



City of Las Cruces Climate Action Plan

July 2020

Acknowledgements

The completion of this work would not have been possible without the support and input of the following individuals, to whom the City of Las Cruces is grateful. These individuals helped guide the process through their participation in the Steering Committee and stakeholder workshops and by providing data. Individuals noted in *italics* were members of the Steering Committee.

City of Las Cruces

Alex Flores

Alfredo Pacheco

Andy Hume

Barbara DeLeon

Bill Hamm

David Sedillo

Delilah Walsh

David Weir

Eric Martin

Francisco Pallares

Gabe Vasquez

Gill Sorg

Griselda Martinez

Jesse Van Maanen

John Mrozek

Kasandra Gandara

Lucio Garcia

Lisa LaRocque

Mario Puentes

Mike Bartholomew

Natalie Green

Richard DeWitt

Robin Lawrence

Sarah Cundiff

Sreedevi B. Mohanraj

Srijana Basnyat

Tim Pitts

Tony Treviño

Yvonne Flores

Las Cruces Community Members

Allen Downs, Citizen

Allison Jenks, New Mexico State University

Dave Dubois, New Mexico State University

Deborah Beebe, USDA Farm Service Agency

Don Kurtz, Citizen

Jessica Christianson, El Paso Electric Company

Joe Sloan, BNSF Railway

Kurt Anderson, Doña Ana Soil and Water

Conservation District

Matthew Harrell, Illinois EPA

Michael McAdams, Mesilla Valley Metropolitan

Planning Organization

Monica Castañeda, Virgin Galactic

Nicole Martinez, Community of Hope

Patrick Peck, South Central Solid Waste Authority

Rene Romo, U.S. Senator Udall's Office

Rocky Bacchus, Yellow Bird Services

Tony Gilbert, NMDOT Transit and Rail

Valerie Sherman, Mesilla Valley Metropolitan

Planning Organization

Yolanda Aguilar, El Paso Electric Company

Consultant Team

Lotus Engineering and Sustainability, LLC, supported this work for the City of Las Cruces:

Emily Artale, Project Lead

Hillary Dobos

Julia Ferguson

Rachel Meier

Table of Contents

Executive Summary	ES1
Las Cruces: A City Committed to Sustainability	ES1
Las Cruces' 2018 Greenhouse Gas Emissions Inventory	ES1
Las Cruces' Climate Action Vision and Community Values	ES2
Las Cruces' Potential to Reduce Greenhouse Gas Emissions	ES3
Las Cruces: Poised for Climate Action	ES3
Introduction	1
Las Cruces: A City Committed to Sustainability	1
The Call to Action	2
Background: Developing the Emissions Inventory and Mitigation Strategies	3
2018 Greenhouse Gas Emissions Inventory	4
Inventory Methodology	4
Findings from the 2018 Inventory	5
Climate Mitigation Strategies	10
Climate Action Vision	11
Community Values and Equity Considerations	11
Overview of Greenhouse Gas Reduction Strategies	12
Modeling Results	12
Las Cruces: Poised for Climate Action	15
First Steps	15
Next Steps	15
Develop Ongoing Working Groups	15
Identify Funding	16
Engage the Community	16
Establish a Living Laboratory	17
Start Developing Select Policies	17
Conclusion	17
Appendix: Climate Action Implementation Guide	18

Table of Figures

Figure ES-1: Las Cruces' emissions by sector.	ES2
Figure ES-2: 2050 greenhouse gas emission total (mt CO ₂ e) and sector impact.	ES3
Figure 1: Elephant Butte Reservoir.	2
Figure 2: Definitions of emission scopes.	5
Figure 3: Las Cruces' 2018 emissions by scope.	6
Figure 4: Share of Las Cruces' community emissions by sector.	6
Figure 5: Las Cruces' 2018 emissions by sector.	7
Figure 6: Las Cruces' transportation emissions detail.	8
Figure 7: Las Cruces' stationary emissions detail.	8
Figure 8: Emissions from solid waste.	9
Figure 9: 2050 greenhouse gas emission totals (mt CO ₂ e) and sector impact.	13
Figure 10: 2030 greenhouse gas emission totals (mt CO ₂ e) and sector impact.	14
Figure 11: Strategy impacts in 2030 and 2050.	14

Table of Tables

Table 1: Normalized emissions for Las Cruces and other regions	10
Table 2: Las Cruces' Climate Action Strategies	12
Table 3: Strategy RE1 Actions	19
Table 4: Strategy RE2 Actions	23
Table 5: Strategy T1 Actions	26
Table 6: Strategy T2 Actions	29
Table 7: Strategy T3 Actions	32
Table 8: Strategy T4 Actions	34
Table 9: Strategy BE1 Actions	38
Table 10: Strategy BE2 Actions	40
Table 11: Strategy BE3 Actions	43
Table 12: Strategy BE4 Actions	45
Table 13: Strategy W1 Actions	49
Table 14: Strategy W2 Actions	54
Table 15: Strategy W3 Actions	56
Table 16: Strategy A1 Actions	58
Table 17: Strategy CS1 Actions	62

Photo Credits

Cover Photo: Kate Torline via Unsplash
Executive Summary: Kate Torline via Unsplash
Introduction: Bethany Randall via Unsplash
Elephant Butte Reservoir: Las Cruces Sun
Page 10: Emily Artale, Lotus Engineering & Sustainability, LLC
Page 15: Lisa LaRocque, Las Cruces' Sustainability Officer
Page 17: Lisa LaRocque, Las Cruces' Sustainability Officer
Back Cover: Kate Torline via Unsplash



Executive Summary

Las Cruces: A City Committed to Sustainability

The City of Las Cruces (Las Cruces/City) is located in south-central New Mexico, in the Chihuahuan Desert and just north of the state's border with both Texas and Mexico. With a 2018 population just over 100,000,¹ Las Cruces is a growing community that is home to New Mexico State University and is the economic and geographic center of the agricultural region that sits in the floodplain of the Rio Grande.

Las Cruces is a local leader on climate action and has committed to creating a healthier, more sustainable, and greener future for all community members. Building off past successes by Las Cruces' Sustainability Office, in 2019 the City embarked upon multiple efforts to better understand the community's impact on climate change and identify greenhouse gas (GHG) emissions mitigation strategies, while working to enhance community equity. This work was completed by Lotus Engineering and Sustainability, LLC (Lotus) and includes developing the City's first community-wide GHG emissions inventory, a strategic stakeholder engagement process to develop GHG reduction strategies relevant for the community, and modeling the emissions reduction potential associated with the selected strategies. The result is an actionable and aggressive plan that guides the community to reduce its community-wide GHG emissions by 73 percent by 2050 (based on the 2018 baseline).

The need to act quickly and aggressively to prevent the worst effects of climate change is well-documented. The Intergovernmental Panel on Climate Change's 2018 report on the impacts of a 1.5 degree Celsius (2.7 degrees Fahrenheit) increase in global temperatures illustrates the grave results on ecosystems, human health, and our ability to thrive if we do not act quickly, collectively, and effectively to mitigate global emissions.² Las Cruces is already seeing the effects of climate change: local temperatures have risen 1 degree Fahrenheit in the last 100 years³ and droughts, wildfires, and extreme heat are becoming more common.

Through intentional action and collaboration with the City's local, regional, and state partners, Las Cruces is doing its part to mitigate climate change and ensure a high quality of life for current and future generations. A careful partner and peer review of this plan and financial impact analysis will take place before the implementation of any strategies.

Las Cruces' 2018 Greenhouse Gas Emissions Inventory

Las Cruces' 2018 GHG emissions inventory provides an analysis of community-based activities and shows an emissions total of 904,109 mt CO₂e, with a majority of emissions coming from the transportation and buildings sectors. See Figure ES-1.

¹ Based on data from the U.S. Census Bureau, see <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>.

² For more information see <https://www.ipcc.ch/sr15/>.

³ For more information see <https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-nm.pdf>.

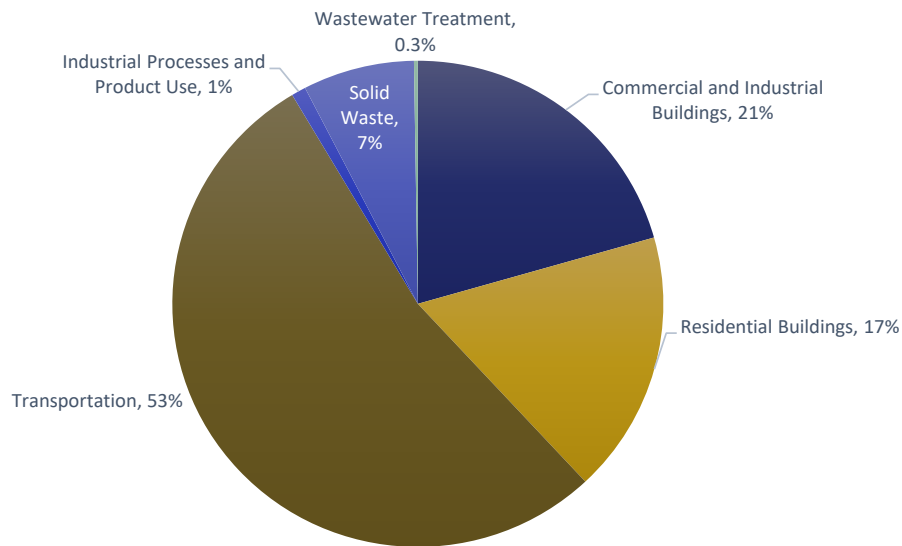


Figure ES-1. Las Cruces' emissions by sector.

When normalizing the City's emissions for population, Las Cruces generates approximately 8.6 mt CO₂e per resident and 22.2 mt CO₂e per household. These values are lower than the state of New Mexico and the country at large, as well as when compared with many similar cities within the region.

Las Cruces' Climate Action Vision and Community Values

The Las Cruces climate action Steering Committee developed a vision statement for Las Cruces' climate action work. This vision illustrates the City and community's commitment to ensuring an equitable high quality of life and a healthy future for the whole community, and it was used to guide the process of finalizing the list of strategies and actions that Las Cruces and its partners would take over the coming years to achieve its climate action goals.

Ensuring that the Las Cruces' climate action work benefits all community members equitably and does not incur negative outcomes for any community members is a top priority. The climate action Steering Committee developed a list of community values, against which the climate action strategies were vetted and compared; these community values were developed through intentional conversation regarding what is currently happening in the community, ways in which climate action work may impact equity, and how equity could be enhanced through the climate action work.

Las Cruces Climate Action Vision

Las Cruces will collectively work with all residents to embrace new ideas in the necessary transition to a carbon free economy that ensures a long-term healthy, equitable, and livable community for current and future generations.

Las Cruces' Community Values for Climate Action

- Illustrate a comprehensive commitment to mitigation and local resiliency.
- Improve health and local food systems for vulnerable populations.
- Support a circular economy and equitable, higher quality, less impactful products.
- Implement innovative technologies that promote water, energy, and resource efficiency.
- Improve equitable access to safe, clean forms of transportation.
- Create green jobs and workforce opportunities.

Las Cruces' Potential to Reduce GHG Emissions

The climate action Steering Committee and the community stakeholders identified 15 strategies that are part of the four major emission sectors --- building energy, transportation, renewable energy, and waste --- with the potential to drastically reduce the community's GHG emissions. The modeled strategies are expected to reduce Las Cruces' 2050 GHG emissions by 73 percent based on the 2018 baseline. Refer to Figure ES-2.

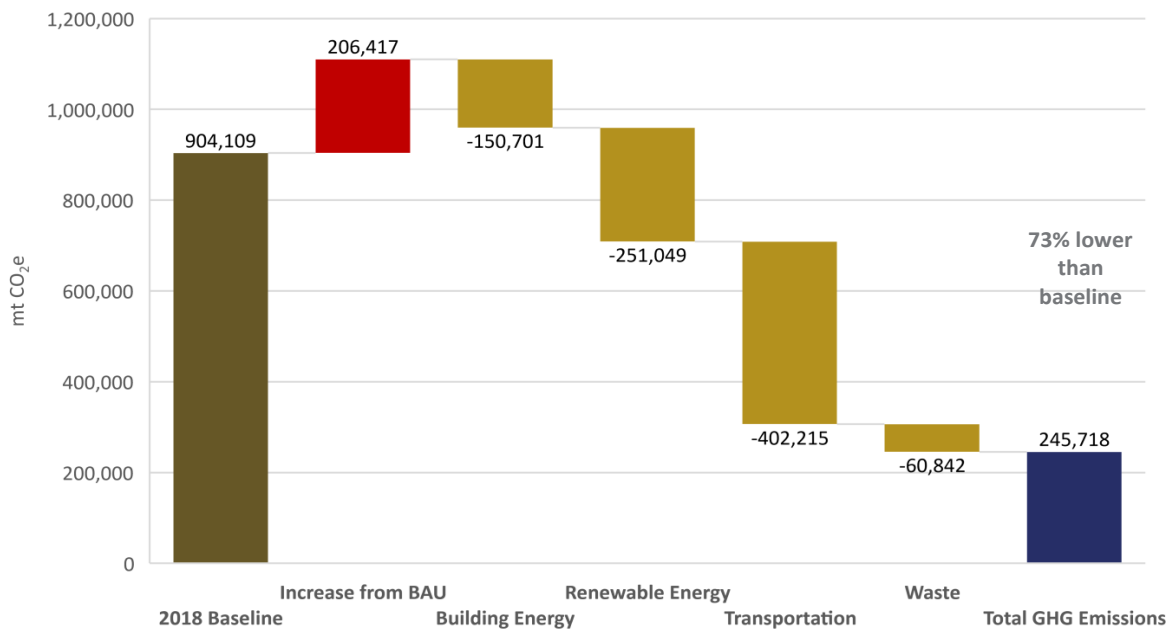


Figure ES-2. 2050 greenhouse gas emission totals (mt CO₂e) and sector impact.

Las Cruces: Poised for Climate Action

Las Cruces is a city and community that is prepared to commit to its part in preventing the worst effects of climate change. As a culturally, economically, and geographically diverse community in an arid desert environment, Las Cruces recognizes that by addressing climate change through the implementation of the strategies outlined in this document, the community can also enhance equity and improve the quality of life for all residents. As Las Cruces embarks upon this work, it is prepared to work collaboratively with its local partners, regional organizations, and state and national agencies and entities that are also interested in this work; through collaboration and strategic implementation of the actions in this document, Las Cruces can achieve its emission reduction goal while ensuring a healthy, equitable, and livable future now and in the years to come.



Introduction

The City of Las Cruces (Las Cruces/City) is a local leader on climate action and has committed to creating a healthier, more sustainable, and greener future inclusive of all community members. Building off past successes by Las Cruces' Sustainability Office, in 2019 the City embarked upon multiple efforts to better understand the community's impact on climate change and identify greenhouse gas (GHG) emissions mitigation strategies, while working to enhance community equity. This work was completed by Lotus Engineering and Sustainability, LLC (Lotus) and includes developing the City's first community-wide GHG emissions inventory, a strategic stakeholder engagement process to develop GHG reduction strategies relevant for the community, and modeling the emissions reduction potential associated with the selected strategies. The result is an actionable and aggressive plan that guides the community to reduce its community-wide GHG emissions by 73 percent by 2050 (based on the 2018 baseline).

Las Cruces: A City Committed to Sustainability

Las Cruces is a city in south-central New Mexico, in the Chihuahuan Desert and just north of the state's border with both Texas and Mexico. With a 2018 population just over 100,000⁴, Las Cruces is a growing community that is home to New Mexico State University and is the economic and geographic center of the agricultural region that sits in the floodplain of the Rio Grande. The City is expected to grow to a 2050 population of just under 125,000 people⁵ and enhancing community equity while taking action on climate change are important values for the City's leadership.

Las Cruces' Sustainability Office, which was established in 2011, is focused on helping the community balance economic vitality, environmental health, and social responsibility. The office supports many sustainability-related programs and projects, and the main emphasis in past years has been on addressing climate change, supporting the advancement of clean energy, and enhancing community resiliency.⁶ Recent work by the Sustainability Office includes enhancing access to solar power through an updated and simplified permitting process, procuring renewable energy for municipal operations, embarking on an energy performance contract for municipal buildings, installing over 3 MW of solar power through a power purchase agreement (PPA), and working with community organizations to address equity concerns across the community.

⁴Based on data from the U.S. Census Bureau, see <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>.

⁵Based on data from the City of Las Cruces Economic Development Department.

⁶For more information please see <https://www.las-cruces.org/2068/Sustainability-Office>.

The Call to Action

The Intergovernmental Panel on Climate Change's 2018 report on the impacts of a 1.5 degree Celsius (2.7 degrees Fahrenheit) increase in global temperatures illustrates the grave results on ecosystems, human health, and our ability to thrive if we do not act quickly, collectively, and effectively to mitigate GHG emissions.⁷

Globally, cities and urban areas are estimated to be responsible for approximately 75 percent of global carbon dioxide emissions due to the large amount of concentrated activity occurring in densely populated places. Cities are also on the forefront of efforts to address climate change mitigation and adaptation and are an integral part of the solution to the climate crisis.⁸

Data from the US Environmental Protection Agency (EPA), shows that temperatures across the state of New Mexico have already risen by at least 1 degree Fahrenheit in the past century and are likely to continue to rise.⁹ Droughts are becoming more common across the region, impacting agricultural activities, and more frequent wildfires and extreme heat are likely to lead to health impacts for both humans and livestock.¹⁰ The Elephant Butte Reservoir, which provides water storage for much of southern New Mexico and Texas, was at 3 percent of its capacity in 2018, illustrating that some of the serious impacts of climate change are already being felt locally (see Figure 1).¹¹



Figure 1. Elephant Butte Reservoir.

⁷ For more information see <https://www.ipcc.ch/sr15/>.

⁸ For more information see <https://www.unenvironment.org/explore-topics/resource-efficiency/what-we-do/cities/cities-and-climate-change>.

⁹ For more information see archives EPA document 'What Climate Change Means for New Mexico' at <https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-nm.pdf>.

¹⁰ Ibid.

¹¹ For more information see <https://www.lcsun-news.com/story/news/local/new-mexico/2018/09/21/elephant-butte-3-percent-capacity-what-happens-next/1381498002/>.

Work that the City completed in collaboration with the National Adaptation Forum shows that Las Cruces is likely to experience increased occurrences of extreme heat, drought, dust storms, wildfire, and flooding as a result of climate change; recent data indicates that by the end of this century average temperatures in the region may increase significantly, with the City experiencing an average of more than 75 days above 100 degrees Fahrenheit in a business-as-usual case scenario.¹²

Across the United States, states and cities like Las Cruces are declaring commitments to carbon reduction. Through intentional action and collaboration with the City's local, regional, and state partners, Las Cruces can do its part in mitigating climate change and ensuring a high quality of life for current and future generations.

Background: Developing the Emissions Inventory and Mitigation Strategies

Las Cruces hired Lotus in the summer of 2019 to complete a 2018 GHG emissions inventory for community-wide activity and to support the development of GHG emission reduction strategies. Lotus collected data on community activity and calculated the related emissions, which are presented in a final GHG emissions inventory (see the section titled *2018 Greenhouse Gas Emissions Inventory*, below).

Starting in the fall of 2019, the City and Lotus organized a Steering Committee that included internal staff and representatives of select community organizations to help identify relevant and impactful emission reduction strategies, supporting community values, and GHG emission reduction targets. The Steering Committee met twice through the fall of 2019 and once in early 2020; additionally, two community stakeholder workshops that included a broader set of community organizations and representatives were held in late 2019 and early 2020. These workshops were designed to develop a community climate change mitigation vision statement and to gather feedback on the most relevant strategies, actions, and implementation steps to ensure that the community met its emission reduction goal. Select quantitative emission reduction strategies were modeled to understand how impactful the strategies could be in reducing Las Cruces' community emissions; the impact of the strategies was modeled out to the year 2050 and compared to a business-as-usual scenario, which assumed that the community took no action on emissions reductions, and emissions grew at the rate of the projected population increase.¹³

The resulting emissions reduction plan includes 15 strategies with a collective 48 discreet actions that the City and the broader Las Cruces community will embark on in the coming years to reduce the community's greenhouse gas emissions (see section titled *Las Cruces' Climate Action Vision*, below).

¹²Taken from a presentation City staff gave at the National Adaptation Forum in 2018.

¹³It should be noted that the business-as-usual case in the emissions projection model did include currently announced state and national commitments, including New Mexico's renewable energy standard and projected vehicle fuel efficiency advancements.

2018 Greenhouse Gas Emissions Inventory

Inventory Methodology

Las Cruces' 2018 GHG emissions inventory provides an analysis of community-based activities in the 2018 calendar year that resulted in GHG emissions. The inventory is compliant with the Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories (GPC protocol), which is a global standard for GHG emission accounting and reporting. The GPC protocol was developed and launched in 2014 and provides a template from which communities can create comparable and standard emission inventories. The GPC protocol defines what emissions must be reported, as well as how those emissions are to be calculated and reported.

The GPC includes two different reporting levels, BASIC and BASIC+:

- **BASIC:** The BASIC methodology covers stationary energy, in-boundary transportation, and community-generated waste.
- **BASIC+:** The BASIC+ level includes BASIC emission sources, as well as a more comprehensive coverage of emissions sources such as trans-boundary transportation; energy transmission and distribution losses (i.e., the loss of some amount of electricity during the delivery process from the supplier to the customer); industrial processes and product use (IPPU); and agriculture, forestry and other land uses (AFOLU).

Las Cruces chose to complete a BASIC+ inventory.¹⁴ The specific GHGs accounted for in the inventory include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). Emissions are calculated in an inventory workbook created specifically for Las Cruces, and results are totaled as metric tons of carbon dioxide equivalents (mt CO₂e). Accompanying the inventory workbook, Lotus also created an Inventory Management Plan for Las Cruces, which captures all data assumptions, provides explanations as to the reasoning behind what data was used, provides formulas used for calculating emissions, and details any caveats regarding data quality or availability.

The inventory categorizes emissions by scopes, sectors, and sources. Scopes are defined by globally recognized protocols and provide a very high-level view of emissions with combined sectors and sources within. Per the GPC protocol,¹⁵ the following definitions apply to emission scopes (see Figure 2).

- Scope 1: GHG emissions from sources located within the boundary.
- Scope 2: GHG emissions occurring as a result of the use of grid-supplied electricity, heat, steam and/or cooling within the boundary.
- Scope 3: All other GHG emissions that occur outside the boundary as a result of activities taking place within the boundary.

¹⁴It should be noted that no emissions from agricultural activities were included, because Las Cruces does not have any agricultural activity occurring within City limits.

¹⁵For more information see https://ghgprotocol.org/sites/default/files/standards_supporting/GPC_Executive_Summary_1.pdf.

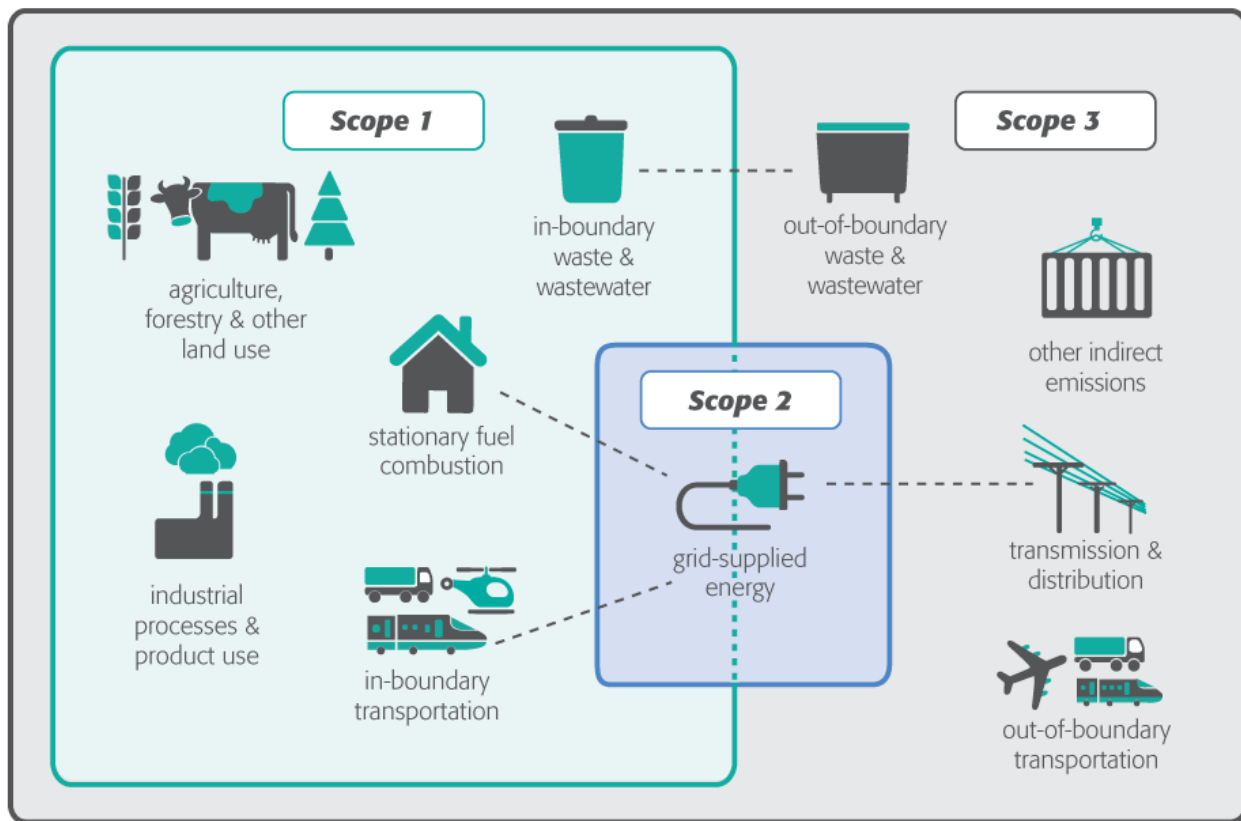


Figure 2. Definitions of emissions scopes.

The boundaries of the 2018 GHG inventory were set as Las Cruces’ city limits. It is important to note that, while New Mexico State University operates an active college campus in Las Cruces, the campus is not actually within Las Cruces’ city limits. Therefore, any activity occurring at the campus, including transportation activities, energy use in buildings, and the production of solid waste, are not included in Las Cruces’ community emissions inventory for 2018. Regardless, New Mexico State University remains an important community asset and partner for Las Cruces to engage in the City’s emission reduction work.

Findings from the 2018 Inventory

Total Emissions

The inventory resulted in a 2018 BASIC+ emissions value of 904,109 mt CO₂e. The share of emissions by scope is shown in Figure 3. Scope 1 emissions dominate the community’s overall emissions profile at 71 percent, Scope 2 emissions from electricity supplied by El Paso Electric Company comprise 20 percent of emissions, and Scope 3 emissions make up the smallest share of the inventory at 8 percent.

It is often useful to analyze a community’s emissions and explore opportunities to mitigate those emissions by looking at various sectors within the community. The use of energy to power buildings in Las Cruces makes up 38 percent of the community’s emissions in 2018, with commercial and industrial buildings producing 21 percent of the community’s total emissions and residential buildings producing slightly less, at 17 percent of the community’s total emissions.

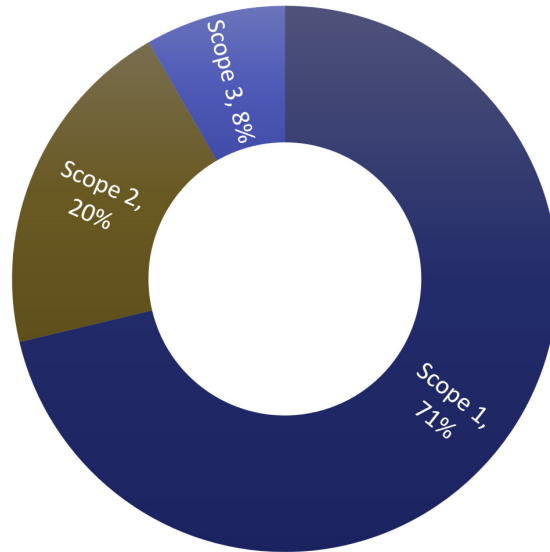


Figure 3. Las Cruces' 2018 emissions by scope.

The largest share of emissions from a single sector in Las Cruces is created by the transportation sector, which comprises 53 percent of all the community's emissions. The creation and disposal of solid waste in the community accounted for 7 percent of all emissions, industrial processes and product use (through the use of refrigerants for building cooling) comprises 1 percent of emissions, and wastewater treatment accounts for 0.3 percent of all emissions in 2018. See Figure 4.

In Las Cruces, emissions from transportation activities (including on-road travel, public transportation, railway activity, and air travel attributable to the community) contribute 516,318 mt CO₂e, or more than half of all the community's emissions. This represents a larger share than is seen in many communities of similar size. This may be in part due to the fact that Las Cruces has three major highways (Interstate-10,

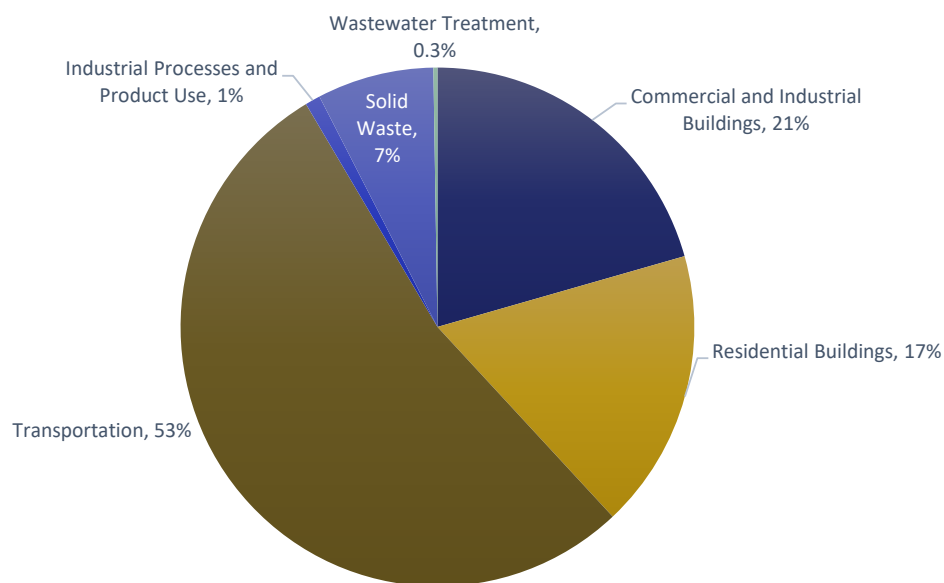


Figure 4. Share of Las Cruces' community emissions by sector.

Interstate-25, and NM Highway 70) running through the city and may be a consequence of the development pattern of the City over the past decades, which through passive and active design, has prioritized traveling by car over other alternative options. Similarly, waste in Las Cruces is transported to the Corralitos Landfill outside Las Cruces for disposal. The Corralitos landfill serves the entire region of southern New Mexico and is located outside of City limits. This landfill does not have a methane gas recycling system, which leads to the emissions from waste being slightly higher than they otherwise would be if the landfill captured the methane produced by decaying waste. The SCSWA is currently designing a landfill gas collection and control system that will collect and destroy methane from the landfill. The system will be operational in late 2021 and it will reduce methane emissions through the landfill surface. The rate of organic decomposition at Corralitos leading to the formation of methane is lower than at a typical landfill because of the dry, desert climate.

Alternatively, emissions from electricity consumed in buildings is slightly lower than what is seen in other communities. Las Cruces receives its electricity from El Paso Electric, an investor-owned-utility in El Paso, Texas, and El Paso Electric does not source any of its electricity from coal; its electricity is produced from natural gas, nuclear energy, solar energy, and purchased power (non-specified). Las Cruces' emission factor is considerably less than similar sized communities who are powered by utilities that do include coal in their energy resource mix. Refer to Figure 5.

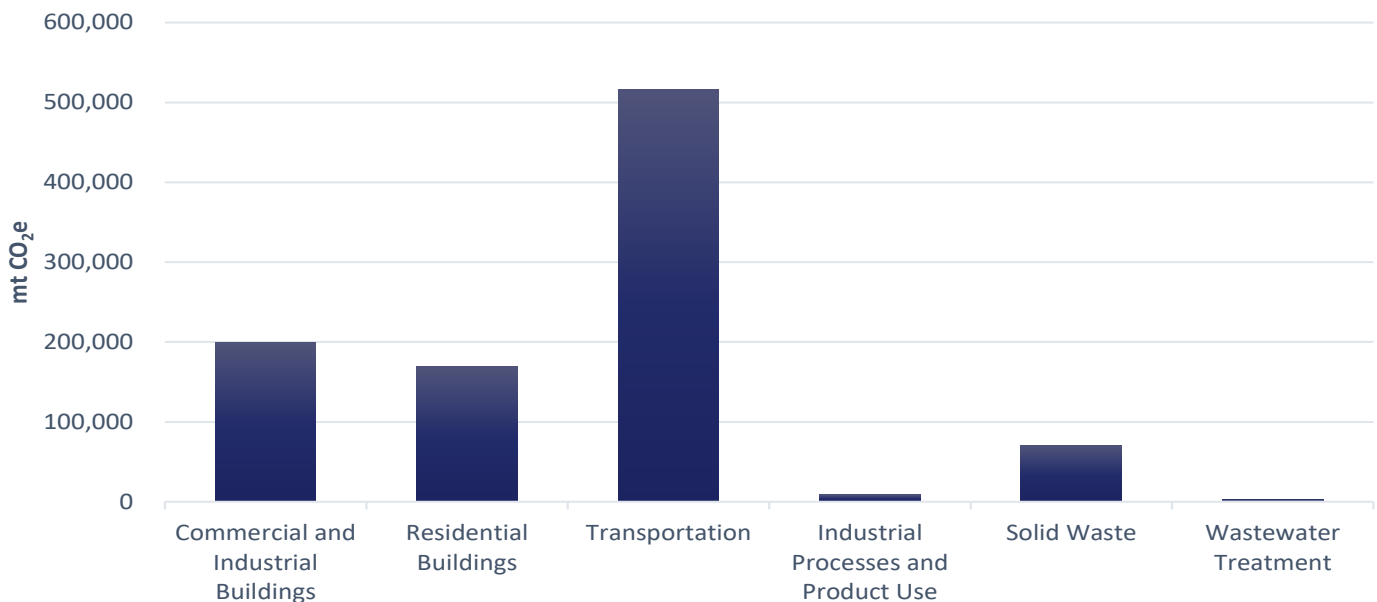


Figure 5. Las Cruces' 2018 emissions by sector.

Transportation Emissions

Within the transportation sector, nearly 99 percent of emissions are generated by gasoline and diesel vehicles; see Figure 6. Just under 1 percent of transportation emissions come from air travel occurring at the Las Cruces International Airport, and the remaining roughly 0.5 percent of emissions come, in order, from transit activity, railways, and electric vehicles (including the transmission and distribution losses associated with the supply of electricity to those vehicles). The inventory did not include data on activity at El Paso International Airport, because such data was not available; however, were this data to be included in the future, it is unlikely that it would drastically change the distribution of emissions from the various sources within the transportation sector.

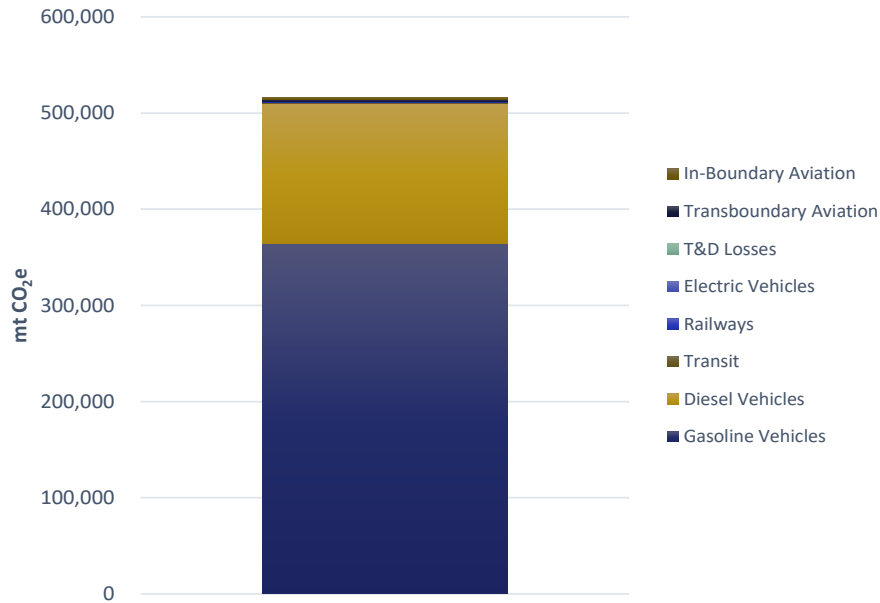


Figure 6. Las Cruces transportation emissions detail.

Stationary Emissions

Within the stationary (i.e., buildings) sector, four sources dominate the profile: commercial electricity at 29 percent of the total, commercial natural gas at 23 percent, residential electricity at 24 percent, and residential natural gas at 21 percent. The remaining sources represent 1 percent or less of the total and include residential and commercial transmission and distribution losses and natural gas fugitive emissions. See Figure 7.

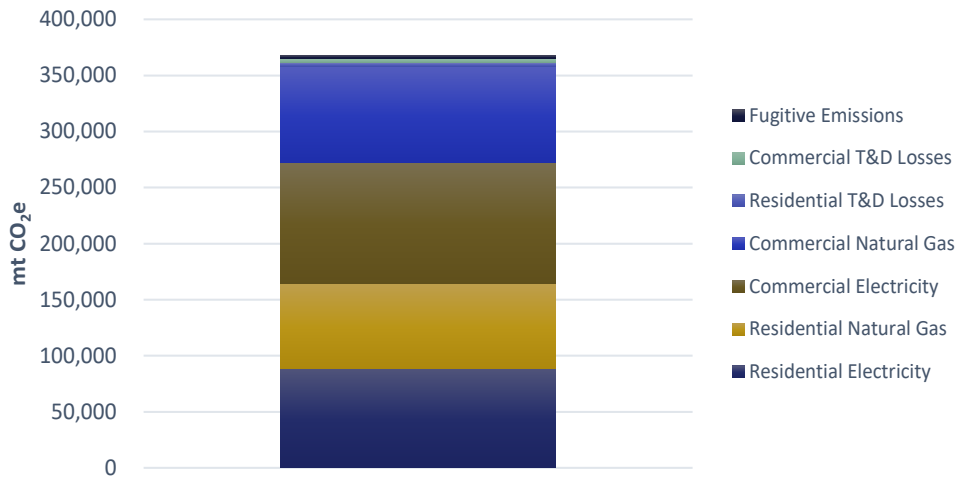


Figure 7. Las Cruces' stationary emissions detail.

Waste and Wastewater Emissions

The majority of waste and wastewater emissions are generated from the collection and disposal of solid waste generated by the community, which makes up approximately 97 percent of the total. A small amount of compost is treated within the Las Cruces city limits. See Figure 8.

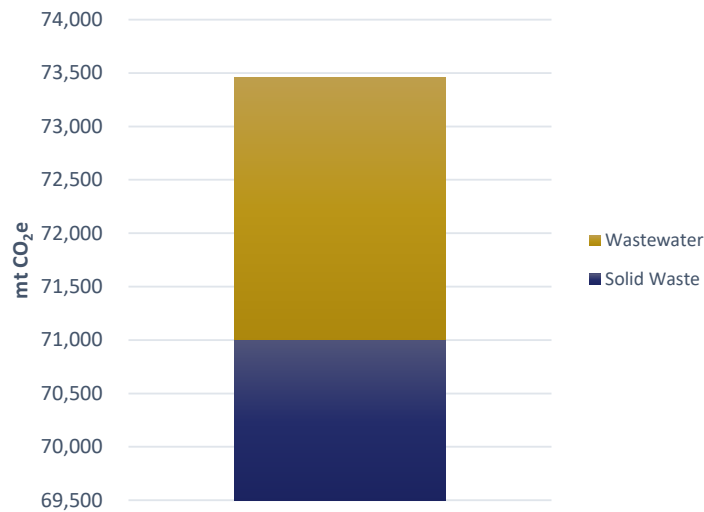


Figure 8. Emissions from solid waste.

Avoided Emissions: Recycling and Renewable Energy

Although the GPC does not allow cities to subtract emissions that are avoided through the use of renewable energy or recycling of products, these avoided emissions were calculated and included in the inventory as ‘information-only’ items so that Las Cruces can understand the impact of these programs and activities into the future.

In 2018, Las Cruces avoided creating an additional 29,856 mt CO₂e (which represents approximately 3 percent of the community’s total emissions) through recycling activities. Las Cruces avoided an additional 4,417 mt CO₂e (roughly 0.5 percent of the community’s total emissions profile in 2018) through on-site solar on commercial and residential buildings in the community. El Paso Electric owns the Renewable Energy Credits (RECs) associated with this renewable energy production and therefore can claim ownership of the environmental attributes associated with the solar. If the use of on-site solar were to increase in Las Cruces, one could assume that the utility would continue to retain the RECs associated with this renewable production, and therefore increased solar would contribute to a lower emissions factor (i.e., carbon intensity) of the electricity provided by El Paso Electric, leading to lower emissions from electricity use in future inventories.

Normalized Metrics

When looking at emissions generated by a community it can be helpful to normalize the data for population and households in order to compare emissions profiles across communities. When normalizing the City’s emissions for population, Las Cruces generates approximately 8.6 mt CO₂e per resident and 22.2 mt CO₂e per household. These values are lower for Las Cruces than for the state of New Mexico and the country at large, as well as when compared with many similar cities within the region, see Table 1. It should be noted that some of these inventories were conducted using different protocols than what was used for Las Cruces, which may make a direct comparison between the results less straightforward; additionally, national and

statewide inventories also include activities related to industrial processes and energy generation (such as oil and gas extraction, mining, etc.) that do not occur in Las Cruces and therefore are not included in the City's inventory. These activities are generally intensive and result in a significant amount of emissions being generated.

Table 1. Normalized emissions for Las Cruces and other regions.

Region of Comparison	Inventory Year	Emissions per Capita	Emissions per Household
Las Cruces	2018	8.6	22.2
Santa Fe, NM	2015	13.3	87.2
Denver, CO	2016	15.7	34.6
Salt Lake City, UT	2015	24.6	57.0
Pima County, AZ	2014	14.0	32.4
Durango, CO	2016	20.1	45.6
State of New Mexico	2013	38.8	87.2
United States	2017	20.1	47.7

As Las Cruces continues to monitor and analyze its emissions over the coming years, the 2018 emissions inventory will provide a useful baseline against which future progress can be measured. Normalized emissions will help the City understand how projects, programs, and policies aimed at reducing emissions are working as the community continues to grow in population. This 2018 inventory also serves as the baseline from which estimated future reductions in emissions through the City's selected strategies were based, and as Las Cruces continues to work actively on climate action, conducting subsequent emission inventories will allow the City to better understand what works, what doesn't, and how the community's emissions change as the community evolves.

Climate Mitigation Strategies

Understanding the environmental impact of activities in Las Cruces ensures that as Las Cruces continues to address climate action, the City does so in a way that effectively makes a significant impact on overall emissions and supports key community values. Las Cruces has a goal of reducing community-wide emissions by up to 80 percent by 2050 (based on the 2018 baseline emissions value), while enhancing equity and all ensuring that all community members have the opportunity to thrive.¹⁶



¹⁶While the City's commitment is an 80 percent reduction by 2050, select modeled strategies showed a potential of a 73 percent reduction by 2050. The difference may be achieved through additional actions.

Las Cruces worked with its Steering Committee and community stakeholders to identify a climate action vision and community values, develop GHG reduction strategies and associated targets, and a draft an implementation plan.

Climate Action Vision

The Las Cruces climate action Steering Committee and community stakeholders provided input on the future that they hope to support and create in Las Cruces through the implementation of this work. This vision illustrates the City and community's commitment to ensuring an equitable and high quality of life and a healthy future for the whole community, and it was used to guide the process of finalizing the list of strategies and actions that Las Cruces and its partners would take over the coming years to achieve its climate action goals.

Las Cruces Climate Action Vision

Las Cruces will collectively work with all residents to embrace new ideas in the necessary transition to a carbon free economy that ensures a long-term healthy, equitable, and livable community for current and future generations.

Community Values and Equity Considerations

Las Cruces' Community Values for Climate Action

- Illustrate a comprehensive commitment to mitigation and local resiliency.
- Improve health and local food systems for vulnerable populations.
- Support a circular economy and equitable, higher quality, less impactful products.
- Implement innovative technologies that promote water, energy, and resource efficiency.
- Improve equitable access to safe, clean forms of transportation.
- Create green jobs and workforce opportunities.

Community values help widen the lens with which Las Cruces vets GHG reduction strategies. They incorporate key concerns that go beyond climate change, such as equity, and resonate with the character and needs of community members. They also help ensure greater buy-in amongst a diverse network of stakeholders.

In Las Cruces, where nearly 18 percent of all households and 37 percent of households with children under five live below the federal poverty line in 2017,¹⁷ ensuring that the City's climate action work benefits all community members equitably and does not incur negative outcomes for any community members is a top priority. The climate action Steering Committee developed a list of community values against which the potential climate action strategies could be vetted and compared; these community values were developed through intentional conversation

regarding what is currently happening in the community, ways in which climate action work may impact equity, and how equity could be enhanced through the climate action work.

¹⁷ For more information see the US Census American Factfinder 2017 estimates for Las Cruces at <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>.

Overview of Greenhouse Gas Reduction Strategies

Modeling Results

In the fall of 2019, Steering Committee members and climate action workshop stakeholders developed a list of potential actions that the City and community could together take in order to reduce emissions throughout the community and support the enhancement of community values. The resulting list of nearly 50 actions was then reviewed by Las Cruces staff and the consultant team to group similar actions into 15 higher-level strategies on which the City and community could collaborate. Nine of the strategies that were assumed to potentially have a significant impact on Las Cruces' emissions profile were analyzed further in an emissions reduction modeling tool to estimate the total impact on community emissions that the strategies would have between now and the year 2050. The Steering Committee established targets for the modeled emissions that identified the level of participation in programs and policies towards which Las Cruces and the community would strive. Table 2 shows the full list of strategies selected by Las Cruces. Those in bold were more modeled to estimate the emission reduction potential and contribution towards the City's overall GHG reduction goal.¹⁸

Table 2. Las Cruces' Climate Action Strategies.

Sector	Strategy	GHG Reduction Potential by 2050 based on a 2018 baseline
Waste	W1. Incentivize waste minimization.	7%
	W2. Reduce plastic use.	Minimal Impact
	W3. Develop a circular economy.	Minimal Impact
Transportation	T1. Increase the use of public transit.	0.1%
	T2. Prioritize the development of active transportation alternatives.	12%
	T3. Leverage synergy between transportation and local growth.	Minimal Impact
	T4. Promote electric vehicle adoption that is inclusive of the entire community.	33%
Building Energy Use	BE1. Reduce energy usage in municipal buildings through efficiency and demand management.	0.02%
	BE2. Expand residential energy efficiency programs.	1%
	BE3. Reduce commercial building energy use.	2%
	BE4. Decarbonize Energy in buildings.	14%

¹⁸ The modeled strategies were assumed to have a significant impact on GHG emissions based on Lotus' previous modeling experience as compared to the other, non-modeled strategies.

Sector	Strategy	GHG Reduction Potential by 2050 based on a 2018 baseline
Renewable Energy	RE1. Accelerate renewable electricity adoption (with a focus on low-to-moderate income households).	28%
Advocacy	A1. Conduct sustainability outreach and education.	Minimal Impact
Carbon Sequestration	CS1. Sequester carbon.	Minimal Impact

The total savings potential of modeled strategies in 2050 equaled an estimated 97 percent; however, emissions are expected to increase by 23 percent given growth projections (referred to as a business-as-usual case scenario or “BAU”). This BAU is based on no significant change in City or community activities, a constant 2018 electricity emission factor, and projected population growth. Las Cruces will not only have to reduce its emissions today but also account for increased emissions as a result of growth. Therefore, the modeled strategies are expected to reduce Las Cruces’ 2050 GHG emissions by 73 percent based on the 2018 baseline. Further reductions may be achievable through additional actions and will help Las Cruces get closer to meeting its 80 percent reduction goal. Refer to Figure 9.

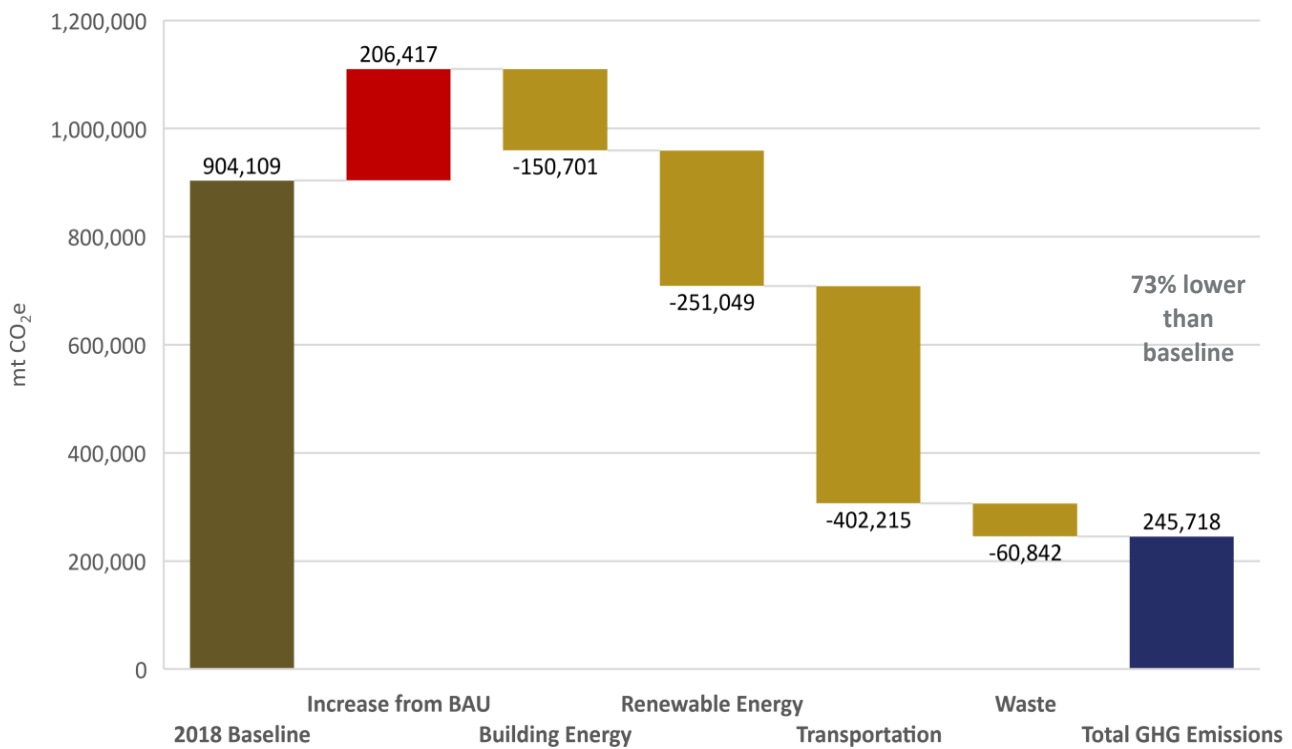


Figure 9. 2050 Greenhouse Gas Emission Totals (mt CO₂e) and Sector Impact.

Similarly, emissions are expected to decrease by 19 percent by 2030 based on a 2018 baseline. Refer to Figure 10.

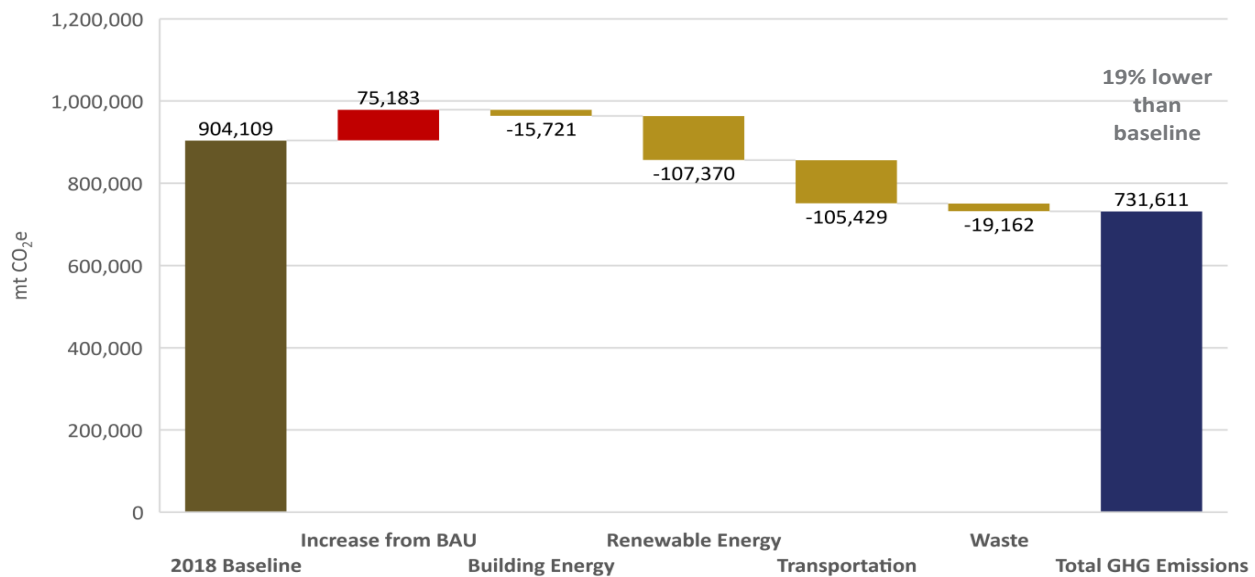


Figure 10. 2030 Greenhouse Gas Emission Totals (mt CO₂e) and Sector Impact.

The strategies with the most significant impact to GHG emissions include the following. See Figure 11.

1. **T3:** Promote Electric Vehicle Adoption that is Inclusive of the Entire Community.
2. **RE1:** Accelerate Renewable Energy Adoption.
3. **BE4:** Decarbonize Energy in Buildings.
4. **T2:** Prioritize the Development of Active Transportation Alternatives.
5. **W1:** Incentivize Waste Minimization.

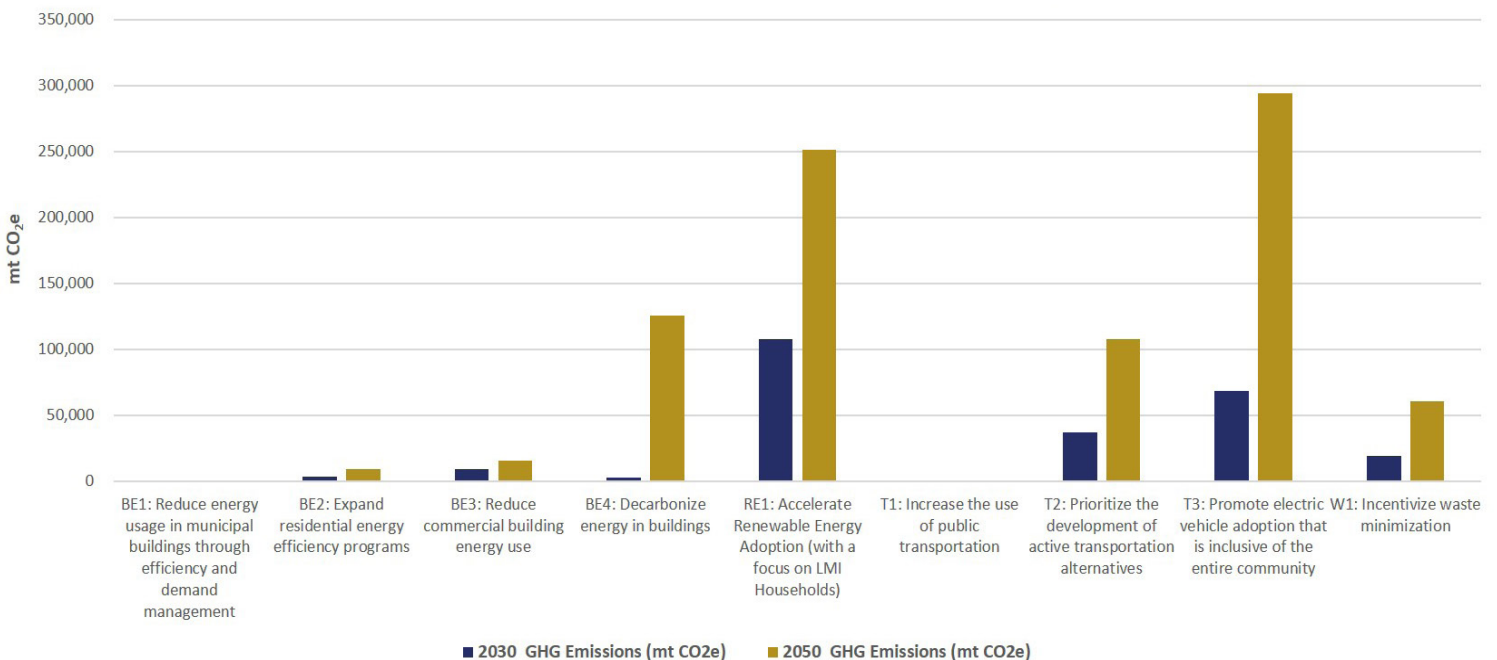


Figure 11. Strategy impacts in 2030 and 2050.

The effect of each strategy is a function of data assumptions and targets set by both Lotus and Las Cruces.¹⁹ As of September 2020, City Council approved the Climate Action Plan and the targets presented herein. The strategies introduced here are methods by which the City will achieve those targets. The actions that provide additional detail for strategy implementation are included in the Appendix and were brainstormed during stakeholder engagement; they are intended to initiate future discussions.

¹⁹ For more information, please review the model titled Final_Las Cruces GHG model_030520.

Las Cruces: Poised for Climate Action

The information contained herein provides a framework and plan for the community to begin mitigating climate change. Discussions with stakeholders helped identify the next steps that the community can take to convert this plan into action.

First Steps

The City is encouraged to use this framework as a guide to initiate action. It is recommended that the City become very familiar with the data presented in the Climate Implementation Guide (please see Appendix). City staff can focus on areas that are in alignment with the selected priority level, impact on GHG emissions and community values, and timeframe. Initial feedback on the responsible party(ies) and funding sources will also help direct City efforts. Individual sector sheets may be useful for designing working groups as noted below.

Current Community Actions

Installing solar panels on city-owned buildings.

Promoting land conservation.

Next Steps

Develop Ongoing Working Groups

The City's Sustainability Officer will coordinate and lead regular working groups that will continue to brainstorm implementation approaches for the strategies identified in this plan relying heavily on the Climate Change Implementation Guide. These working groups will include stakeholders involved in this plan's development and will continue to engage additional members of the community. Working groups may eventually become sector specific, thus ensuring that the City builds and grows its own leadership and ownership of the plans' actions. The working groups may also consider developing a Policy Review Committee that will build alignment with Elevate Las Cruces.

One of the working groups' goals may be to identify "shovel-ready" ideas with an associated lead or point person. The working groups should be aware of the unintended consequences of each action and design programs and policies that take these into consideration. An initial list of unintended consequences noted by the stakeholders by strategy includes the following:

Sequester Carbon

- Water use must be well managed.
- The City will need to incorporate a long-term maintenance plan to manage new vegetation.

Waste

- The City to consider replacement items for homeless populations who now heavily rely on plastic bags.
- Imposing limits or penalties on waste can increase illegal dumping.

Building Energy

Residential Building Efficiency

- The City should consider the incomplete capitalization of assets.
- The City should consider impacts to housing affordability.²⁰

- How can solar and LEED objectives be pursued without increasing the cost of housing?

Decarbonize Energy in Buildings

- The community needs to have dual fuel capability to avoid winter peak electric draws of less than 1 percent of the need. Natural gas carbon emissions can also be mitigated with carbon offset programs or carbon-capture technologies.
- The City should consider impacts to public/assisted housing and small businesses.
- Bond rating will decline if natural gas utility goes away, and other utility rates may increase.
- The City cannot enact policies that may endanger pledged revenues, violate our own bond ordinances or breach any service delivery contracts or commitments.

Commercial Building Efficiency

- The community needs more than one-year transition to updated IECC and ASHRAE standards.

Municipal Buildings

- How should the City balance the price of net zero with budget, funding, and existing projects?

In addition to ongoing working groups, the community stakeholders identified an engagement plan to stay up-to-date with the implementation of this plan, including:

- Holding in-person meetings regularly (e.g., monthly, bimonthly, or quarterly).
- Developing a Policy Review Committee to work in conjunction with Elevate Las Cruces.

Current Community Actions

Integrating EV buses into transit fleet.

Providing public funding to support income-qualified neighborhoods.

Identify Funding

While various funding sources are noted in the section Climate Change Implementation Guide, specific opportunities must be pursued to make the identified GHG reduction strategies a reality.

Elected officials and those representing elected

officials offered to help identify federal, state, and local funding opportunities that align with the chosen strategies and actions. Members of the working groups may also assist with identifying and pursuing funding opportunities.

Engage the Community

The City may consider engaging their dedicated Public Information Officer and the Las Cruces Bulletin to write stories that detail local successes and eventual plans for implementation. Success stories are highly motivating and may help build the momentum needed to pursue many of the chosen actions. Likewise, regular updates to the community via social media posts can keep the public in the loop as the City moves toward carbon reduction.

The City may also consider developing public engagement campaigns that identify different demographics and create targeted messages for those demographics, especially considering the varying needs of the

²⁰ Work by performed by Lotus on income-qualified energy efficiency programs has shown that, while barriers do exist, generally energy efficiency can improve the energy burden of our most vulnerable populations.

residential and commercial sectors. Engaging the youth is particularly impactful and should persist based on constant messaging over time.

Establish a Living Laboratory

The airport facility has space to host “living laboratories” where innovative ideas can be developed and explored. The laboratory would be available to the public and serve not only as a learning facility but also as a public engagement center. The goal of the laboratory is to showcase actions that reduce carbon while debunking myths by providing hands-on education to the City and the public. The results from the laboratory can also be shared via public engagement portals as noted above.

Start Developing Select Policies

Several stakeholders noted the opportunity to develop select policies today that build on recent work and help set the stage for carbon reduction work. These include pursuing a Tree City USA designation (picking up on the work started in 2016), developing a landscaping policy for transitional property owners, and promoting plastics legislation. In addition, the City should consider addressing the anti-donation clause in city and state policy.

Current Community Actions

Building more recycling infrastructure.

Promoting conservation at the water utility.

Providing funding for solar opportunities at Community of Hope.

Acting as a delegate to the UN Convention on Climate Change.















Conclusion

Las Cruces is prepared to own its part in preventing the worst effects of climate change. As a culturally and economically diverse community in an arid desert environment, Las Cruces recognizes that by addressing climate change through the implementation of the strategies outline in this document, the community can also enhance equity and improve the quality of life for all residents. Las Cruces is prepared to work collaboratively with its local partners, regional organizations, and state and national agencies and entities that are also interested in this work; through collaboration and strategic implementation of the actions in this document, Las Cruces can achieve its emission reduction goal while ensuring a healthy, equitable, and livable future now and in the years to come.

Appendix: Climate Action Stakeholder Workshop Suggestions

The following section provides information about Las Cruces' strategies, including details on the initial actions that could support each strategy, associated targets, emissions reduction potential, and impact on community values that are likely to result from the implementation of the strategies. Additionally, these preliminary details are based on initial discussions and are included such that Las Cruces and its partners can 'hit the ground running' on this work in the near term.

The implementation details described below provide only a high-level overview of how the strategies will be implemented based on preliminary discussions between the City and its partners; as the work to implement these strategies continues, new information may emerge which could impact the timing, funding opportunities, potential partners, and other details of the strategies. The information contained herein is not intended to commit the City and community to a single specific approach, but rather to provide useful information that can be used as Las Cruces continues to strive towards its climate action goals.

Icon	Greenhouse Gas Reduction Impact
	Likely to reduce overall community greenhouse gas emissions by 0-4% by 2050.
	Likely to reduce overall community greenhouse gas emissions by 5-10% by 2050.
	Likely to reduce overall community greenhouse gas emissions by more than 10% by 2050.
Icon	Potential Cost Impact
	Likely to cost <\$50,000 annually to implement.
	Likely to cost \$50,000-\$100,000 annually to implement.
	Likely to cost >\$100,000 annually to implement.
Icon	Community Values Impact
	Illustrate a comprehensive commitment to mitigation and local resiliency.
	Support a circular economy and equitable, higher quality, less impactful products.
	Implement innovative technologies that promote water, energy, and resource efficiency.
	Improve health and local food systems for vulnerable populations.
	Improve equitable access to safe, clean forms of transportation.
	Create green jobs and workforce opportunities.

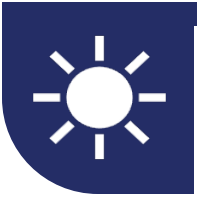
Throughout the remainder of this guide, the details on strategies and the associated goals, targets, and actions will be provided.

- **Goal** The cumulative impact that all strategies within the sector will have on community-wide GHG emissions by 2050.
- **Strategy** An initiative that will achieve the sector goals.

- **Target** The measure of success for a specific strategy that will ensure the sector goal is met.
- **Action** The specific project, policy, program, or initiative that will support the implementation of the strategy.

The responsible party for each strategy is color coded:

City of Las Cruces	Shared City and Community	Community-Wide Responsibility
--------------------	---------------------------	-------------------------------



Renewable Energy Sector Strategies | RE1

Renewable Energy Sector Goal

Reduce community-wide emissions by 28 percent by 2050 through increased adoption of renewable energy across the community.

Strategy RE1. Accelerate renewable electricity adoption, with a focus on LMI households.



Target RE1. Support City and Energy Transition Act goals and targets with a special emphasis on reducing low- to moderate-income (LMI) household energy cost burden.

Action	Priority Level	Community Values Impact	Potential Cost	Timeframe
RE1A. Pursue innovative solar programs for new developments and new and current low- to moderate-income neighborhoods (e.g., community solar, if/when allowed).	High		\$ \$	By 2025 (ordinances adopted) By 2035 (serious progress made) By 2045 (fully implemented)
RE1B. Prioritize solar for city buildings that serve low- to moderate-income populations.	Medium		\$ \$	By 2025
RE1C. Provide mechanisms (e.g. rebates, education, community solar) to encourage the adoption of solar in all sectors.	High		\$ \$	By 2035

Table 3: Strategy RE1 Actions.



Renewable Energy Sector Strategies | RE1

RE1A. Pursue innovative solar programs for new developments and low- to moderate-income neighborhoods (e.g., community solar, if/when allowed).

The City will develop programs that support renewable energy in new developments and LMI neighborhoods; this may include programs that make solar more cost-effective through bulk-purchase options or support the enhancement of community solar access. The City may consider policies that require or incentivize solar use in new developments.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> • Primary Party: CLC Sustainability Office • Partners: CLC Community Development Dept.; Public Regulation Commission; El Paso Electric; Social service organizations in the community; NMSU: Doña Ana Community College; Las Cruces Housing Authority; Housing developers 	<ul style="list-style-type: none"> • Community Development Block Grants • Low-Income Housing Tax Credit • Housing and Urban Development Funding • Local taxation or capital outlay (City general funding) • Low interest loans • Alternative mortgage tools for LMI • PACE funds managed by the utility • Market rate adjustments for LMI 	<ul style="list-style-type: none"> • Percent of LMI households with solar • Percent of LMI households with solar storage • Energy burden for LMI households with solar • Jobs created through solar installations



Renewable Energy Sector Strategies | RE1

RE1B. Prioritize solar for city buildings that serve low- to moderate-income populations.

The City will work to install solar panels on City-owned buildings, including buildings leased to community-serving organizations. The buildings with priority for receiving the solar panels will be municipally owned buildings that serve LMI populations in the City.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none">• Primary Party: CLC Facilities Dept.• Partners: CLC Sustainability Office; Community of Hope; Organizations operating out of municipal facilities	<ul style="list-style-type: none">• Community Development Block Grants• Housing and Urban Development Funding• Capital outlay (City general funding)• Low interest loans• PACE funding	<ul style="list-style-type: none">• Total share of city electricity use that is solar-powered• Number of installations and production on buildings serving LMI populations



Renewable Energy Sector Strategies | RE1

RE1C. Provide mechanisms (e.g. rebates, education, community solar) to encourage the adoption of solar in all sectors.

The City will work with its partners, including the local electric utility, to create programs that provide incentives, rebates, and education that encourage the adoption of solar in all sectors. This may include bulk purchase programs for the residential and commercial sectors and educational campaigns on how easy it is to go solar.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> • Primary Party: CLC Sustainability Office • Partners: CLC Community Development Dept.; Public Regulation Commission; El Paso Electric; Social service organizations in the community; NMSU: Doña Ana Community College; Home builder associations; Home owners associations 	<ul style="list-style-type: none"> • City general obligation funds (for municipal buildings) • PACE financing • Utility rebates and programs • US Dept. of Agriculture funding (channeled through the State of New Mexico) • Commercial businesses 	<ul style="list-style-type: none"> • Adopt updated permitting and code regulations to ease solar access • Total amount of renewable energy production in the community • Jobs created through solar installations • Energy burden for solar homes • Adoption of policies that require all new construction to be solar-ready



Renewable Energy Sector Strategies | RE2

Renewable Energy Sector Goal

Reduce community-wide emissions by 28 percent by 2050 through increased adoption of renewable energy across the community.

Strategy RE2. Source renewable energy for municipal operations.



Action	Priority Level	Community Values Impact	Potential Cost	Timeframe
RE2A. Advocate for state policies that promote green energy.	High		\$	By 2025
RE2B. Develop municipal solid waste gasification.	High		\$ \$ \$	By 2025
RE2C. Set aggressive actions to achieve 2030 carbon reduction goals.	Medium		\$ \$ \$	By 2025

Table 4: Strategy RE2 Actions.



Renewable Energy Sector Strategies | RE2

RE2A. Advocate for state policies that promote green energy.

The City will work collaboratively with partner organizations and the state legislature to advocate for and support policies that promote the advancement of green and clean energy across New Mexico. The City will use its influence and voice to ensure these policies result in equitable benefits across the state.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> Primary Party: CLC Sustainability Office Partners: CLC City Council; Legislators; Local and state environmental groups; Neighboring communities; El Paso Electric; State of New Mexico; Workforce Solutions 	<ul style="list-style-type: none"> Bloomberg Foundation Jeff Bezos Foundation Local and state environmental groups Neighboring communities El Paso Electric 	<ul style="list-style-type: none"> Jobs created Passage of bills approving community solar in the state Percent of state wide energy use from renewable resources Changes in utility rates

RE2B. Develop municipal solid waste gasification.

The City will explore developing a municipal solid waste gasification system at the local landfill site. The methane collected through such a facility could be used to power vehicles, heat buildings, or generate steam electricity for the community.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> Primary Party: South Central Solid Waste Authority Partners: CLC City Council, Economic Development, Utilities, and Community Development Depts.; NMSU; Local businesses; Workforce Solutions 	<ul style="list-style-type: none"> Rate Payers US Environmental Protection Agency USDA Rural Development Funds Grants CLC Capital outlays 	<ul style="list-style-type: none"> Date operational Energy produced and fossil fuel energy use and emissions offset Jobs created



Renewable Energy Sector Strategies | RE2

RE2C. Set aggressive actions to achieve 2050 carbon reduction goals.

The City, in collaboration with local partners, will continue to identify and work to embrace innovative strategies and actions that will help Las Cruces meet its 2050 carbon reduction goal of an 80 percent reduction in emissions per Resolution 17-206. As new technologies are developed and new innovative mechanisms for carbon reduction (including financial and market-based mechanisms) evolve, the City will integrate applicable technologies and methods into its own climate action work.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none">• Primary Party: CLC Sustainability Office• Partners: CLC City Council, Economic Development, Utilities, and Community Development Depts.; NMSU; Local businesses; Workforce Solutions; Private investors; State of New Mexico; Local and state environmental groups	<ul style="list-style-type: none">• General obligation funds (departments have shovel-ready projects awaiting funding)• Grants• Bloomberg Foundation	<ul style="list-style-type: none">• Jobs created• Fossil fuel energy use reduced and emissions reduced



Transportation Sector Strategies | T1

Transportation Sector Goal

Reduce community-wide emissions by 44 percent by 2050 through increased use of public transit, electric vehicles, and planning and development practices.

Strategy T1. Increase the use of Public Transit.



Target T1. Increase the use of public transportation to 15 percent by 2030 and 35 percent by 2050.

Action	Priority Level	Community Values Impact	Potential Cost	Timeframe
T1A. Establish dedicated funding sources for public transit.	High		\$\$	By 2025
T1B. Build transit-oriented development for access to needed services and in anticipation of transit expansion.	Medium		\$\$\$	By 2045
T1C. Reduce transit fares for income-qualified populations.	High		\$\$	By 2025

Table 5: Strategy T1 Actions.



Transportation Sector Strategies | T1

T1A. Establish dedicated funding sources for public transit.

The City will set aside funds in the annual budget that are specifically to be used for public transportation projects. Expansion of transit lines and service schedules, as well as replacement of transit vehicles with less carbon-intensive models (e.g., electric buses) will be prioritized and develop the workforce and infrastructure to service such EV vehicles.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> Primary Party: South Central Regional Transit District Partners: Road Runner Transit; CLC City Council; CLC Economic Development Dept. 	<ul style="list-style-type: none"> Federal grants Local businesses and shopping centers Private sector employers Parking fees Increased fares General obligation funds 	<ul style="list-style-type: none"> Ridership levels Route frequency Mode share Timing and speed of most frequently used routes

T1B. Build transit-oriented development for access to needed services and in anticipation of transit expansion.

The City will work with the development community on future community development projects in such a way that prioritizes the inclusion of transit-oriented development. This will be done in collaboration with the City transportation and public works departments, the local transit agency, and community development groups in order to plan for future expansion of transit services within the City.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> Primary Party: CLC Community Development Dept. Partners: CLC Economic Development Dept.; Developers; NMSU; Partnerships with innovative transportation companies 	<ul style="list-style-type: none"> Federal grants Local businesses and shopping centers Parking fees General obligation funds 	<ul style="list-style-type: none"> Utilize metrics from Elevate Las Cruces Comprehensive Plan Mode share



Transportation Sector Strategies | T1

T1C. Reduce transit fares for income-qualified populations.

The City will develop a rate system for public transportation that is specific to income-qualified populations. These fares will be reduced to make the use of public transit more affordable to these populations.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none">• Primary Party: South Central Regional Transit District• Partners: Road Runner Transit; CLC City Council; Doña Ana County; Community of Hope; Local social service organizations	<ul style="list-style-type: none">• Federal grants• Local businesses and shopping centers• Private sector employers• Parking fees• General obligation funds	<ul style="list-style-type: none">• Ridership• Expansion of Dial-A-Ride service• Mode share



Transportation Sector Strategies | T2

Transportation Sector Goal

Reduce community-wide emissions by 44 percent by 2050 through increased use of public transit, electric vehicles, and planning and development practices.

Strategy T2. Prioritize the development of active transportation alternatives.



Target T2. Increase public use of alternative modes of transportation to 12 percent by 2030 and 40 percent by 2050.




Action	Priority Level	Community Values Impact	Potential Cost	Timeframe
T2A. Expand multimodal connectivity.	High		\$\$	By 2035
T2B. Accelerate development of walkable/bikeable networks as identified by Active Transportation Plan.	Medium		\$\$	By 2025
T2C. Offer bike/scooter share programs.	Medium		\$	By 2025

Table 6: Strategy T2 Actions.



Transportation Sector Strategies | T2

T2A. Expand multimodal connectivity.

The City will prioritize creating connections between transit service areas and active transportation networks to encourage residents to use multiple forms of transportation for trips. The City will work to close first-and-last mile gaps in the active transportation network.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> • Primary Party: City of Las Cruces Community Development Dept. • Partners: Teams implementing the Active Transportation Plan; Local developers 	<ul style="list-style-type: none"> • General obligation bonds • Development and permitting feeds 	<ul style="list-style-type: none"> • Miles of biking/walking facilities in the City • Connectivity index • Number of annual users

T2B. Accelerate development of walkable/bikeable networks as identified by the Active Transportation Plan.

The City will prioritize the expansion of bike paths and sidewalks, the creation of bike lanes, and the expansion of walkable areas as identified in the Active Transportation Plan; this may also include providing more share cover and protection in walkable areas. Additionally, the City will improve signage and wayfinding in such a way as to make active transportation safer and more intuitive for residents.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> • Primary Party: City of Las Cruces Community Development Dept. • Partners: Bicycle Advisory Task Force with the MPO; Local developers; Elevate Las Cruces code revising work committee 	<ul style="list-style-type: none"> • General obligation bonds • Capital Improvement Projects, including grants for capital funds 	<ul style="list-style-type: none"> • Miles of biking/walking facilities in the City • Connectivity index • Number of annual users



Transportation Sector Strategies | T2

T2C. Offer bike/scooter share programs.

Through policies and a cohesive development and marketing campaign, the City and community will work together to bring bike and scooter sharing companies to offer their products for use within City limits.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none">• Primary Party: CLC Sustainability Office• Partners: Local business owners; Chambers of Commerce; CLC Economic Development Dept.; Mesilla Valley Economic Development Alliance	<ul style="list-style-type: none">• Private investment	<ul style="list-style-type: none">• Number of bikes/scooters available for renting in the community• Annual bike/scooter miles traveled (as measured by the operating companies)



Transportation Sector Strategies | T3

Transportation Sector Goal

Reduce community-wide emissions by 44 percent by 2050 through increased use of public transit, electric vehicles, and planning and development practices.

Strategy T3. Build supportive relationships between transportation and local growth.



Action	Priority Level	Community Values Impact	Potential Cost	Timeframe
T3A. Prioritize development that enhances walkability and use of public transit by utilizing infill areas and compact communities.	High		\$	By 2025

Table 7: Strategy T3 Actions.



Transportation Sector Strategies | T3

T3A: Prioritize development that enhances walkability and use of public transit by utilizing infill areas and compact communities.

New development in the community will focus on creating more dense and walkable spaces by making use of urban infill areas and prioritizing mixed-use development principles. New neighborhoods and developments will include places for residents to live, work, and recreate without having to travel far.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none">• Primary Party: CLC Community Development Dept.• Partners: CLC Economic Development Dept.; Developers; Private sector businesses; State of New Mexico; Residents	<ul style="list-style-type: none">• Opportunity zones• Reduce costs for infill development• Public-private partnerships	<ul style="list-style-type: none">• Adoption of improved infill policies and ordinances• Amount of infill development• Housing density• Metrics from the Elevate Las Cruces Comprehensive Plan



Transportation Sector Strategies | T4

Transportation Sector Goal

Reduce community-wide emissions by 44 percent by 2050 through increased use of public transit, electric vehicles, and planning and development practices.

Strategy T4. Promote electric vehicle adoption that is inclusive of the entire community.



Target T4. Increase electric vehicle adoption to 20 percent by 2030 and 70 percent by 2050.

Action	Priority Level	Community Values Impact	Potential Cost	Timeframe
T4A. Increase the presence of electric vehicle chargers.	High		\$\$	By 2035
T4B. Transition municipal fleet to an electric vehicle fleet.	High		\$\$	By 2035
T4C. Consider innovative actions to providing incentives on low-emitting ride-sharing vehicles, particularly in LMI neighborhoods.	Medium		\$\$	By 2035
T4D. Transition school buses to use alternative energy sources (i.e., electricity or CNG).	Medium	 	\$\$\$	By 2035
T4E. Promote expansion of EVs in the community.	Low		\$\$\$	By 2045

Table 8: Strategy T4 Actions.



Transportation Sector Strategies | T4

T4A: Increase the presence of electric vehicle chargers.

The City will install publicly available metered charging stations at municipal buildings throughout the City and will work with the community to help businesses install publicly available charging stations.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> • Primary Party: CLC Sustainability Office • Partners: Local businesses, CLC Economic Development Dept. CLC Community Development Dept.; Green Chamber of Commerce; Las Cruces Public Schools; NMSU 	<ul style="list-style-type: none"> • Primary employers • Private sector businesses • General obligation funds • Grants • State or federal incentives • Volkswagen settlement funds 	<ul style="list-style-type: none"> • Number of chargers in the community • Emissions from transportation activities in the community

T4B: Transition municipal fleet to an electric vehicle fleet.

The City will replace municipal fleet vehicles with electric vehicles (or other high-efficiency models, if an electric replacement is not available), during the normal vehicle replacement cycle when financially competitive for all costs over the life of the vehicle.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> • Primary Party: CLC Fleet Services Division • Partners: CLC Purchasing Division; Car/truck manufacturers and auto dealers 	<ul style="list-style-type: none"> • General obligation funds • Grants • State or federal incentives 	<ul style="list-style-type: none"> • Number and percent of municipal fleet that is all electric or uses alternative fuel



Transportation Sector Strategies | T4

T4C: Consider innovative actions to providing incentives on low-emitting ride-sharing vehicles, particularly in LMI neighborhoods.

The City and its partners will work to develop programs to enhance access to ridesharing, electric vehicles, and low-emitting vehicles in LMI neighborhoods. This may include creating an EV ride-sharing hub in LMI neighborhoods and advocating for low-emitting vehicles for El Paso Airport shuttle services.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> Primary Party: CLC Sustainability Office Partners: Green Chamber of Commerce; Community of Hope; auto dealers and rental agencies 	<ul style="list-style-type: none"> Primary employers Private sector businesses General obligation funds Grants Volkswagen settlement funds 	<ul style="list-style-type: none"> Number of EV rideshare vehicles available Connection of Dial-a-Ride to EVs

T4D: Transition school buses to use alternative energy sources (i.e., electricity or CNG).

The City will support work with the local school district and private/charter schools to phase out diesel school buses and replace them with buses that run on cleaner, alternative energy sources. This will lead to lower emissions from vehicles in the community and also improved air quality near schools and other areas where children congregate.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> Primary Party: Las Cruces Public Schools; NMSU Partners: CLC Sustainability Office; Land of Enchantment New Mexico; New Mexico Environment Dept.; New Mexico Dept. of Health 	<ul style="list-style-type: none"> General obligation funds Grants State or federal incentives Volkswagen settlement funds 	<ul style="list-style-type: none"> Number and percent of school buses that are electric or use alternative fuels



Transportation Sector Strategies | T4

T4E: Promote the expansion of EVs in the community.

The City will work with partners to develop a program that encourages greater adoption of electric vehicles by community members. This program may lean heavily on incentives, outreach, and education.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> • Primary Party: CLC Sustainability Office • Partners: Consumers; Public Regulation Commission; El Paso Electric; New Mexico Environment Department; Local businesses; Green Chamber of Commerce; car/truck manufacturers and auto dealers 	<ul style="list-style-type: none"> • Rate Payers • Primary employers • Private sector businesses • General obligation funds • Grants • State or federal incentives 	<ul style="list-style-type: none"> • Number of EVs registered in the community • Emissions from transportation activities in the community



Building Energy Sector Strategies | BE1

Building Energy Sector Goal

Reduce community-wide emissions by 15 percent by 2050 through increased building energy efficiency.

Strategy BE1. Reduce energy use in municipal buildings through efficiency and demand management.



Action	Priority Level	Community Values Impact	Potential Cost	Timeframe
BE1A. Build net zero energy municipal buildings.	High		\$\$\$	By 2025

Table 9: Strategy BE1 Actions.



Building Energy Sector Strategies | BE1

BE1A. Build net zero energy municipal buildings.

The City will develop a policy that requires all new municipal buildings to be net zero energy buildings. The City will work to retrofit its current municipal buildings to make those buildings as energy efficient as possible (with an overall goal of having all net zero energy municipal buildings).

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> • Primary Party: CLC City Council • Partners: CLC Facilities Dept; US Department of Energy; US Environmental Protection Agency; El Paso Electric; NMSU; Workforce Services 	<ul style="list-style-type: none"> • General obligation funds • Grants • Property Assessed Clean Energy (PACE) financing • Bonds • Private partnerships and investments • Loans • Intergovernmental agreements • Legislative Outlay 	<ul style="list-style-type: none"> • Reduction in emissions from municipal buildings • All new buildings (after a target date) are net zero • Periodic maintenance upgrades performed on all buildings • New buildings built to LEED or similar standard (regardless of obtaining certification) • Annual cost of energy for municipal buildings



Building Energy Sector Strategies | BE2

Building Energy Sector Goal

Reduce community-wide emissions by 15 percent by 2050 through increased building energy efficiency.

Strategy BE2. Expand residential energy efficiency programs. 

Target BE2. Increase participation in residential energy efficiency programs to 18 percent by 2030 and 65 percent by 2050.











Action	Priority Level	Community Values Impact	Potential Cost	Timeframe
BE2A. Implement residential benchmarking program.	Medium	   	\$\$	By 2035
BE2B. Accelerate low- to moderate-income energy efficiency retrofit programs.	High	 	\$\$	By 2025
BE2C. Adopt green building strategies.	High	  	\$\$\$	By 2025
BE2D. Provide mechanisms (e.g. rebates, education, stepped rate schedules, solar) to encourage the reduction of energy in moderate to high income households.	Medium		\$	By 2035

Table 10: Strategy BE2 Actions.



Building Energy Sector Strategies | BE2

BE2A. Implement residential benchmarking program.

The City will develop and implement a residential benchmarking program. This program will aim to address financial, educational, and service access barriers that stand in the way of making home improvements that save heating fuel and electricity and reduce homeowner energy costs.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> Primary Party: CLC Community Development Dept. Partners: CLC Utilities; El Paso Electric; Homeowners associations; RESNET 	<ul style="list-style-type: none"> General obligation funding Grants CLC and El Paso Electric rebate programs 	<ul style="list-style-type: none"> Number of homes built to LEED standards or similar (regardless of certification) Number of homes rated by EnergyStar, the Home Energy Score, or similar tools Energy use and emissions in residential buildings

BE2B. Accelerate low- to moderate-income energy efficiency retrofit programs.

The City and its partners will develop energy efficiency retrofit programs that are specific to low- to moderate-income households. The City and its partners will also take part in extensive outreach and education towards low- to moderate-income households to ensure high participation in this program.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> Primary Party: CLC Sustainability Office Partners: LC Housing Authority; CLC Utilities; El Paso Electric; New Mexico Economic Development; RESNET; US Housing and Urban Development; Tierra del Sol 	<ul style="list-style-type: none"> El Paso Electric rebate programs Grants Community Development Block Grant Housing Trust Low-Income Housing Tax Credits General obligation funding 	<ul style="list-style-type: none"> Reduced energy burden for low-to-moderate income homes Participation in energy efficiency programs Energy use and emissions in residential buildings



Building Energy Sector Strategies | BE2

BE2C. Adopt green building strategies.

The City and its partners will work to education and incentivize green building within the community for all new developments and major renovation projects.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> Primary Party: CLC Community Development Dept. Partners: Homeowners associations; CLC Utilities; El Paso Electric; New Mexico Economic Development; New Mexico Public Regulation Commission 	<ul style="list-style-type: none"> General obligation funding Grants 	<ul style="list-style-type: none"> Number of homes built to LEED standards or similar (regardless of certification) Number of homes rated by EnergyStar, the Home Energy Score, or similar tools Energy use and emissions in residential buildings

BE2D. Provide mechanisms (e.g. rebates, education, stepped rate schedules, solar) to encourage the reduction of energy in moderate to high income households.

The City will support collaboration between partner organizations and local utilities to create mechanisms that encourage the reduction of energy use in moderate to high income households within the City.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> Primary Party: CLC Sustainability Office Partners: Homeowners associations; CLC Utilities; El Paso Electric; RESNET 	<ul style="list-style-type: none"> Property Assessed Clean Energy (PACE) financing El Paso Electric rebate programs 	<ul style="list-style-type: none"> Number of homes built to LEED standards or similar (regardless of certification) Number of homes rated by EnergyStar, the Home Energy Score, or similar tools Energy use and emissions in residential buildings



Building Energy Sector Strategies | BE3

Building Energy Sector Goal

Reduce community-wide emissions by 15 percent by 2050 through increased building energy efficiency.

Strategy BE3. Reduce commercial building energy use.

Target BE3. Increase participation in commercial building energy efficiency programs to 30 percent by 2030 and 75 percent by 2050.






Action	Priority Level	Community Values Impact	Potential Cost	Timeframe
BE3A. Implement commercial building benchmarking program.	High		\$\$	By 2035
BE3B. Prioritize development that enhances walkability and use of public transit by utilizing infill areas and compact communities.	High		\$	By 2025
BE3C. Require and incentivize commercial building retro-commissioning.	High		\$\$	By 2035
BE3D. Create workforce development programs to support transition from fossil fuels.	High		\$\$	By 2035
BE3E. Adopt the most recent IECC and ASHRAE STANDARDS within one year of release.	High		\$	By 2025

Table 11: Strategy BE3 Actions.



Building Energy Sector Strategies | BE3

BE3A. Implement commercial building benchmarking program.

The City will develop and implement a commercial benchmarking program. This program will aim to address financial, educational, and service access barriers that stand in the way of making building improvements that save heating fuel and electricity and reduce building owner energy costs.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> • Primary Party: CLC Sustainability Office • Partners: CLC Utilities; El Paso Electric; NMSU Energy Audit Program 	<ul style="list-style-type: none"> • General obligation funds • CLC Utilities • El Paso Electric 	<ul style="list-style-type: none"> • Reduction in commercial energy use • Number of commercial properties participating in benchmarking

BE3B. Provide mechanisms (e.g. rebates, education, stepped rate schedules, solar) to encourage the reduction of energy in commercial buildings.

The City will support the development of education, programs, policies, and incentives that help commercial building owners reduce energy use in their buildings. Programs may include a green leasing program, new rebate programs from utilities or partner organizations, and programs that support greater adoption of solar in the community.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> • Primary Party: CLC Sustainability Office • Partners: CLC Utilities; El Paso Electric; Community solar programs; NMSU Energy Audit Program 	<ul style="list-style-type: none"> • PACE (Property Assessed Clean Energy) funding • Score Plus program from El Paso Electric • Statewide utility programs 	<ul style="list-style-type: none"> • Reduction in commercial energy use • Number of buildings achieving net zero emissions from electricity • Increase in landscaping tree canopy requirements



Building Energy Sector Strategies | BE3

BE3C. Require and incentivize commercial building retro-commissioning.

The City will support commercial building retro-commissioning by supporting education and incentive programs that communicate the value of retro-commissioning to building owners.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> Primary Party: CLC Community Development Dept. Partners: International Code Council; Doña Ana Community College 	<ul style="list-style-type: none"> Score Plus program from El Paso Electric Utility programs 	<ul style="list-style-type: none"> Reduction in commercial energy use Number of commercial properties reporting retro-commissioning through benchmarking program

BE3D. Create workforce development programs to support transition from fossil fuels.

The City will develop and implement a workforce development program with the aim of supporting workers who will be impacted by the transition from fossil fuels to renewable energy fuel sources. The City and its partners will develop workforce training programs and support the development of new businesses that enhance the clean energy economy

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> Primary Party: Workforce Solutions Partners: NMSU Energy Audit Program; Doña Ana Community College; Bridge of Southern New Mexico; CLC Economic Development 	<ul style="list-style-type: none"> State of New Mexico Non-governmental grants and foundations Utility programs 	<ul style="list-style-type: none"> Increase in numbers of jobs and average earnings for people working in the field



Building Energy Sector Strategies | BE3

BE3E. Adopt the most recent International Energy Conservation Code (IECC) and ASHRAE STANDARDS within one year of release.

The City will adopt and require the adherence to the most recent IECC and ASHRAE STANDARDS within one year of release. The City will ensure that building permitting and inspection staff are familiar with the new standards and can support developers and community members in following them.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none">• Primary Party: CLC Community Development Dept.• Partners: State of New Mexico; International Code Council; NMSU Energy Audit Program; Doña Ana Community College; Bridge of Southern New Mexico; CLC; Las Cruces Public Schools	<ul style="list-style-type: none">• General obligation funds	<ul style="list-style-type: none">• Reduction in commercial energy use• Number of buildings built to a LEED standard (regardless of certification)• Number of buildings achieving net zero emissions from electricity



Building Energy Sector Strategies | BE4

Building Energy Sector Goal

Reduce community-wide emissions by 15 percent by 2050 through increased building energy efficiency.

Strategy BE4. Decarbonize Energy in Buildings.



Target BE4. Convert 6 percent of commercial and residential buildings to all electric by 2030, and 75 percent by 2050.


Action	Priority Level	Community Values Impact	Potential Cost	Timeframe
BE4A. Convert a percentage of commercial and residential buildings from natural gas systems to carbon neutral systems.	High for policies including dual fuel, low for policies without dual fuel.		\$ \$ \$	By 2045.

Table 12: Strategy BE4 Actions.



Building Energy Sector Strategies | BE4

BE4A. Convert a percentage of commercial and residential buildings from natural gas systems to carbon neutral systems.

The City will work with its partners across the community to develop policies and an incentive program to ensure new buildings are carbon neutral and to convert a significant share of existing buildings to being carbon neutral for the purpose of using alternate energy (including for space and water heating).

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none">• Primary Party: CLC Community Development Dept.• Partners: CLC Utilities; State of New Mexico; El Paso Electric; rebate partners (nongovernmental and state and federal); academic institutions; building owners in the community	<ul style="list-style-type: none">• Utilities (including rebates)• Grants (federal, state, or non-governmental)• CLC Utilities may need to implement a rate rider to fund carbon reduction strategies	<ul style="list-style-type: none">• Reduction in emissions from building energy• Passage of a code ordinance that requires or incentivizes electrification• Percent of new buildings that are all-electric• Percent of homes with all electric systems and a dual fuel back-up• Conversion impact on utility costs for low-income households



Waste Sector Strategies | W1

Waste Sector Goal

Reduce community-wide emissions by 7 percent by 2050 through increased waste diversion.

Strategy W1. Increase waste minimization.

Target W1. Increase waste diversion to 25 percent by 2030 and 70 percent by 2050.

















Action	Priority Level	Community Values Impact	Potential Cost	Timeframe
W1A. Develop policies that promote waste minimization and recycling for businesses.	Medium	  	\$	By 2035
W1B. Develop a purchasing policy for green materials at the City.	Low		\$	By 2045
W1C. Reuse construction site waste and identify efficient use of materials.	Low	  	\$	By 2025
W1D. Increase recycling collection.	Medium	  	\$	By 2025
W1E. Develop incentives and a policy for providing commercial composting, focusing on food waste.	Medium	 	\$	By 2025
W1F. Set aside gleaned food for those in need.	High		\$	By 2025
W1G. Develop businesses that mulch yard waste to increase water retention and soil nutrients.	High	  	\$\$	By 2025

Table 13: Strategy W1 Actions.



Waste Sector Strategies | W1

W1A. Develop policies that promote waste minimization and recycling for businesses.

The City will develop a policy that reduces waste generation and provides more recycling opportunities for businesses. This policy may lean on incentives, outreach, and education.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none">• Primary Party: CLC Sustainability Office• Partners: South Central Solid Waste Authority; CLC Utilities	<ul style="list-style-type: none">• General obligation funds• Alternative pricing structure for waste collection for commercial businesses	<ul style="list-style-type: none">• Waste tonnage and diversion rates for commercial businesses

W1B. Develop a purchasing policy for green materials at the City.

The City will develop and implement a purchasing policy for goods and services used in City operations that ensures that materials that have a lower environmental impact are prioritized. The City may develop a list of environmentally preferable goods for frequently purchased materials.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none">• Primary Party: CLC Purchasing Office• Partners: CLC Sustainability Office	<ul style="list-style-type: none">• General obligation funds	<ul style="list-style-type: none">• Adoption of green purchasing policy• Development of pricing agreements for 'green' materials



Waste Sector Strategies | W1

W1C. Reuse construction site waste and identify efficient use of materials.

In collaboration with its partner organizations, including local economic development and business organizations, the City will work to create local markets for like-new and gently used construction materials to reduce the impact of new construction in the community.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> • Primary Party: CLC Community Development Dept. • Partners: Local construction unions and companies; South Central Solid Waste Authority; Habitat for Humanity 	<ul style="list-style-type: none"> • US Environmental Protection Agency • New Mexico Environment Dept. 	<ul style="list-style-type: none"> • Diversion rate at construction sites • New businesses developed that utilized construction and demolition waste materials

W1D. Increase recycling collection.

The City will collaborate with the community to increase affordable recycling pick-up services and access to recycling drop-off locations in Las Cruces. The City and the community will also work to educate residents and businesses on the importance of recycling and the improved recycling infrastructure.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> • Primary Party: CLC Sustainability Office • Partners: South Central Solid Waste Authority; CLC Utilities 	<ul style="list-style-type: none"> • General obligation funds • Alternative pricing structure for waste collection for all waste customers 	<ul style="list-style-type: none"> • Waste tonnage community wide • Waste diversion rates community wide • Increased recycling customers • Waste collection opportunities for additional materials (electronics, batteries, etc.)



Waste Sector Strategies | W1

W1E. Develop incentives and a policy for providing commercial composting, focusing on food waste.

The City will develop policies and the community will support programs to enhance compost collection at commercial businesses. This may include establishing a commercial compost pick-up service, requiring composting for certain commercial businesses, and adopting policies that ensure that locally generated compost is used in City construction projects.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> • Primary Party: CLC City Council • Partners: South Central Solid Waste Authority; CLC Utilities; Restaurants; Commercial kitchens; New Mexico Environment Dept.; US Environmental Protection Agency 	<ul style="list-style-type: none"> • Tiered waste collection price structure or fees for waste disposed of improperly (i.e., compost placed in the trash bin) • Prioritized procurement for businesses that offer these services 	<ul style="list-style-type: none"> • Updated policies that facilitate food waste collection through pricing structure and infrastructure • Jobs creation

W1F. Set aside gleaned food for those in need.

The City and the community will collaborate on projects that ensure that leftover food can be used to help those in need. Priority will be given to projects that support diverting edible food waste to food banks, shelters, and soup kitchens that provide meals for community members in need.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> • Primary Party: Local food banks • Partners: Restaurants; Commercial kitchens; Public Health Dept.; Las Cruces Public Schools; South Central Solid Waste Authority; CLC Utilities 	<ul style="list-style-type: none"> • Tiered waste collection price structure or fees for waste disposed of improperly (i.e., food waste placed in the trash bin) • General obligation funds • Grants 	<ul style="list-style-type: none"> • Quantity of usable food waste collected and distributed in the community



Waste Sector Strategies | W1

W1G. Develop businesses that mulch yard waste to increase water retention and soil nutrients.

The City and the community will collaborate to support the development and creation of new businesses that utilize locally generated yard waste in landscaping and construction projects. The City will adopt policies that require locally generated compost to be used in City construction projects and in rights-of-way.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none">• Primary Party: CLC City Council• Partners: South Central Solid Waste Authority; CLC Utilities; Restaurants; Commercial kitchens; New Mexico Environment Dept.; US Environmental Protection Agency	<ul style="list-style-type: none">• Tiered waste collection price structure or fees for waste disposed of improperly (i.e., food waste placed in the trash bin)• General obligation funds• Prioritized procurement for businesses that offer these services• Grants	<ul style="list-style-type: none">• Updated policies that facilitate food waste collection through pricing structure and infrastructure• Jobs creation• Workforce training program participation



Waste Sector Strategies | W2

Waste Sector Goal

Reduce community-wide emissions by 7 percent by 2050 through increased waste diversion.

■ Strategy W2. Reduce plastic use.






Action	Priority Level	Community Values Impact	Potential Cost	Timeframe
W2A. Increase the availability of water refilling stations.	Medium	  	\$\$	By 2025
W2B. Adopt plastic bag, straw and Styrofoam ban.	Low	 	\$	By 2025

Table 14: Strategy W2 Actions.



Waste Sector Strategies | W2

W2A: Increase the availability of water refilling stations.

The City will replace traditional water fountains in municipal buildings and on City property and rights-of-way (including in parks and along major commercial business districts) with more efficient automatic water bottle refilling stations.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none">• Primary Party: City of Las Cruces Community Development Dept.• Partners: Business owners; Las Cruces Public Schools; Developers	<ul style="list-style-type: none">• Partnerships with the private sector.• General obligation funds (for City properties and buildings).	<ul style="list-style-type: none">• Track number of water bottle refilling stations installed.• Track number of water bottles reduced (through tracking function on the stations).

W2B. Adopt plastic bag, straw and Styrofoam ban.

The City will develop a policy that will ban the distribution of plastic bags, plastic straws, and Styrofoam containers by businesses operating within City limits.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none">• Primary Party: City of Las Cruces; Doña Ana County• Partners: Citizens working groups; Local businesses and business groups.; Green Chamber of Commerce	<ul style="list-style-type: none">• Consumers at the point of purchase (for bag fees).	<ul style="list-style-type: none">• Single-use plastic ordinance passed by 2025.



Waste Sector Strategies | W3

Waste Sector Goal

Reduce community-wide emissions by 7 percent by 2050 through increased waste diversion.

Strategy W3. Develop a circular economy.






Action	Priority Level	Community Values Impact	Potential Cost	Timeframe
W3A. Encourage business development that reuses waste materials.	High	 	\$	By 2045
W3B. Recruit environmentally conscious businesses that 1) utilize materials that would otherwise go to waste stream; and 2) develop products with zero waste.	High	  	\$	By 2045

Table 15: Strategy W3 Actions.



Waste Sector Strategies | W3

W3A: Encourage business development that reuses waste materials.

The City and the broader community will support the development of businesses that are structured around the reuse of waste materials, including construction and demolition waste, through incentives and partnerships with the community.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> Primary Party: CLC Economic Development Dept. Partners: CLC Community Development Dept.; Business owners; Developers; Green Chamber of Commerce; Mesilla Valley Economic Development Alliance 	<ul style="list-style-type: none"> Local business investment CLC Economic Development Dept. Chambers of Commerce Local Economic Development Act Funds 	<ul style="list-style-type: none"> Jobs created New businesses developed Workforce training program participation Creation of City Sustainability Department

W3B: Recruit environmentally conscious businesses that: 1) utilize materials that would otherwise go to waste stream; and 2) develop products with zero waste.

The City will develop an outreach plan and incentives to attract environmentally conscious businesses. These businesses will have operations that utilize materials that would otherwise go to the waste stream and will help to develop marketable products that are created with zero waste.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> Primary Party: CLC Economic Development Dept. Partners: CLC Community Development Dept.; Green Chamber of Commerce; Mesilla Valley Economic Development Alliance 	<ul style="list-style-type: none"> Local business investment CLC Economic Development Dept. Chambers of Commerce Local Economic Development Act Funds 	<ul style="list-style-type: none"> Jobs created New businesses developed Workforce training program participation



Advocacy Sector Strategies | A1

Strategy A1. Conduct sustainability outreach and education.



Action	Priority Level	Community Values Impact	Potential Cost	Timeframe
A1A. Promote an education campaign to communicate the need for change and how sustainability can provide benefits to the whole community.	High		\$	By 2025
A1B. Educate and communicate sustainability issues to the youth and within schools.	High		\$	By 2025
A1C. Support anti-idling campaigns at truck stops and in the community.	High		\$	By 2025

Table 16: Strategy A1 Actions.



Advocacy Sector Strategies | A1

A1A. Promote an education campaign to communicate the need for change and how sustainability can provide benefits to the whole community.

The City and its partners will collaborate to develop and promote an educational campaign that communicates the importance of acting towards sustainability, the resources that are available to residents and business owners, and how sustainability can provide benefits to local residents. The educational campaign will be fun, engaging, multi-lingual and multi-cultural, and accessible to all Las Cruces residents.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> • Primary Party: CLC Sustainability Office • Partners: CLC Utilities, Public Information Office, and Parks and Recreation Dept.; New Mexico Environment Department; Local environmental organizations; Green Chamber of Commerce; Community members; Sierra Club; NMSU; La Semilla; Museum of Natural History; South Central Solid Waste Authority; Las Cruces School District, other school districts, and charter schools; Local newspaper; water festival; New Energy Economy; 350.org; solar companies; Doña Ana County 	<ul style="list-style-type: none"> • Recycling and Illegal Dumping (RAID) Grants for waste diversion • Jeff Bezos Foundation • Bloomberg Climate Challenge • Private Foundations • Local businesses • Local environmental organizations • Enhanced staff capacity for CLC Sustainability Office 	<ul style="list-style-type: none"> • Waste diversion rates • Participation in sustainability workshops, programming, and events



Advocacy Sector Strategies | A1

A1B. Educate and communicate sustainability issues to the youth and within schools.

The City and its partners will work with local school districts and other youth organizations to educate and communicate the importance of sustainability issues to the youth in the community. The campaign will inform youth and empower them to be active leaders in the fight against climate change and creating a more equitable community.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> • Primary Party: CLC Sustainability Office • Partners: CLC Utilities, Public Information Office, and Parks and Recreation Dept.; New Mexico Environment Department; Local environmental organizations; Green Chamber of Commerce; Community members; Sierra Club; NMSU; La Semilla; Museum of Natural History; South Central Solid Waste Authority; Las Cruces School District, other school districts, and charter schools; Local newspaper; water festival; New Energy Economy; 350.org; solar companies; Doña Ana County; Asombro Institute 	<ul style="list-style-type: none"> • Las Cruces Public Schools • Local youth organizations • Jeff Bezos Foundation • Bloomberg Climate Challenge • Private Foundations • Local businesses • Local environmental organizations 	<ul style="list-style-type: none"> • Integration of sustainability into science curriculum • Participation in 'sustainability' or 'green' clubs for youth • School waste diversion rates



Advocacy Sector Strategies | A1

A1C. Support anti-idling campaigns at truck stops and in the community.

The City will work with its partners to develop a campaign aimed at limiting idling around the community and educating residents about the impacts of idling on air quality. A priority for the campaign will be limiting idling at truck stops, parks, schools, hospitals, and other areas frequented by young people, those dealing with illnesses that may be exacerbated by smog and pollution, and places where vehicles that idle more than a normal amount of time.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> • Primary Party: CLC Sustainability Office • Partners: CLC Public Information Office; New Mexico Environment Department; Local environmental organizations; Community members; Sierra Club; NMSU; Las Cruces School District, other school districts, and charter schools 	<ul style="list-style-type: none"> • Local air quality organizations • Bloomberg Climate Challenge • Private Foundations • Local businesses • Local environmental organizations 	<ul style="list-style-type: none"> • Increase in anti-idling signage • Prohibition of idling at schools and in public areas



Carbon Sequestration Sector Strategies | CS1

Strategy CS1. Sequester carbon.











Action	Priority Level	Community Values Impact	Potential Cost	Timeframe
CS1A. Expand green spaces.	High	  	\$\$	By 2045
CS1B. Expand tree canopy.	High	  	\$\$	By 2045
CS1C. Strengthen landscape policies to increase the shade canopy with drought tolerant vegetation and green infrastructure.	High	  	\$	By 2025
CS1D. Pursue policy changes that promote and incentivize community and residential gardens.	Medium		\$	By 2045

Table 17: Strategy CS1 Actions.



Carbon Sequestration Sector Strategies | CS1

CS1A. Expand green spaces.

The City will support the development of more green spaces in the community that are holistically managed without the use of chemicals or soil disruption to enhance the amount of carbon that is sequestered by land within the community. Expansion of green spaces will comply with the City's water conservation program. The City will work through its Parks and Recreation Department to expand sustainable management of City-owned land and will work with community organizations to make sure green spaces are equitably accessible by the whole community.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> Primary Party: CLC Community Development Dept. and City Arborist Partners: CLC Parks Dept.; City Council; Developers; Master Gardeners; CLC Utilities; NMSU Extension 	<ul style="list-style-type: none"> General funding from the City budget Community Development Block Grants State of New Mexico Keep New Mexico Beautiful 	<ul style="list-style-type: none"> Revision of landscaping policies Urban heat mapping data--reduction in areas of high heat Total acres of publicly available open spaces

CS1B. Expand tree canopy.

The City will support the development of enhanced tree canopy to increase the amount of carbon sequestered by trees in Las Cruces, reduce ambient air temperatures where vegetation is prominent, and provide more shade cover. The City will work through its Parks and Recreation Department to expand sustainable management of City-owned trees and forested areas and will work with community organizations to make sure tree canopy access is equitable across the whole community.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> Primary Party: CLC Public Works and Parks Depts. Partners: CLC Community Development Dept.; Developers; Master Gardeners; Keep New Mexico Beautiful; NMSU Extension; Tree Stewards 	<ul style="list-style-type: none"> General funding from the City budget Community Development Block Grants Tree Stewards of Las Cruces State of New Mexico Keep New Mexico Beautiful 	<ul style="list-style-type: none"> Urban heat mapping data--reduction in areas of high heat Percent increase in tree canopy in the City Tree City USA designation Revision of street tree ordinance Presence of native trees



Carbon Sequestration Sector Strategies | CS1

CS1C. Strengthen landscape policies to increase the shade canopy with drought tolerant vegetation and green infrastructure.

The City will develop policies to increase green infrastructure through the use of water tolerant vegetation and landscaping across the community. The City will focus on opportunities to increase shade canopy through the use of water-smart trees and landscaping, with a focus on enhancing shade canopy in LMI neighborhoods and areas where active transportation networks are prominent.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> Primary Party: CLC Community Development Dept. Partners: New Mexico Environment Dept.; CLC Utilities 	<ul style="list-style-type: none"> General funding from the City budget Green Infrastructure Grants State of New Mexico Keep New Mexico Beautiful 	<ul style="list-style-type: none"> Urban heat mapping data--reduction in areas of high heat Percent increase in tree canopy in the City Revision of street tree and landscaping ordinance Presence of native trees

CS1D. Pursue policy changes that promote and incentivize community and residential gardens.

The City will develop policies that promote the creation and expansion of community and residential gardens. The City will prioritize the creation of gardens in LMI neighborhoods and in collaboration with community partners that will ensure that the food from such gardens is accessible to vulnerable populations that need it the most.

Who's Responsible	Where The Money Will Come From	How We Know We're On Track
<ul style="list-style-type: none"> Primary Party: CLC Community Development Dept. Partners: La Semilla; NMSU Extension; Master Gardeners; residents 	<ul style="list-style-type: none"> General funding from the City budget Community Development Block Grants Keep New Mexico Beautiful 	<ul style="list-style-type: none"> Develop an Urban Agriculture and Food Plan Acres of community gardens planted





lotus
engineering & sustainability