, or mining tailings, to prevent water from reaching it.

Family-supporting Wages: The minimum household income which is needed to fully support the economic needs of a family, especially the most basic needs of food, housing and utilities. Family-supporting wages differ from "living wages" as they are intended to fulfill the needs of a family rather than an individual.

Farm-to-Fork Tourism: The involvement of local agricultural producers and restaurants in tourism as a means of highlighting the talent in a community's food-related industries, as well as the seasonality and nuances of local food systems.

Food Forests: Areas structured to mimic the complex, multi-layered ecosystems of forests while focusing on the cultivation of edible plants. Food forests are meant to improve wildlife habitat and offer safe, bountiful and free food to all members of a community.

Fossil Fuels: Energy sources – including coal, oil and natural gas – created from millions-of-years-old plant and animal residues. Fossil fuels are typically accessed through drilling or mining, and are then burned or refined in order to be used as energy – all processes which result in GHG emissions.

Frontline Communities: Communities that will be impacted "first and worst" by the effects of climate change. These communities include Indigenous, Black and other communities of color, as well as communities of low-income and other groups that face greater exposure to pollution and climate hazards with more limited resources to respond.

Glyphosate: An herbicide used in agriculture and forestry to kill plants. Glyphosate products (such as the commonly known Roundup) are known to deplete soil health and endanger pollinator species.

Greenhouse Gases (GHGs): Heat-trapping gas molecules which have transcended their natural levels in the atmosphere due to human activities, such as the burning of fossil fuels. The heat-trapping nature of GHGs, such as carbon dioxide (CO2), results in the warming of Earth's surface temperature, causing shifts in global climatic patterns.

Green Infrastructure: A water management method that uses aspects of both the built and natural environments to mimic natural processes. Green infrastructure design is tailored to the specific needs of a place but it typically seeks to reduce stormwater runoff, protect against flooding and improve local water quality.

Green Jobs: Employment opportunities in which either an environmentally beneficial good or service is created and/or offered, or where a job focuses on improving the sustainability of a workplace or institution.

Grid Modernization: The updating of the electrical power grid to make it more adaptable and resilient. Updates can manifest in a range of actions – grid modernization seeks out changes which improve infrastructure, efficiency, renewable energy technologies acquisition, amongst many other updates.

Grey- and Blackwater: Two distinct types of wastewater, with the principal difference being that blackwater is likely to have come into contact with fecal matter, while greywater has not. Examples of greywater include the byproducts of washing or bathing; sewage would be an example of blackwater.

Hybrid Vehicles: Hybrid vehicles contain both an electric motor and an internal combustion engine -- meaning they can utilize both electricity and gasoline (or diesel) for fuel. These vehicles still produce tailpipe emissions, but are considered low-emissions vehicles.

International Energy Conservation Code (IECC): A model building code created by the International Code Council. It is a code adopted by many states and municipal governments in the United States for the establishment of minimum design and construction requirements for energy efficiency.

Investor Owned Utility (IOU): Large electric distributors (utilities) that issue stock owned by shareholders.

Just Transition: A unifying and place-based framework, spearheaded by labor unions and environmental justice groups, that works to empower communities, individuals and organizations politically and economically so that they can shift from extractive to regenerative economies.

Life-cycle Emissions: The total greenhouse gas impacts produced by a product at every stage of its production, use and disposal.

Low Emissions Transportation: A mode of transportation typically in a low emissions motor vehicle that emits relatively low levels of motor vehicle emissions. This term may also be technically defined in various air quality statutes.

Methane: A powerful greenhouse gas with a 100-year global warming potential 25 times that of carbon dioxide. Measured over a 20-year period, methane is 84 times more potent as a greenhouse gas than carbon dioxide.

Methane Capture: Instead of releasing methane into the atmosphere, methane capture traps this potent GHG and uses it for alternate purposes, such as electricity production.

Microgrid: A local, decentralized energy grid with control capability, meaning it can disconnect from the traditional grid and operate autonomously.

On-road Transportation: All travel which takes place in an emissions-producing vehicle such as commuting to and from work.

Open Space: Areas of land that are undeveloped (with no or limited built structures) and are accessible to the public. In the context of Albuquerque, Open Space can also refer to land conserved by the City's Parks and Recreation Department's Open Space Division. Albuquerque's Open Spaces intend to conserve natural and archeological resources, facilitate outdoor education and recreation and define the edges of the city's urban environment.

Paris Climate Agreement: A 2015 international climate change accord which sets climate mitigation goals; this landmark treaty has been adopted by the majority of UN parties.

Power Grid: Alternatively known as an electrical grid or an electric grid, an interconnected network for delivering electricity from producers to consumers.

Promotoras: Promotores de salud, shortened as promotoras, is the Spanish phrase for "community health workers". The Hispanic community recognizes promotores de salud as lay health workers who work in Spanish-speaking communities.

Regenerative Agriculture: Farming and grazing practices focused on mitigating climate change by restoring and improving the organic matter and biodiversity of soil.

Renewable Energy: Energy generated from sources that do not deplete after use (e.g., solar, wind, geothermal and hydropower), and offer an alternative to more carbon intensive fuels (e.g., coal, oil and natural gas).

Resilience: A term which refers to something's (for example, a community, individual or environment) ability to prevent, withstand, respond to and recover from setbacks.

Ridership: The volume and demographics of public transit users for a specific transit system.

Single-use Plastics: Plastic items which are designed to be disposed of, rather than reused, after only one use. Typically, single-use plastics – like disposable cutlery or plastic grocery bags – are also difficult to recycle.

Urban Heat Island Effect: The disproportionate heating of urban areas in relationship to the non-urban areas around them due to the materials, infrastructure and related GHG emissions of urban environments.

Urban Infill: The development or re-development of urban plots of land that are vacant and/or have not been built up. Urban infill is a means of reducing urban sprawl by repurposing underutilized land and/or buildings.

Vision Zero: A strategy for creating safer streets for all, whether walking, biking, driving or taking transit, and regardless of age or ability. It is used around the world as a means of eliminating all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all.

Zero Emissions Transportation: Modes of transportation that do not directly produce greenhouse gas emissions (e.g., biking, driving electric vehicles).

Zero Waste: A movement and/or a practice in which an individual, organization or institution strives to reduce their disposable waste production as much as possible.

APPENDIX B

CAP STRATEGIES SUMMARY TABLE

SUSTAINABLE BUILDINGS

		Initiation NT: Near-Term (By 2022) MT: Mid-Term (By 2026) LT: Long-Term (By 2031)	**Priority** P: Primary S: Secondary	**Constraints** A: Awareness B: Behavior Change I: Investment P: Policy T: Technology & Infrastructure	**Benefits** AR: Adaptation & Resilience AQ: Air Quality CM: Climate Mitigation ED: Economic Development EQ: Equity Building HO: Health Outcomes QL: Quality of Life							**Favorable Policy Environment** *Policy Environments Change. This is solely based on the knowledge of the Task Force
	Strategies	**Phase**	**Priority**	**Constraints**	**AR**	**AQ**	**CM**	**ED**	**EQ**	**HO**	**QL**	**Policy**
Green Buildings & Development	Support local and state legislation that prioritizes urban infill, brownfield redevelopment and renovations, rather than new developments/new construction.	LT	P	A,P			X	X				X
			S	B,I	X	X			X	X	X	
	Support consistent and timely adoption of local and state legislation that requires developers and home builders to continue to meet current energy standards for newly constructed or renovated buildings and homes.	MT	P	B,I,P	X	X	X	X				X
			S	A					X	X	X	
	Prioritize the electrification of new City facilities and major renovations to existing City facilities, and support code requirements for electrification of private commercial and residential buildings.	MT Ongoing	P	I,P	X	X	X	X				X
			S	A,B					X	X	X	
Energy Efficiency for Frontline Communities	Explore opportunities to expand usage of drought tolerant plants, especially in frontline communities, utilizing existing plant guidance from the Albuquerque Bernalillo County Water Authority and the City of Albuquerque.	NT Ongoing	P	A,B,P	X				X			
			S	I		X	X	X		X	X	
	Promote access to programs that give incentives for window replacement, insulation, lighting, appliance upgrades, and other energy efficiency improvements for people with low-income.	NT Ongoing	P	A,B,I	X		X	X	X	X		X
			S	P		X					X	
	Support new legislation that requires energy disclosure during sale or lease of buildings, home or rental properties.	NT Ongoing	P	P	X				X		X	X
			S	A,B,I,T		X	X	X		X		

RENEWABLE ENERGY

		Initiation NT: Near-Term (By 2022) MT: Mid-Term (By 2026) LT: Long-Term (By 2031)	**Priority** P: Primary S: Secondary	**Constraints** A: Awareness B: Behavior Change I: Investment P: Policy T: Technology & Infrastructure	**Benefits** AR: Adaptation & Resilience AQ: Air Quality CM: Climate Mitigation ED: Economic Development EQ: Equity Building HO: Health Outcomes QL: Quality of Life							**Favorable Policy Environment** *Policy Environments Change. This is solely based on the knowledge of the Task Force
	Strategies	**Phase**	**Priority**	**Constraints**	**AR**	**AQ**	**CM**	**ED**	**EQ**	**HO**	**QL**	**Policy**
Renewable Energy Development	Support local and state-wide standards for community solar programs, micro-grid establishment and grid modernization prioritizing low income areas.	MT	P	I,P,T			X	X				X
			S	A,B	X	X			X	X	X	
	Form partnerships with neighborhoods, businesses, institutions, and utilities to increase solar development prioritizing frontline communities.	MT Ongoing	P	A,B	X		X		X			X
			S	I,P,T		X		X		X	X	
	Create mechanisms for frontline communities to engage in decision-making regarding the ownership, generation, storage, distribution of, and transition to renewable energy.	MT	P	A,B,P	X				X			X
			S	I		X	X	X		X	X	

TRANSPORTATION

		Initiation NT: Near-Term (By 2022) MT: Mid-Term (By 2026) LT: Long-Term (By 2031)	**Priority** P: Primary S: Secondary	**Constraints** A: Awareness B: Behavior Change I: Investment P: Policy T: Technology & Infrastructure	**Benefits** AR: Adaptation & Resilience AQ: Air Quality CM: Climate Mitigation ED: Economic Development EQ: Equity Building HO: Health Outcomes QL: Quality of Life							**Favorable Policy Environment** *Policy Environments Change. This is solely based on the knowledge of the Task Force
	Strategies	**Phase**	**Priority**	**Constraints**	**AR**	**AQ**	**CM**	**ED**	**EQ**	**HO**	**QL**	**Policy**
Transit Access & Investment	Increase funding for public transit and invest in free public transit for transit dependent riders, prioritizing youth, students, older persons, and residents with low incomes.	MT	P	I,P		X			X	X	X	
			S	A,B,T	X		X	X				
	Treat public transportation as a public good, fund it effectively, and market it as a socially responsible and affordable option emphasizing rider safety and autonomy.	NT Ongoing	P	A,B,I,P		X	X		X			
			S	T	X			X		X	X	
	Reevaluate routes and increase access to transit, prioritizing low-income neighborhoods, seniors, and people with disabilities, also specifically target access to outlying neighborhoods, adjacent communities, and public green and open spaces.	NT	P	B,I,P					X	X	X	X
			S	A	X	X	X	X				
	Improve the “last mile” - the distance between public transportation and people's residence or workplace - with possible bike and ride sharing options.	LT	P	B,I,P					X	X	X	
			S	A,T	X	X	X	X				
Active Transportation & Transit Safety	Improve safety of buses and bus stops for vulnerable populations (e.g., women and children, people with disabilities, older persons) by improving lighting, visibility, protection from the elements, and epidemic-safe strategies.	MT	P	I,P	X				X	X	X	
			S	T		X	X	X				
	Invest in City-funded sidewalk improvement for safety and accessibility for all users and especially people with limited mobility.	MT	P	I					X	X	X	
			S	P,T	X	X	X	X				
	Prioritize equity, transparency and accountability when making investments to improve transportation safety.	MT Ongoing	P	A,B,P					X	X		
			S	I,T	X	X	X	X			X	
	Improve and create bike and walking infrastructure, especially in low-income and older neighborhoods.	LT	P	I,T					X	X	X	
			S	P	X	X	X	X				
Transit Public Education	Increase public education around greenhouse gas emissions that explain the positive impacts of walking, biking, and public transit (e.g., improved health, personal financial savings, decreased emissions, cleaner air, etc.), as well as the negative impacts of private transportation (e.g., health implications such as asthma, traffic congestion, etc.).	NT	P	B	X	X	X			X		
			S	A				X	X		X	
	Partner with the media to feature bus rider stories in an effort to combat fear and prejudice while highlighting advantages and accessibility.	NT	P	A,B	X				X		X	
			S			X	X	X		X		
Vehicle Emissions Reduction	Transition mass transit to zero emissions fuel sources.	MT	P	B,I,P,T	X	X	X					
			S	a				X		X	X	
	Sustain efforts to convert city fleet vehicles to electric where feasible.	MT	P	I	X		X					
			S	A,B,P,T		X		X		X	X	
	Promote rideshare options with electric vehicles, prioritizing increased options for frontline communities.	NT	P	A,B	X	X	X		X			
			S					X		X	X	

WASTE & RECYCLING

		Initiation NT: Near-Term (By 2022) MT: Mid-Term (By 2026) LT: Long-Term (By 2031)	**Priority** P: Primary S: Secondary	**Constraints** A: Awareness B: Behavior Change I: Investment P: Policy T: Technology & Infrastructure	**Benefits** AR: Adaptation & Resilience AQ: Air Quality CM: Climate Mitigation ED: Economic Development EQ: Equity Building HO: Health Outcomes QL: Quality of Life							**Favorable Policy Environment** *Policy Environments Change. This is solely based on the knowledge of the Task Force
	Strategies	**Phase**	**Priority**	**Constraints**	**AR**	**AQ**	**CM**	**ED**	**EQ**	**HO**	**QL**	**Policy**
Recycling, Composting, & Waste Reduction	Fund physical infrastructure and coordination for neighborhood and school composting, including educational programs about how to compost and benefits for greenhouse gas reduction, soil health, regenerative agriculture, native crops, local foods and plant-based diets.	MT	P	B,I,P	X	X	X		X	X		
			S	A,T				X			X	
	Promote methods of recycling, reuse, and composting in frontline communities -- highlighting their health and environmental benefits with the support of community-based educators (i.e., promotoras).	NT Ongoing	P	A,B,I					X	X		
			S	P,T	X	X	X	X			X	
	Use public policy to reduce plastic waste in the public sector.	NT Ongoing	P	B,P	X		X					
			S	A,I				X		X	X	
	Increase accountability for corporate producers and polluters, including but not limited to the reduction of construction and other waste and increased electronic and textile recycling.	MT Ongoing	P	B,P,T		X	X	X	X	X	X	
			S	A,I		X		X		X	X	

ECONOMIC DEVELOPMENT

		Initiation NT: Near-Term (By 2022) MT: Mid-Term (By 2026) LT: Long-Term (By 2031)	**Priority** P: Primary S: Secondary	**Constraints** A: Awareness B: Behavior Change I: Investment P: Policy T: Technology & Infrastructure	**Benefits** AR: Adaptation & Resilience AQ: Air Quality CM: Climate Mitigation ED: Economic Development EQ: Equity Building HO: Health Outcomes QL: Quality of Life							**Favorable Policy Environment** *Policy Environments Change. This is solely based on the knowledge of the Task Force
	Strategies	**Phase**	**Priority**	**Constraints**	**AR**	**AQ**	**CM**	**ED**	**EQ**	**HO**	**QL**	**Policy**
Economic Investment	Provide community and economic development opportunities while restoring the land, water, and air while investing in members of frontline, underrepresented, and economically disadvantaged communities and local infrastructure.	MT Ongoing	P	A,B,I,P	X			X	X		X	
			S			X	X			X		
	Localize systems of production, for example food and agriculture, to reduce transportation time and emissions.	NT Ongoing	P	B,P,T	X			X			X	
			S	A,I		X	X		X	X		
	Strengthen our local food system, shorten the supply chain, reduce greenhouse gas emissions, and support the local economy by increasing community gardens and promoting local farm-to-fork culinary tourism in frontline communities through coordinated community education and collaboration.	NT Ongoing	P	I,P,T	X	X		X	X		X	
			S	A,B			X			X		
Job Creation in Frontline Communities	Provide community and economic development opportunities while restoring the land, water, and air and investing in frontline, underrepresented, and economically-disadvantaged communities and local infrastructure.	MT Ongoing	P	I,P	X			X	X		X	
			S	A,B		X	X			X		
	As a workforce development strategy, co-create jobs with family-supporting wages in frontline communities that have historically experienced systematic underinvestment and disinvestment.	MT Ongoing	P	I,P	X			X	X			X
			S	A,B		X	X			X	X	
	Develop community and economic development opportunities that mitigate climate change and increase human-nature interaction via local recycling efforts, processing yard waste to compost, earn-while-you learn and apprenticeship opportunities for solar and community solar installation, land revitalization for community gardens (using City-owned vacant lots) and other green redevelopment efforts.	MT Ongoing	P	B,I,P	X			X	X			
			S	A		X	X			X	X	

EDUCATION & AWARENESS

		Initiation NT: Near-Term (By 2022) MT: Mid-Term (By 2026) LT: Long-Term (By 2031)	**Priority** P: Primary S: Secondary	**Constraints** A: Awareness B: Behavior Change I: Investment P: Policy T: Technology & Infrastructure	**Benefits** AR: Adaptation & Resilience AQ: Air Quality CM: Climate Mitigation ED: Economic Development EQ: Equity Building HO: Health Outcomes QL: Quality of Life							**Favorable Policy Environment** *Policy Environments Change. This is solely based on the knowledge of the Task Force
	Strategies	**Phase**	**Priority**	**Constraints**	**AR**	**AQ**	**CM**	**ED**	**EQ**	**HO**	**QL**	**Policy**
Climate Emergency Mobilization Efforts	Annually convene regional climate action summit led by frontline and Indigenous communities.	NT Ongoing	P	A,B					X			
			S	I	X					X	X	
	Routinely monitor progress toward activities that impact greenhouse gas reductions (e.g., new tree plantings, City and utility renewable energy usage and production, etc.) by creating an accurate, timely and accessible data dashboard on the City of Albuquerque Sustainability Office website.	NT Ongoing	P	I,T		X	X					X
			S	A	X				X	X	X	
	Publish daily vehicle emissions data (actual or estimated) and correlate it with daily ozone and particulate pollution data. Allow for visualization of numerical data through the use of a color-coded map.	NT	P	I,T	X		X					
			S	A,B		X		X		X	X	
	Partner with local media to launch a climate action public service announcement campaign to educate on climate change challenges and opportunities for action.	NT Ongoing	P	I			X					
			S	A,B	X			X	X	X	X	
Public Sustainability Education	Partner with Albuquerque Public Schools (APS) to make traditional ecological knowledge, climate change and school gardens part of all APS curricula.	MT	P	A,B,P	X						X	
			S	I,T			X		X	X		
	Invest in public education campaigns about mitigating climate change in partnership with frontline communities on a wide range of climate issues including but not limited to: fossil fuels, carbon dioxide and other greenhouse gases, waste and recycling, climate impacts on ecosystem health, consequences of bio-diversity loss, green jobs, embodied energy, contributions of animal agriculture to greenhouse gases and deforestation, green washing and tainted water supplies.	NT Ongoing	P	A,B,I			X		X	X		
			S	P,T	X	X		X			X	
	Educate residents about the energy and water nexus, as well as waste generation and consumption, to support education campaigns and reduce waste in both the public and private sectors.	NT Ongoing	P	A,B,I	X						X	
			S	P,T			X	X	X	X		

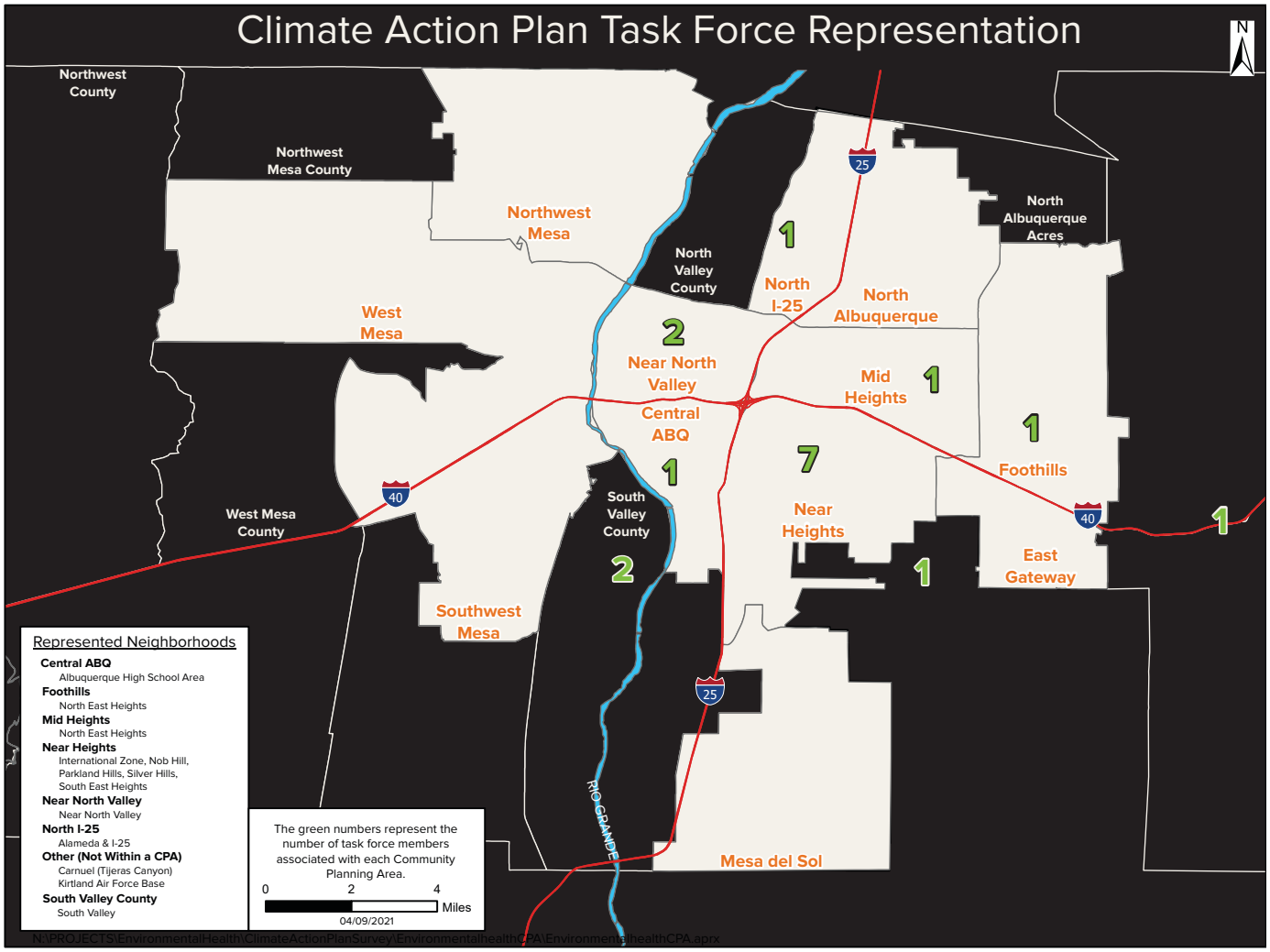
CLIMATE CONSCIOUS NEIGHBORHOODS & RESOURCES

		Initiation NT: Near-Term (By 2022) MT: Mid-Term (By 2026) LT: Long-Term (By 2031)	**Priority** P: Primary S: Secondary	**Constraints** A: Awareness B: Behavior Change I: Investment P: Policy T: Technology & Infrastructure	**Benefits** AR: Adaptation & Resilience AQ: Air Quality CM: Climate Mitigation ED: Economic Development EQ: Equity Building HO: Health Outcomes QL: Quality of Life							**Favorable Policy Environment** *Policy Environments Change. This is solely based on the knowledge of the Task Force
	Strategies	**Phase**	**Priority**	**Constraints**	**AR**	**AQ**	**CM**	**ED**	**EQ**	**HO**	**QL**	**Policy**
Greening Efforts in Frontline Communities	Prioritize development and maintenance of green spaces, community gardens and food forests within a 10-minute walk of all residential spaces.	LT	P	B,I,P	X	X				X	X	
			S	A,T			X	X	X			
	Improve safe trails and biking infrastructure and ensure that these are equitably distributed to increase access to and enjoyment of open space by all residents.	LT	P	I,P		X			X	X	X	
			S	T	X		X	X				
	Ban use of glyphosate products (i.e., Roundup), plant climate ready food forests, incentivize replacing rock with natural mulch, and promote understory vegetation to reduce water run off, improve aquifer health and other environmental functions.	MT	P	A,B,P	X					X		
			S	I		X	X	X	X		X	
	Reduce the heat island effect and address wildlife needs by increasing vegetation cover city-wide, creating a tree preservation ordinance, and updating the street tree ordinance to prioritize “greening” in frontline communities.	LT	P	I,P	X				X	X	X	
			S	A,B		X	X	X				
Sustainable Development & Land Use Planning & Practices	Create city-wide sustainable development goals to address climate change and require that every new development submit a sustainability plan.	MT Ongoing	P	B,P	X	X	X	X				X
			S	A,I					X	X	X	
	Strengthen city-wide planning processes by using community engagement models rooted in environmental justice, such as the one used by the Valle del Oro National Fish and Wildlife Refuge.	MT	P	A,B,P					X			
			S	I	X	X	X	X		X	X	
	Create opportunities for the City of Albuquerque to purchase farmland that might otherwise be slated for development in order to expand wetlands to improve water supply, habitat, and outdoor recreation.	NT Ongoing	P	I,P	X	X					X	
			S	A,B			X	X	X	X		
	Invest in green infrastructure (including rain water collection) and incorporate green infrastructure and green storm water infrastructure into new construction projects to address urban heat island effects and water greenspaces, prioritizing frontline communities with less vegetation and lower access to air conditioning.	MT Ongoing	P	I,P,T	X				X	X	X	
			S	A,B,		X	X	X				
Water Conservation & Smart Planning	Create and monitor a Climate Action Plan water budget that supports climate mitigation efforts. Develop a water security strategy through collaboration and data sharing with the Albuquerque Bernalillo County Water Utility Authority and other water management entities.	MT Ongoing	P	B,P	X							X
			S	A,I			X	X	X	X	X	
	Revise the City Water Code and other applicable policies to increase gray and black water reclamation and other water-saving technologies in new buildings, and when feasible, in existing buildings as well.	MT Ongoing	P	A,P,T	X							X
			S	B,I			X		X	X	X	
	Review City land use practices to address water shortages and determine best practices to conserve water while respecting private agricultural needs and practices.	NT	P	P,T	X						X	X
			S	A,B			X	X	X	X		

APPENDIX C

TASK FORCE NEIGHBORHOOD REPRESENTATION

This map shows the geographic representation of task force members who elected to share this information.



NOTES

[I] Specific energy efficiency-focused outreach to gauge priorities and provide immediate support was conducted among Albuquerque's frontline communities at this time. The City of Albuquerque, Prosperity Works, Partnership for Community Action and PNM partnered to provide over 200 low-income households with free energy audits and upgrades while surveying homeowners on access and suggested improvements to sustainability programs (this work was funded by the Energy Foundation and the Natural Resources Defense Council).

[II] CABQ Climate Change Task Force. New Mexico First, March 2021. https://www.cabq.gov/sustainability/documents/final-cap-public-comment-analysis-report.pdf

[III] Greenhouse Gas Inventory. The City of Albuquerque, 2020. https://www.cabq.gov/sustainability/documents/city-of-albuquerque-ghg-inventory-3.pdf

[IV] As of 2019, PNM has committed to phasing out its coal and some natural gas-fired power plants and increasing its reliance on renewable energy to achieve 40 percent renewable energy use by 2025, 50 percent by 2030, and 80 percent by 2040. "Emissions-free by 2040." PNM Resources, n.d. https://www.pnmresources.com/esg-commitment/environment/emissions%20free%20by%202040.aspx

[V] Geller, Howard "Energy Efficiency Jobs Booming in the Southwest." Southwest Energy Efficiency Project, March 15, 2019. https://www.swenergy.org/energy-efficiency-jobs-booming-in-the-southwest

[VI] In New Mexico, multiple utility, federal, state and local programs support improving both commercial and residential energy efficiency for more information see https://www.cabq.gov/sustainability/home-energy-efficiency.

[VII] "Residential Energy Use Disclosure: A Guide for Policymakers." American Council for an Energy-Efficient Economy, February 5, 2020. https://www.aceee.org/toolkit/2020/02/residential-energy-use-disclosure-guide-policymakers

[VIII] By providing shade and through evapotranspiration, trees and vegetation that directly shade buildings decrease demand for air conditioning. Shaded surfaces, for example, may be 20–45°F (11–25°C) cooler than the peak temperatures of unshaded materials. "Using Trees and Vegetation to Reduce Heat Islands." United States Environmental Protection Agency, n.d. https://www.epa.gov/heatislands/using-trees-and-vegetation-reduce-heat-islands

[IX] Environment America's Shining Cities 2020 Report named Albuquerque the 3rd city in the U.S. for most solar per capita, and the 8th city for total solar installed. Albuquerque still has up to 1,252 MW in small building rooftop potential. Pforzheimer, Adrian, Elizabeth Ridlington, Ben Sonnega and Emma Searson. "Shining Cities 2020." Environment America, June 2020. https://environmentamerica.org/sites/environment/files/reports/Shining-Cities-2020/EA_Shining_Cities_scrn.pdf

[X] When energy needs are high (e.g., mid-day, mid-winter), utilities typically use peak load energy supply which can include natural gas and wind. In off-peak hours, baseload energy such as coal and solar with storage can be used. Weather conditions affect the productivity of renewables, causing some higher and lower production at certain times.

[XI] "Energy Transition Act." S.B. 489, 54th Legislature (New Mexico 2019), https://www.nmlegis.gov/Sessions/19%20Regular/bills/senate/SB0489.pdf

[XII] Solar Energy Technologies Office. "Community Solar Basics." U.S. Office of Energy Efficiency and Renewable Energy, n.d. https://www.energy.gov/eere/solar/community-solar-basics

[XIII] *Greenhouse Gas Inventory.* The City of Albuquerque, 2020. https://www.cabq.gov/sustainability/documents/city-of-albuquerque-ghg-inventory-3.pdf

[XIV] ABQ RIDE offers 40 bus routes, of which a variable number are active at any given time. The program also offers its Sun Van service to city- and county-residents for whom physical impairment complicates bus use.

[XV] "ABQ RIDE Debuts Electric Bus January 30, 2021." City of Albuquerque, n.d. https://www.cabq.gov/transit/news/abq-ride-debuts-electric-bus-january-30-2021-1

[XVI] "Vehicle Acquisition Policy and Procedures." Administrative Instruction 4-3, City of Albuquerque (2020) https://codelibrary.amlegal.com/codes/albuquerque/latest/albuquerque_nm_admin/0-0-0-19951

[XVII] "City Announces Contract for New Electric Vehicle Charging Stations." City of Albuquerque, n.d. http://www.cabq.gov/environmentalhealth/news/city-announces-contract-for-new-electric-vehicle-charging-stations

[XVIII] ABQ RIDE consistently strives to ensure the affordability of its services which are funded primarily through City taxes; around eight percent of services are supported by fares. ABQ RIDE enacted fare-free public transit at the start of the COVID-19 pandemic select demographics such as youth under the age of 18. Generally, Albuquerque's busses require 8-10 passengers in order for them to be effective greenhouse gas-reducing modes of transportation. Stephanie Dominguez and Andrew De Garmo. "ABQ Ride: Public Transportation and Climate Change." Powerpoint Presentation, CABQ Climate Action Task Force, November 4, 2020. https://www.cabq.gov/sustainability/documents/11-4-20-cabq-task-force-presentation-andrew-de-garmo.pdf

[XIX] Greenhouse Gas Inventory. The City of Albuquerque, 2020. https://www.cabq.gov/sustainability/documents/city-of-albuquerque-ghg-inventory-3.pdf

[XX] The City of Albuquerque contracted with Friedman Recycling beginning in 2012, and has since more than doubled the amount of waste products being recycled in the city. However, global shifts in recycling due to policies restricting imports of U.S. recyclable waste to China and other countries have limited the amount and variety of materials eligible for recycling and resulted in a need for more localized recycling markets and infrastructure.

[XXI] Some of the methane produced by the landfill is captured, transported by pipeline and sold to Bernalillo County's Metropolitan Detention Center. Methane capture at the wastewater treatment plant (WWTP) supplies power to the WWTP which is periodically able to meet the facility's energy demand with methane capture alone.

[XXII] Albuquerque Clean and Green Retail Ordinance. Council Bill 0-19-48 (City of Albuquerque). https://www.cabq.gov/solidwaste/documents/o-48enacted.pdf; "Clean and Green Retail Ordinance." City of Albuquerque, n.d. https://www.cabq.gov/solidwaste/clean-and-green-retail-ordinance

[XXIII] Global Alliance for Incinerator Alternatives. "Zero Waste and Economic Recovery: The Job Creation Potential of Zero Waste Solutions." Beyond Plastics, February 16, 2021. https://www.beyondplastics.org/reports/zero-waste-economic-recovery

[xxiv] As of 2019, the U.S. green economy is estimated to generate $1.3 trillion in annual sales revenue and to employ nearly 9.5 million workers – 4% of working age people in the U.S. Georgeson, Lucien and Mark Maslin. "Estimating the Scale of the US Green Economy within the Global Context." Palgrave Communications 5, no. 121 (2019). https://www.nature.com/articles/s41599-019-0329-3#auth-1

[xxv] New Mexico Department of Workforce Solutions. New Mexico Clean Energy Workforce Development Study. June 2020. https://www.dws.state.nm.us/Portals/0/DM/LMI/NM_Clean_Energy_Workforce_Report.pdf; Global Alliance for Incinerator Alternatives. "Zero Waste and Economic Recovery: The Job Creation Potential of Zero Waste Solutions." Beyond Plastics, February 16, 2021. https://www.beyondplastics.org/reports/zero-waste-economic-recovery; Geller, Howard "Energy Efficiency Jobs Booming in the Southwest." Southwest Energy Efficiency Project, March 15, 2019. https://www.swenergy.org/energy-efficiency-jobs-booming-in-the-southwest; Grow New Mexico. *Albuquerque Food and Agriculture Plan.* City of Albuquerque and the Thornburg Foundation, February 2019. http://www.cabq.gov/sustainability/documents/albuquerque-food-and-agriculture-action-plan.pdf

[xxvi] Long, Noah and Arjun Krishnaswami. "50% Renewable Energy Would Create Jobs, Investment in NM." National Resources Defense Council, January 16, 2019. https://www.nrdc.org/experts/noah-long/50-renewable-energy-would-create-jobs-investment-nm

[xxvii] "Job Training Albuquerque." Central New Mexico Community College, n.d. https://www.cnm.edu/depts/workforce-training/job-training-albuquerque

[xxviii] Isaac, Claudia B. Report on Equitable Development and Community Benefits in the Albuquerque Rail Yards "Draft." City of Albuquerque, June 12, 2019. https://www.cabq.gov/railyards/documents/equitable-development-companion-report-draft.pdf

[xxix] New Mexico's 2021 legislative session saw the passing of Senate Bill 112, Sustainable Economy Task Force, a state-level legislative reflection of the task force's goals for the Albuquerque area. The bill funds the creation of an expert- and community member-task force on the future of New Mexico's energy transition. "Sustainable Economy Task Force." S.B. 112, 55th Legislature (New Mexico 2021). https://www.nmlegis.gov/Sessions/21%20Regular/bills/senate/SB0112.pdf

[xxixi] Cook, John, Geoffrey Supran, Stephan Lewandowsky, Naomi Oreskes, and Ed Maibach. "America Misled: How the Fossil Fuel Industry Deliberately Misled Americans About Climate Change." George Mason University Center for Climate Change Communication, October, 2019. https://www.climatechangecommunication.org/wp-content/uploads/2019/10/America_Misled.pdf

[xxxi] "Climate Change in the Next Generation Science Standards (K-12)." Climate Education Research, 2013. http://www.climateedresearch.org/publications/2013/Climate-Change-NGSS.pdf

[xxxii] "NM STEM Ready! Science Standards." New Mexico Public Education Department, 2018. https://webnew.ped.state.nm.us/wp-content/uploads/2018/05/NM-6-Specific-Standards-Framework.pdf

[xxxiii] APS is the largest school district in New Mexico serving over 75,000 students across an area of 1,200 square miles. The district's school gardens program supports over 90 gardens which are incorporated into curricula by individual teacher efforts aided by local Master Gardeners and a district-wide garden specialist. These gardens are used as interdisciplinary vehicles for outdoor education of all types, with sample lesson plans focusing on Indigenous New Mexican agricultural knowledge and climate change.

[xxxiv] United States Environmental Protection Agency. What Climate Change Means for New Mexico. EPA 430-F-16-033. August 2016. https://nepis.epa.gov/Exe/tiff2png.exe/P100QVA0.PNG?-r+75+-g+7+D%3A%5CZYFILES%5CINDEX%20DATA%5C16THRU20%5CTIFF%5C00000053%5CP100QVA0.TIF

[xxxv] National Oceanic and Atmospheric Administration. New Mexico. National Centers for Environmental Information, State Climate Summaries 142-NM. May 2019. https://statesummaries.ncics.org/downloads/NM-screen-hi.pdf

[xxxvi] "Using Trees and Vegetation to Reduce Heat Islands." United States Environmental Protection Agency, n.d. https://www.epa.gov/heatislands/using-trees-and-vegetation-reduce-heat-islands

[xxxvii] "Let's Plant ABQ" brings together Tree New Mexico, the Albuquerque Bernalillo County Water Utility Authority (ABCWUA), Bernalillo County, New Mexico State University Cooperative Extension Service, The Nature Conservancy, the Dakota Tree Project, New Mexico State Forestry Division, and the City of Albuquerque Parks and Recreation Department. "City Tree Planting Alliance to Boost Albuquerque Urban Forest." City of Albuquerque, n.d. https://www.cabq.gov/parksandrecreation/news/city-tree-planting-alliance-to-boost-albuquerque-urban-forest

[xxxviii] This guiding principle is in alignment with findings by the Wilderness Society on disparities in green space distribution and access in Albuquerque. Next Stop: Equitable Access. The Wilderness Society, 2020. https://www.wilderness.org/articles/blog/report-albuquerque-park-access-lacking-vulnerable-communities-expanded-transit-could-help

[xxxix] "Database: Racial Covenants." KRQE. November 10, 2020 https://www.krqe.com/news-resources/racial-covenants-database/

[xxxx] Valle de Oro's community engagement model is oriented around both the U.S. Fish and Wildlife Service's Standards of Excellence for Urban National Wildlife Refuges – which stress the importance of community connection, equity and accessibility – and their own work in the community of Mountain View. The Refuge's non-profit partner, Friends of Valle de Oro, has demonstrated their commitment to equitable access by surveying the local Mountain View community about how the refuge could best serve community needs. Environmental and Economic Justice Strategic Plan. Valle de Oro National Wildlife Refuge, April 2017. https://friendsofvalledeoro.org/wp-content/uploads/2020/03/VdO-Environmental-and-Economic-Justice-Strategic-Plan-April-2017.pdf

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