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**City of Las Cruces**<sup>®</sup>  
 PEOPLE HELPING PEOPLE

**Council Action and Executive Summary**

Item # 14 . . . Ordinance/Resolution# 11-182 . . . Council District:     

For Meeting of February 22, 2011

(Adoption Date)

**TITLE:**           A RESOLUTION TO ADOPT A SUSTAINABILITY ACTION PLAN.

**PURPOSE(S) OF ACTION:** Adopt Sustainability Action Plan.

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**BACKGROUND / KEY ISSUES / CONTRIBUTING FACTORS:** The Sustainability Action Plan will define goals and action items related to sustainability, serve as a work plan for the Sustainability Officer with respect to developing and reporting on programs, highlight related ongoing efforts by other City departments, and provide a common starting point for City staff, residents, and elected officials for decision-making about sustainability.

Development of the Sustainability Action Plan began in January, 2010, several months after the creation of the City's Sustainability Program. The purpose of the plan was initially to help define and prioritize the objectives and activities of the new program. Adoption of such a plan is called for in Theme 4 of the City's Strategic Plan.

The planning process began with two public input meetings in January, each with nearly 50 people in attendance. Participants were asked to identify goals that the plan should strive for, specific actions that could help achieve the stated goal, any obstacles to success that might exist, and ways of overcoming the obstacles. Over 100 written ideas were turned in, and group discussions explored the merits of the given suggestions. Following the meetings, the written comments were analyzed for feasibility and synthesized. The most frequently discussed themes became the eight goals outlined in the plan, which are:

1. Increase Energy Efficiency
2. Accelerate Deployment of Renewable Energy
3. Ensure a Sustainable Water Supply
4. Reduce and Recycle Solid Waste
5. Prevent Air and Water Pollution
6. Encourage Sustainable Development and Transportation Options
7. Conserve Habitat and Ecosystems
8. Support Local Food Networks

(Continue on additional sheets as required)

Many of the suggested actions were included with adaptation to fit within the parameters of what a city can realistically do.

Shortly after the public meetings and prior to drafting the plan, small group meetings were held with various stakeholder groups, including the Las Cruces Association of Realtors, Building Industry Association, Las Cruces Green Chamber of Commerce, and the Greater Las Cruces Chamber of Commerce. While input from these meetings was generally positive, several groups expressed concern that some of the ideas expressed at the public meetings were too regulatory in nature and could pose a significant economic burden on the community. In light of these concerns, staff decided to focus objectives and actions of the plan largely on greening City operations in cost effective ways. Those objectives and actions that deal with the larger community are primarily focused on education and information sharing. Thus, the plan represents a "Lead by Example" approach to local sustainability.

City staff from relevant sections were also consulted prior to creating the initial draft of the document. Ongoing projects relating to sustainability were noted and the feasibility and availability of resources to initiate new projects within the planning time-frame were discussed. The initial draft was then circulated to all City departments for review and comment prior to release to the public.

In August 2010, the draft Plan was released for public and stakeholder comment. Two open houses were held at City Hall in early September, and the draft was presented at a Council work session on September 13, 2010. Comments received from Council and the public were incorporated into the current draft, which was released (following another round of staff review) in early January, followed by another open house on January 20, 2011.

The document is organized into eight goals, and within each goal is a narrative section that outlines why the issue is of concern, an overview of current conditions, and a summary of some progress already made on the issue. Objectives and action items are grouped into internal (City operations) and external (Community) categories. Where possible, objectives incorporate quantitative targets. Action items include information on which City sections will take the lead or can offer support, any outside organizations with which the City might partner, when implementation of the action is set to begin, and where appropriate, indicators that can be used to measure progress. All action items are intended to be initiated within the next three years, although a number of actions are conditioned upon identification of additional funding.

Measurement is a key component of plan implementation. Many actions and progress toward objectives will be measured using indicators. An annual report will be produced outlining progress toward actions that were identified for initiation in the previous twelve months, or were already ongoing. This report can be used to gauge the success of the strategies outlined in the plan and can inform possible revisions to the plan. A Sustainability Task Force is proposed with representation from City staff and interested members of the public, and would be tasked with helping to implement various components

(Continue on additional sheets as required)

of the plan, as well as suggest revisions to the document. This component was added after the Council work session on September 13, 2010.

Other key changes since the last presentation to Council include the following:

- The introductory chapter has been partially rewritten and reorganized. Additional references to other plans have been added and URLs for these plans are provided when available. Information regarding climate change and related policy has been added.
- Changes were made to the narrative section of Recycling and Solid Waste, in consultation with the Solid Waste Authority.
- Chapter topics were rewritten as actionable goals. The previous goals were reclassified as objectives.
- Additional action items were included based on public, stakeholder, and staff comments, relating to fleet size reduction (1.2j), HUD projects and energy efficiency (1.3d), the possibility of offering blower door tests (1.3e), using reclaimed water for dust control (5.4c), further encouraging infill development (6.3d), pursuing Sustainable Sites designation (7.1f), ecosystem restoration (7.2b), and reducing the cost of urban agriculture (8.4c).
- The language was modified for the following objectives and actions, primarily at the request of staff for clarity or to better reflect existing policies: objective 1.2, actions 3.3a, 3.4a, 3.4c, 3.5a, 3.6a, and 5.2a.
- Language was added to a number of action items to indicate that completion is contingent upon identification of additional funding.
- An implementation matrix was added to the end of the document, and in it the action items were sorted by start date. Some of the start dates were modified from the previous version at the request of City departments to account for available resources.

**SUPPORT INFORMATION:**

1. Resolution.
2. Exhibit "A". Sustainability Action Plan
3. Attachment "A". Summary of written comments from January 2010 meeting exercise

**SOURCE OF FUNDING:**

<p><b>N/A</b> (there is no direct cost associated with this action)</p>	Is this action already budgeted?	
	Yes	<input type="checkbox"/> See fund summary below
	No	<input type="checkbox"/> If No, then check one below:
	<i>Budget Adjustment Attached</i>	<input type="checkbox"/> Expense reallocated from: <input type="checkbox"/> Proposed funding is from a new revenue source (i.e. grant; see details below) <input type="checkbox"/> Proposed funding is from fund balance in the ____ Fund.
Does this action create any revenue?		
	Yes	<input type="checkbox"/> Funds will be deposited into this fund: _____ in the amount of \$_____.
	No	<input checked="" type="checkbox"/> There is no new revenue generated by this action.

**FUND EXPENDITURE SUMMARY:**

Fund Name(s)	Account Number(s)	Expenditure Proposed	Available Budgeted Funds in Current FY	Remaining Funds	Purpose for Remaining Funds
N/A	N/A	N/A	N/A	N/A	N/A

**OPTIONS / ALTERNATIVES:**

1. Vote "Yes"; this will adopt the Sustainability Action Plan as a guiding policy document on related matters.
2. Vote "No"; this will reject the Plan, the Sustainability Program would continue largely as it is now, and staff would seek policy direction from City Council on individual matters as necessary.
3. Vote to "Amend"; this would allow Council to modify the draft Plan as it deems appropriate.
4. Vote to "Table"; Council may table/postpone the Resolution and direct staff accordingly.

**REFERENCE INFORMATION**

N/A

**RESOLUTION NO. 11-182**

**A RESOLUTION TO ADOPT A SUSTAINABILITY ACTION PLAN.**

The City Council is informed that:

**WHEREAS**, the City of Las Cruces has embraced the underlying principles of sustainability, including environmental health, economic well-being, social equity, long-term thinking, wise use of natural resources, resilience and stability; and

**WHEREAS**, the City's 2010 Strategic Plan calls for the creation of a Sustainability Action Plan; and

**WHEREAS**, the Plan will provide clear direction to staff as to actions that will be taken over the next three years and beyond to move the City of Las Cruces and the community as a whole toward a more sustainable future; and

**WHEREAS**, progress toward the goals and objectives of the plan will be regularly evaluated and the plan itself will be reviewed to ensure continuing relevance.

**NOW THEREFORE**, Be it resolved by the governing body of the City of Las Cruces:

**(I)**

**THAT** the Sustainability Action Plan as shown in Exhibit "A", attached hereto and made part of this Resolution, is hereby adopted.

**(II)**

**THAT** City staff is hereby authorized to do all deeds necessary in the accomplishment of the herein above.

**DONE and APPROVED** this \_\_\_\_\_ day of \_\_\_\_\_, 2011.

APPROVED:

(SEAL)

\_\_\_\_\_  
Mayor

ATTEST:

\_\_\_\_\_  
City Clerk

Moved by: \_\_\_\_\_

Seconded by: \_\_\_\_\_

VOTE:

Mayor Miyagishima: \_\_\_\_\_

Councillor Silva: \_\_\_\_\_

Councillor Connor: \_\_\_\_\_

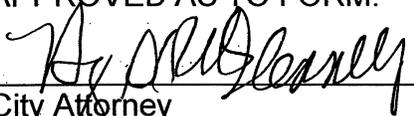
Councillor Pedroza: \_\_\_\_\_

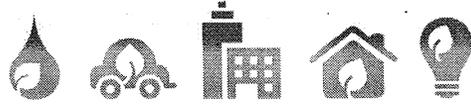
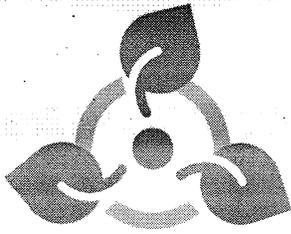
Councillor Small: \_\_\_\_\_

Councillor Sorg: \_\_\_\_\_

Councillor Thomas: \_\_\_\_\_

APPROVED AS TO FORM:

  
\_\_\_\_\_  
City Attorney



# SUSTAINABILITY program



## Sustainability Action Plan

Draft

2/4/2011

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Building Industry Association

Las Cruces Green Chamber of Commerce

Greater Las Cruces Chamber of Commerce

Oñate HS Environmental Science Class (Mr. Holzhausen)

DACC Writing Class (Prof. Loring)

Over 140 members of the public

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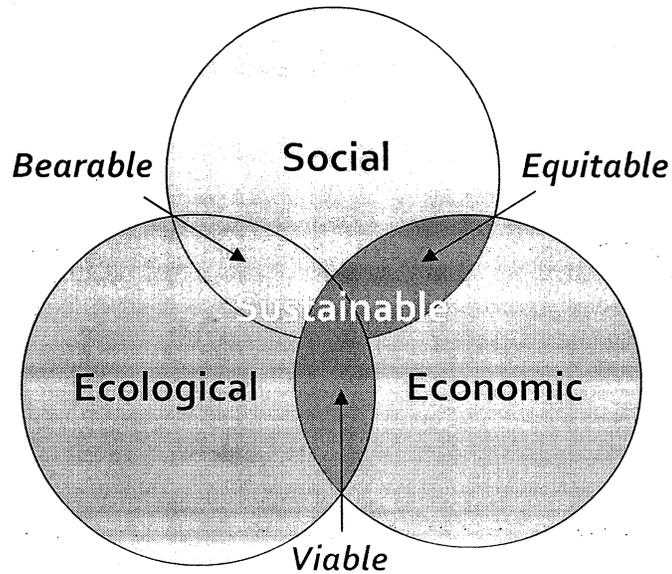
## Introduction

### Guiding Principles of Sustainability

The most common definition of sustainability is that which “meets the needs of the present without compromising the ability of future generations to meet their own needs.”<sup>1</sup> This may be a useful general definition, but what does it mean for our community? A few guiding principles are useful in determining whether a particular policy or decision is sustainable.

#### *The Triple Bottom Line*

Many people find it useful to think of sustainability as the pursuit of a “Triple Bottom Line.” The three objectives are economic well being, environmental health, and social equity. Actions that advance all three objectives are preferred, while those that are directly at odds with one or more of the three objectives may be unsustainable. This concept is about achieving balance – policies and actions may focus primarily on one of the three areas, but must consider and account for the impacts to the other two as well.



#### *Long-term Thinking*

As the definition above implies, sustainable decision making needs to consider how actions we take today will impact not only ourselves now and in the future, but also our children and grandchildren. Long-term thinking involves looking at the lifecycle costs and benefits of actions, not just their impact on the current budget. When we start to take a lifecycle approach to decision making, some things we used to view as costs are instead treated more like investments.

#### *Wise Use of Natural Resources*

Typically when we think of capital, we think of cash, equipment and machinery, or people with expertise – wealth that drives our economy. However, there are many forms of natural capital that are necessary to support our economy and even life itself. Examples of natural capital include water, soil, and the air we breathe. Just as a successful business would not squander capital that is necessary for its success, so should a community be careful how it uses natural capital that is critical to our physical and economic health. Many of these resources are renewable and can provide for us well into the future, provided that we care for them properly.

It is also important to minimize waste. This can help prevent pollution that could threaten the health of people and natural systems on which we depend. However, waste can be

<sup>1</sup> World Commission on Environment and Development. 1987. “Our Common Future.” Oxford: Oxford University Press.

looked at as an opportunity, not just a threat. Waste represents a resource that is not being used efficiently, and with some creativity and investment, can be used as an input to a productive activity. This is called “closing the loop”, and it’s a great way to ensure plentiful resources into the future while cutting costs now.

### *Resilience and Stability*

Resilience is the capacity of a community to survive, adapt, and grow in the face of change or disaster. Part of being sustainable is trying to anticipate changes or events beyond our control that may threaten our usual way of doing things. Some of these threats may be intermittent, like floods and droughts, while others may be chronic, like rising energy and food costs. If we are successful, we can lessen the hardships that result, and our payback can be a more stable community.

### The Purpose of this Plan

This plan serves four major functions:

- Set medium-term goals related to sustainability and define short-term actions to help achieve those goals;
- Serve as a work plan for the Sustainability Officer;
- Highlight many ongoing efforts by other City departments related to sustainability, as well as some areas where these efforts may be expanded; and
- Provide a common starting point for City staff, residents, and elected officials for ongoing decision-making about sustainability.

The primary focus of the plan is on internal objectives and actions the City will take to “lead by example.” A secondary component is a set of objectives and policies that will help the community at large become more sustainable. The reason for this internal focus is that it became clear through the public and stakeholder input process that the City must first do the things it is asking the public to do to demonstrate that they are possible and cost effective. Furthermore, many of the operational initiatives are expected to save money in the long run – savings that could be used to fund more community-oriented sustainability programs in the future.

### Relationship to Other Plans

This plan represents a “To Do List” of sustainability initiatives. As such, it serves as an extension of the City’s 2010 Strategic Plan<sup>2</sup> – adding some objectives and action items and including additional information about some items already in the Strategic Plan or already underway.

This plan is intended to complement existing City plans, such as the Utilities Master Plan<sup>3</sup>, 40-Year Water Plan<sup>4</sup>, and Stormwater Pollution Prevention Plan<sup>5</sup>, as well as several that are in process, including Vision 2040<sup>6</sup> and the update to the City’s Comprehensive Plan. The latter two involve extensive long-term visioning, and a more involved public and stakeholder input process. The results of this process will be plans that are more visionary in nature, with

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<sup>2</sup> Available online at: <http://www.las-cruces.org/PDFs/splan.pdf>

<sup>3</sup> Available online at: <http://www.las-cruces.org/utilities/water.pdf>

<sup>4</sup> Available online at: <http://www.las-cruces.org/utilities/123.pdf>

<sup>5</sup> Available online at: [http://www.las-cruces.org/public\\_works/engineering\\_services/pdfs/LC%20Draft%20MAP%20Jan%202009.pdf](http://www.las-cruces.org/public_works/engineering_services/pdfs/LC%20Draft%20MAP%20Jan%202009.pdf)

<sup>6</sup> See <http://vision2040.las-cruces.org/>

general policies that are expected to guide a wide range of activities over several decades. Given the long timeframes involved, comprehensive plans are necessarily tied to issues of sustainability. This plan is intended to provide greater detail in terms of specific actions that can help achieve those more general, longer-term goals. As Vision 2040 and the Comprehensive Plan are developed and adopted, the vision statements and policies they contain will inform future versions of this document.

#### Public and Stakeholder Involvement

In January 2010, two public input meetings were held to solicit ideas for this plan. There were a total of 93 attendees, and over 100 written comments were submitted. Participants were asked to suggest goals and actions for the plan, identify possible obstacles to achieving these goals, and ways these obstacles could be overcome. These comments were evaluated for feasibility, and many of the concepts were incorporated into the draft plan in some form. Stakeholder meetings were held in Spring 2010 with the Greater Las Cruces Chamber of Commerce, Las Cruces Green Chamber of Commerce, Las Cruces Association of Realtors, and Building Industries Association to solicit additional input. Existing City plans and initiatives were reviewed and staff from all City departments were consulted in developing the draft objectives and actions. In September, two open houses were held to give the public an opportunity to discuss a preliminary draft of the plan. A series of presentations were made on the draft to various stakeholder groups, and the plan was also presented at a City Council work session in September. Revisions to the draft as a result of Council, public, and stakeholder input were made and an open house to present the revised draft was held in January 2011.

#### Implementation and Measurement of Progress

All the action items identified in this plan are intended to be pursued within three years of plan adoption. A number of the projects are already being undertaken by various City departments, and are noted as "ongoing" in the document. For new programs, a proposed start date is identified along with responsible City departments and in some cases community partners. This is not an exhaustive partner list, as all stakeholders and interested parties will be involved in implementation.

An important feature of this plan is that indicators have been identified for many objectives and action items. Data will be collected for each of these indicators and tracked over time so that our progress toward each goal can be objectively measured. This tracking effort will also help compare the success of individual programs, so that effort can be focused on those that are most effective.

The goals, objectives, and action steps in this plan outline a diverse set of new and ongoing initiatives that will move the City of Las Cruces forward on a path toward sustainability over the next three years. But they will not get us there entirely, as the ultimate goal of sustainability is a long term one. This plan should be continuously updated as new information comes to light and tasks are completed, and the City's commitment to the plan should be renewed on a regular basis. It should be considered a living document.

To ensure implementation of the plan, an annual reporting process is proposed. The Sustainability Officer will be responsible for compiling information on the progress toward each of the action items and presenting an annual report to City Council at the beginning of each calendar year starting in 2012. This report will also include recommendations for amendments to the plan, based on experience gained in the previous year. Many of the action items in this

### How Climate Change Fits In

Humans are contributing to global climate change by emitting greenhouse gases (GHGs - most notably carbon dioxide through fossil fuel combustion) and changing land uses throughout the world.\* Individual communities will bear the brunt of climate change, and here in New Mexico the primary concern is increased length and severity of drought. However, because of the global causes of climate change, no single community can prevent it by acting alone, no matter how much they reduce GHG emissions. So far, national and international efforts to address the problem in a comprehensive manner have failed.

In the absence of a solution at higher levels, over 1000 local governments, including Las Cruces, have signed on to the non-binding Mayors' Climate Protection Agreement, which commits cities to reduce greenhouse gas emissions by 7% (relative to 1990 levels) by 2012. In November 2010, the State of New Mexico adopted a program to regulate GHG emissions from major sources. The US Environmental Protection Agency is now moving ahead with its own regulations of major emitters under the Clean Air Act. However, at this time it does not appear that any City operation will be subject to either regulation. When any more comprehensive regulation will be adopted at the federal level remains in doubt, but seems likely in the medium to long-term.

This plan recognizes that our community's relative contribution to climate change is small, but also that we share the global responsibility in addressing the issue. Many of the goals and actions contained in the plan will reduce our GHG emissions either directly or indirectly, and we will develop a method to measure and track these reductions over time. *However, GHG reductions are rarely the primary motivation for these actions. Most will result in some combination of lower long-term costs, less local pollution, local economic and technological development, greater self-reliance, or improved community livability.* With a thoughtful approach to the problem, it is possible to both reduce our climate impacts AND improve our local economy and quality of life.

\* For a comprehensive summary of climate change research, see the 2007 IPCC 4<sup>th</sup> Assessment Report, available at:  
[http://www.ipcc.ch/publications\\_and\\_data/publications\\_and\\_data\\_reports.shtml#1](http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml#1)

plan will also be integrated into the City's overall Strategic Plan and tracked online. This process of continuous and transparent tracking should help ensure that the plan remains a useful and relevant tool to both guide City actions and communicate those actions to the public.

In order to ensure public and stakeholder involvement in the implementation and updates of the plan, the creation of a Sustainability Task Force or Green Team is proposed. This group would be modeled on the South Central Recycling Partnership (SCRaP) and the Bicycle Friendly Community Task Force. Participation would be open to any interested party and would include appropriate City staff. The group would meet regularly to exchange ideas, form community partnerships, review progress toward plan goals, and suggest and evaluate new program options. Also, information and training related to many of the topics in this plan will be made available to City staff on a regular basis.

### Document Structure

The document is divided into eight goals:

1. Increase Energy Efficiency
2. Accelerate Deployment of Renewable Energy
3. Ensure a Sustainable Water Supply
4. Reduce and Recycle Solid Waste
5. Prevent Air and Water Pollution
6. Encourage Sustainable Development and Transportation Options
7. Conserve Habitat and Ecosystems
8. Support Local Food Networks

These topics coincide with the issues raised most frequently during the public input process. In each chapter, some background information is presented regarding the importance of the topic, current conditions, and progress we have made to date in this area. Following that is a set of goals, objectives, and action items to be taken over the next three years to support those goals. Finally, an implementation matrix summarizes the initiatives and indicators for tracking their success going forward.

## Goal 1: Increase Energy Efficiency

### Why We Care

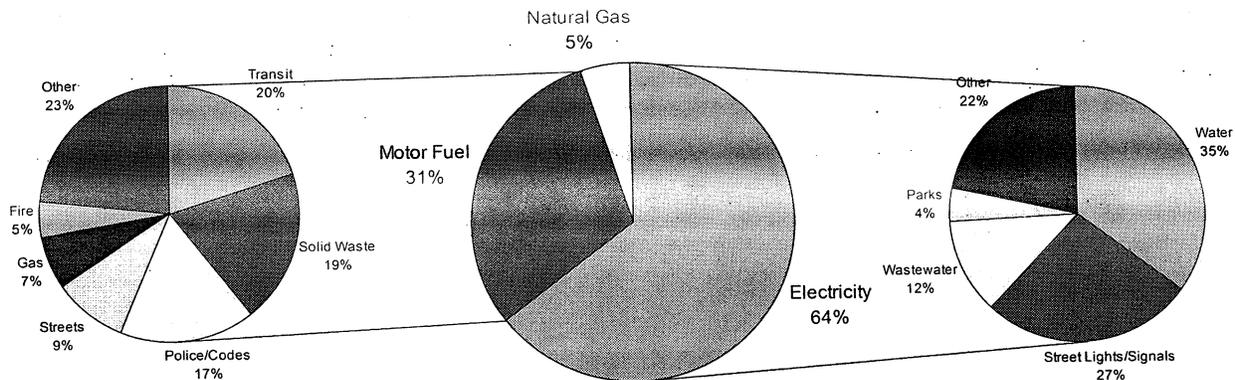
Energy efficiency is simply getting the same output with less energy input. It is generally the most cost effective way to reduce environmental impact. According to a recent EPA-sponsored study, energy efficiency efforts using available technology could reduce 2025 electricity consumption by 20% and natural gas consumption by 10% compared to taking no action, with a net savings potential of over \$500 billion nationally.<sup>7</sup>

In 2007, Governor Richardson announced a goal of reducing statewide per capita energy use by 20% by 2020. In addition to lowering energy bills, this action is intended to enhance energy security and reliability, reduce greenhouse gas emissions and air pollution, and improve business competitiveness in the face of rising energy costs.

According to a National Association of Home Builders survey, a majority of consumers will pay up to \$11,000 more for their home if it lowers their annual energy costs by \$1,000. And a Department of Energy analysis found that increasing an average home's efficiency by 30 percent would add \$4,000 in initial cost — assuming a 30-year fixed mortgage at 7 percent, that's \$211 in additional annual mortgage payments — but reduce energy costs by \$723 a year.

### Current Conditions

In fiscal year 2009, the City of Las Cruces spent over \$7 million dollars on energy for its day-to-day operations. This translates into about \$200 expended per household to cover this cost, in the form of taxes and utility rates.



FY2009 energy expenditures by energy type and end use.

Nearly half of all electricity consumption was from a combination of pumping drinking water and treating sewage. In fact, the largest single consumer of energy in the City is the Jacob Hands Wastewater Treatment Plant, which has an average monthly electric bill of over \$28,000. The City also operates about 90 buildings, 6000 street lights and traffic signals, and numerous other energy consuming systems such as park sprinklers and telemetry stations. In addition, the City operates a fleet of approximately 1300 vehicles including about 150 heavy duty vehicles.

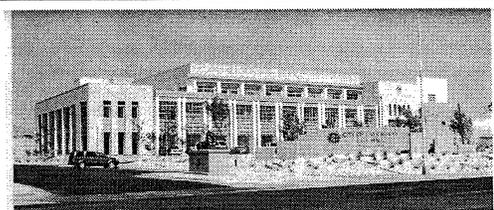
<sup>7</sup> National Action Plan for Energy Efficiency (2008). National Action Plan for Energy Efficiency Vision for 2025: A Framework for Change. <[www.epa.gov/eeactionplan](http://www.epa.gov/eeactionplan)>

In the past, little attention has been paid to energy consumption. In fact there has been no central tracking of energy data since the mid-1990's. Since then, costs for electricity, motor fuel, and natural gas has increased considerably, along with concern for the environmental impact of fossil fuel combustion. Given the size of the City's vehicle and facility fleet, the potential for savings and environmental benefits from energy efficiency investments should be significant.

#### Progress to Date

The City has taken some important steps recently to improve energy efficiency. In fall 2009, we completed a retrofit of all traffic and pedestrian signals with LED lamps. The retrofit was paid for by a state grant at no cost to the City, and the estimated annual electricity savings should be over \$130,000 annually, compared to the old incandescent bulbs. As an added benefit, the LED bulbs last longer and shine brighter than those they replaced. The traffic engineering section is also conducting a pilot study of the performance of LED street lights.

The new City Hall is a LEED Silver building. Based on the limited data available since it opened, it consumes the same amount of electricity as the two buildings it replaced despite having 30,000 additional square feet and more employees and functions than the previous buildings combined. The new Convention Center is also designed to be LEED Silver, and consume 25% less energy than a standard convention center of its size.



City Hall is our first LEED building. LEED stands for Leadership in Energy and Environmental Design, and it is the most widely recognized green building scoring system. Levels (certified, silver, gold, and platinum) are determined by points scored in the following categories: sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, and innovation.

#### Internal Objectives and Actions

*Objective 1.1: Continuously monitor energy consumption in City facilities, fleet, and other operations.* If it isn't measured, it cannot be managed, so the first step to improving efficiency is to know how much is consumed and how consumption is impacted by various actions and conditions.

Action 1.1a: Produce a quarterly report of energy consumption covering all City activities.

Lead Section: Sustainability

Begin: 1Q 2011

Indicator: Overall energy consumption and associated cost

*Objective 1.2: Decrease energy consumption in City operations by 20% per square foot of facilities by 2020.*

**Action 1.2a:** Conduct energy assessments on City facilities to identify and quantify opportunities for savings. This includes participation in El Paso Electric's new commercial efficiency program, which provides limited audits at no cost, as well as performance contracting, for which payment is a portion of the energy savings and upfront cost is minimal.

Lead section: Sustainability

Support sections: Building Services, User departments

Begin: Ongoing

Indicators: Number of facilities audited, dollar value of potential savings identified, actual savings realized

**Action 1.2b:** Establish and capitalize an internal revolving loan fund to finance energy efficiency improvements. Money would be borrowed by user departments for retrofits, then paid back to the fund as financial savings are realized, thus making it available for future projects. Sources for seed money could include grants, federal and state appropriations, or the regular City budgeting process.

Lead sections: Sustainability, Budget

Support sections: Grants Administration, User Departments

Begin: 3Q 2011

Indicators: Number and value of projects funded

**Action 1.2c:** Establish policy for purchase of energy efficient equipment. This includes the use of Energy Star equipment when available. Purchases of large equipment should include energy efficiency criteria in the bid specifications. Minimum standards should be defined wherever possible.

Lead sections: Sustainability, Purchasing

Support sections: User Departments

Begin: 1Q 2012

**Action 1.2d:** Establish standards for fuel efficiency by vehicle class in fleet purchases. As funding and vehicle availability permit, hybrid cars, SUVs, light trucks, and heavy duty trucks will be purchased.

Lead sections: Fleet Services

Support sections: Sustainability, Purchasing

Begin: 1Q 2012

Indicators: Annual fleet-wide fuel economy, number of hybrid vehicles

Action 1.2e: Integrate energy efficiency considerations into preventative maintenance decisions. Maintenance dollars are generally scarce, but opportunities exist to address energy efficiency concerns while making necessary repairs or replacements. In some cases, treatments are available which can save energy and prolong the life of the equipment or structure, such as white roof coatings, coolant additives for air conditioners, and better lubricants for vehicles.

Lead sections: Building Services, Fleet Services

Support section: Sustainability

Begin: Ongoing

Indicators: Number of facilities and vehicles treated, actual savings realized

Action 1.2f: Monitor emerging energy efficiency technologies, and implement when they become cost effective. LED for street and area lighting is an example of a technology that is very close to being cost effective.

Lead section: Sustainability

Support sections: all departments

Begin: Ongoing

Action 1.2g: Institute a comprehensive set of policies and guidelines for employee behavior related to energy and resource conservation, and hold regular training to reinforce.

Lead sections: Sustainability, Human Resources

Support sections: all departments

Begin: 4Q 2011

Indicators: Number and type of training sessions

Action 1.2h: Design all new City buildings to attain LEED certification with a focus on maximizing points in the energy efficiency category.

Lead section: Project Management, User departments

Support section: Sustainability

Begin: 1Q 2011

Indicator: LEED level attained by project, energy savings from baseline of completed project

Action 1.2i: Select the most efficient replacement available when water pumps reach the end of their useful life.

Lead section: Water Resources

Begin: Ongoing

Indicator: Realized energy savings

Action 1.2j: Reduce the overall size of the City vehicle fleet, and consider fuel economy as an important factor in deciding which vehicles to remove from service.

Lead section: Fleet Services

Begin: 1Q 2011

Indicator: Number and MPG of vehicles removed, overall fleet fuel economy

### Community Objectives and Actions

*Objective 1.3: Encourage and enable residents and businesses to reduce per capita energy consumption 20% by 2020.*

Action 1.3a: Establish a revolving loan fund or similar mechanism to finance weatherization and energy efficiency retrofits to qualifying private homes and businesses. This fund would most likely be seeded with grant money, and would require additional staff to administer. Participating property owners would report savings over time.

Lead section: Sustainability

Support section: Grants Administration, Neighborhood Services

Possible partners: Community Action Agency of Southern New Mexico (CAASNM), Tierra del Sol

Begin: 4Q 2012

Indicator: Number of retrofits funded, actual energy savings

Action 1.3b: Hold training sessions on energy efficient behavior, appliances, and construction, in conjunction with private and outside agency partners.

Responsible section: Sustainability

Support section: Public Information Office

Possible partners: El Paso Electric, CAASNM, home energy raters

Begin: 3Q 2011

Indicator: Number of events, number of attendees

Action 1.3c: Adopt and enforce the 2009 International Energy Conservation Code or equivalent. This update is expected to increase the energy efficiency of new construction by 12-15% compared to the 2006 IECC, which the City has adopted. Trainings should be held to help builders and contractors adjust to the changes from the previous code.

Lead section: Permitting & Inspections

Support section: Sustainability

Begin: 2Q 2011

Action 1.3d: Continue to emphasize energy efficiency standards regarding Community Development's Housing and Urban Development (HUD) related programs, which address retrofits, weatherization and rehabilitation of structures and homes.

Lead section: Neighborhood Development

Support section: Sustainability, Facilities

Begin: Ongoing

Indicator: Number of retrofits completed

Action 1.3e: Consider adding blower door tests as an inspection option to identify whether improvements made during construction meet energy efficiency standards or to assist property owners to become aware of the need to address energy efficiency issues.

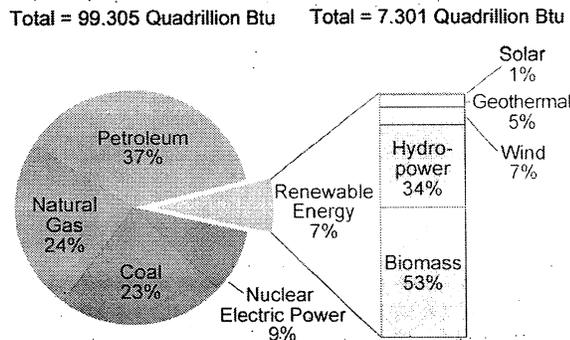
Lead section: Permitting and Inspections

Support section: Sustainability

Begin: 4Q 2011

## Goal 2: Accelerate Deployment of Renewable Energy

### U.S. Energy Consumption by Energy Source, 2008



Note: Sum of components may not equal 100% due to independent rounding.

Source: EIA, *Renewable Energy Consumption and Electricity 2008 Statistics*, Table 1: U.S. Energy Consumption by Energy Source, 2004-2008 (July 2009).

### Why We Care

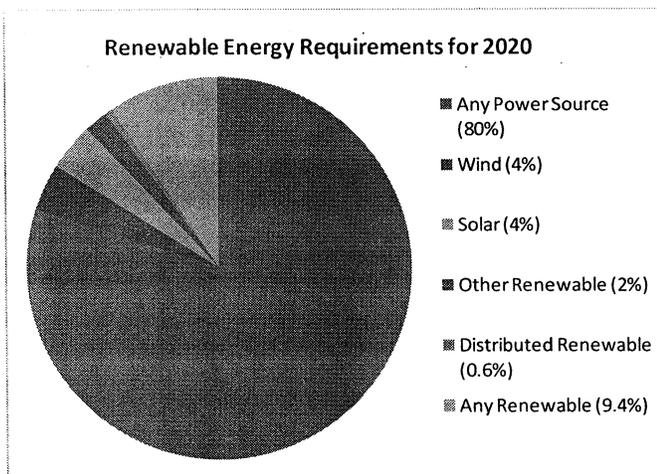
Energy powers the economy and nationwide about 84% of it comes from fossil fuels. Because these fuels are non-renewable, their price is certain to increase in the long term as the most accessible and highest quality sources are used first. Furthermore, fossil fuels take a huge toll on the environment. In addition to periodic disasters such as the oil spill in the Gulf of Mexico, combustion of fossil fuels for transportation and electricity generation are the primary sources of smog-forming air pollutants, as well as carbon dioxide emissions that are linked to climate change. Concerns have also arisen about the threats to national security posed by fossil fuel dependence, particularly the fact that some of the largest oil producing countries

have hostile or unstable governments, which have in the past cut off supplies and may again do so.

Fortunately, renewable energy sources are becoming more affordable and available to mitigate these issues. New Mexico (and Las Cruces in particular) has one of the best solar resources in the country. Renewable energy largely eliminates the pollution associated with fossil fuels. Also, as one of the fastest growing industries both nationally and internationally, renewable energy has tremendous potential to create jobs. In the last decade, New Mexico saw job growth in the renewable energy sector increase by 152%, compared to overall job growth of 13%<sup>8</sup>

### Current Conditions

The number of renewable energy installations in the Las Cruces area has grown dramatically in the last several years. In 2007, there were only 8 grid-connected photovoltaic systems in El Paso Electric service territory. Now, there are over 200, and new ones are being installed at a rate of about 90 per year. This increase in activity can be attributed to falling system costs as well as incentives from state and federal government and El Paso Electric.



<sup>8</sup> Headwaters Economics, "Clean Energy Leadership in the Rockies: Competitive Positioning in the Emerging Green Economy," June 2010, accessed at <http://www.headwaterseconomics.org/greeneconomy/>.

Despite this increase, these small systems represent a small fraction of El Paso Electric's total capacity. EPE is required by the state to generate 6% of its total electricity from renewable sources, which will increase to 10% in 2011 and 20% by 2020. Beginning in 2011, a diversity of renewable energy sources will be required. As part of a plan to meet this requirement, El Paso Electric has begun paying for every kilowatt-hour of electricity generated by renewable energy systems, in addition to the net-metering that was already in place (see sidebar on Incentives).

Given available state, federal, and utility incentives, a photovoltaic system with a 25+ year life may pay for itself in the first ten years or so, but the property owner still must find a way to finance the remaining upfront cost, and this can be a challenge to many. For the City, it is an even bigger challenge because the 40% combined state and federal income tax credit is of no use. Creative financing mechanisms will have to be explored in order to overcome these barriers.

#### Progress to Date

The City has deployed several renewable energy systems to date. The new City Hall features a field of geothermal wells beneath the east-side parking lot. Fluid is circulated through these wells, where the constant temperature of the earth cools it in the summer and heats it in the winter. The treated fluid then passes through a heat exchanger to pre-cool or pre-heat air that is used to condition the office space. At the Jacob Hands Wastewater Treatment Plant, a system is in place to capture methane and supply some of the energy required by the treatment operation. Also, a number of solar-powered lights have been installed in City parks where connection to the grid was cost prohibitive.

The City has Recovery Act funding in place to install two medium-sized photovoltaic arrays: one at the new Convention Center, and one at the Museum of Nature and Science to be located on Main Street. We are also working with Doña Ana County to bring Property Assessed Clean Energy (PACE) financing to the region, which could enable private property owners to voluntarily pay for a renewable energy system through a special tax assessment on their property, provided that certain obstacles to implementation at the federal level are removed.

### **2010 Incentives for Small-Scale Renewable Energy Systems**

#### El Paso Electric Incentives

*Net-metering:* Sell back excess electricity to the grid at retail value during the day, and draw from the grid at night.

*Renewable Energy Credits:* Receive \$0.12 per kWh for all energy produced. The REC for new systems may decrease from year to year, but can be locked in for 12 years at the time of interconnection.

#### Tax Incentives

*Federal Income Tax Credit:* 30% of system installation cost can be claimed as a tax credit and carried over to the next year if necessary.

*State Income Tax Credit:* 10% of system installation (up to \$9000) can be claimed and carried over for up to 10 years.

*Property Tax Exemption:* The value of a renewable energy system is not counted toward the property assessment for tax purposes.

Internal Objectives and Actions

*Objective 2.1: Supply 10% of the City's electricity needs from on-site renewable sources by 2020.*

Action 2.1a: Execute grants to install renewable energy systems at Convention Center and Museum of Nature and Science. Funding is in place to install approximately 50kW of renewable energy each at the Convention Center and MoNaS.

Lead sections: Grants Administration, Project Management, Museums, Neighborhood Services

Support sections: Purchasing, Sustainability

Begin: Ongoing

Indicator: Number of kW installed capacity, annual kWh generation

Action 2.1b: Pursue third party power purchase agreements to finance installation of renewable energy systems on City property. This financial arrangement allows a private party to install and operate a renewable energy system and sell the energy to the City. It allows the private party to take advantage of tax credits (for which the City is not eligible) to reduce the installation cost and achieve competitive electric rates.

Lead sections: Sustainability, Project Management

Support section: Purchasing, RES/TS

Begin: 1Q 2011

Indicator: Number of kW installed capacity, annual kWh generation

Action 2.1c: Investigate the feasibility of adding solar-powered lighting to bus shelters to enhance nighttime security.

Lead sections: Sustainability, Transit

Support section: Purchasing

Begin: 4Q 2012

Indicator: Number of shelters equipped

*Objective 2.2: Displace 20% of fossil-based transportation fuel with renewable sources by 2020.*

Action 2.2a: Utilize B20 (20% biodiesel), preferably locally produced using yellow grease (used vegetable oil) in all approved diesel engines. This is expected to be cost-competitive with petrodiesel.

Lead sections: Fleet Services

Support sections: Purchasing, Sustainability

Begin: 1Q 2011

Indicator: Gallons of petrodiesel displaced

Action 2.2b: Pursue funding for purchase and evaluation of electric and plug-in hybrid vehicles for trial and evaluation. Although these vehicles cost more to purchase, they will be cheaper to fuel, and could save money in terms of lifecycle costs for high-mileage applications.

Lead section: Fleet Services

Support sections: Grants Administration, Sustainability, Purchasing

Begin: 4Q 2013

Indicator: Gallons of gasoline displaced

Action 2.2c: Investigate the feasibility of incorporating electric vehicle charging stations with renewable energy installations. These must be metered if available for public use.

Lead section: Sustainability

Support sections: Fleet Services, Purchasing, Project Management

Begin: 1Q 2012

Indicator: Gallons of gasoline displaced, number of renewable kWh used for transportation

### Community Objectives and Actions

*Objective 2.3: Help enable renewable energy installations on 20% of private buildings by 2020.*

Action 2.3a: Give property owners the option of financing renewable energy installations through special property tax assessments. Several obstacles currently exist that must be addressed at the federal level to enable this type of financing, but we stand ready to act if they are.

Partner: Doña Ana County

Lead section: Sustainability

Support sections: Legal, Treasurer

Begin: Ongoing

Indicators: Number of participants, installed renewable energy capacity

### **Alternative Fuels and Sustainability**

There is no transportation fuel that is inherently renewable in the strictest sense. The key to sustainable transportation fuel, whether liquid, gas, or electric, is the feedstock – how is it produced, and where does it come from.

For example, biofuels have often been touted as good alternatives to fossil fuels because they are renewable and carbon neutral (meaning the plants used to make the fuel absorb as much carbon dioxide as the fuel emits when burned). However, research has shown that this is not always the case. Often, land use changes from forest or grassland to farmland result in substantial greenhouse gas emissions, as do agricultural processes and transportation of the feedstock.

As the City begins to incorporate alternative fuels into its fleet, these broader impacts will be taken into account to the greatest extent possible.

Action 2.3b: Provide outreach on available financial incentives and expected return on investment for renewable energy installations. This will be in the form of presentations and online educational materials.

Possible partners: Energy Conservation & Management Division of EMNRD, renewable energy contractors

Lead section: Sustainability

Support sections: Public Information Office, Information Technology

Begin: 3Q 2011

Indicators: Number of sessions and participants, number of website hits

Action 2.3c: Ensure permitting and inspections of renewable energy installations are as inexpensive and streamlined as possible. Inspectors should be trained in the latest technology. Renewable energy inspections should receive priority scheduling. Waivers to permit fees should be evaluated.

Lead section: Permitting & Inspections

Support section: Sustainability

Begin: Ongoing

Indicators: Number of permits processed, number and type of trainings attended and certifications received.

*Objective 2.4: Attract renewable energy manufacturing and utility scale solar energy generation installations to provide green jobs in the area.*

Action 2.4a: Market large developed parcels in West Mesa Industrial Park for manufacturer or assembly of renewable energy equipment. Due to the relatively higher value of this land, energy generation should be done elsewhere due to its lower long-term job creation rate compared to manufacture/assembly.

Possible Partner: MVEDA

Lead section: Economic Development

Support section: Sustainability

Begin: Ongoing

Indicators: Number of facilities, number of jobs created

Action 2.4b: Work with the Federal Aviation Administration to allow photovoltaic generation facilities on airport property. Any proceeds from the arrangement are required to be reinvested at the airport.

Lead sections: Airport Management

Support sections: Sustainability, Economic Development

Begin: 3Q 2011

Action 2.4c: Identify City-owned lands that may be suitable for private development of utility-scale solar generation facilities. Summarize basic attributes to create a marketing pamphlet for developers.

Lead sections: Economic Development, Sustainability

Support section: Land Management

Begin: 1Q 2012

Indicators: suitable acreage identified

Action 2.4d: Establish a protocol for permitting and inspection of utility-scale renewable energy installations.

Lead sections: Permitting & Inspections

Support sections: Economic Development, Sustainability

Begin: 2Q 2011

Objective 2.5: Encourage the voluntary purchase of green energy credits for those who cannot install renewable energy on their property.

Action 2.5a: Co-promote participation in El Paso Electric's Voluntary Renewable Energy Program.

Partner: El Paso Electric

Lead Section: Sustainability

Begin: 1Q 2011

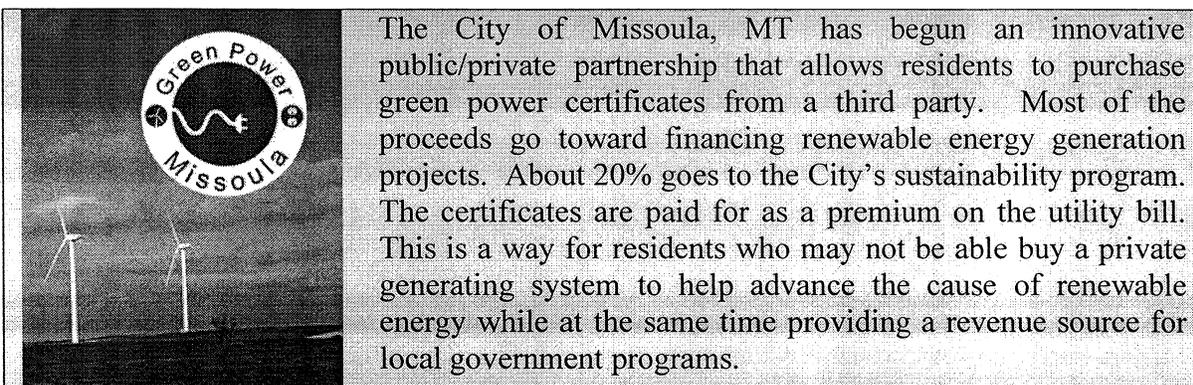
Indicators: Number of program participants

Action 2.5b: Investigate the feasibility of a partnership with a green credit broker that would generate some revenue for City green projects.

Lead Section: Sustainability

Begin: 1Q 2012

Indicators: Number of program participants



### Goal 3: Ensure a Sustainable Water Supply

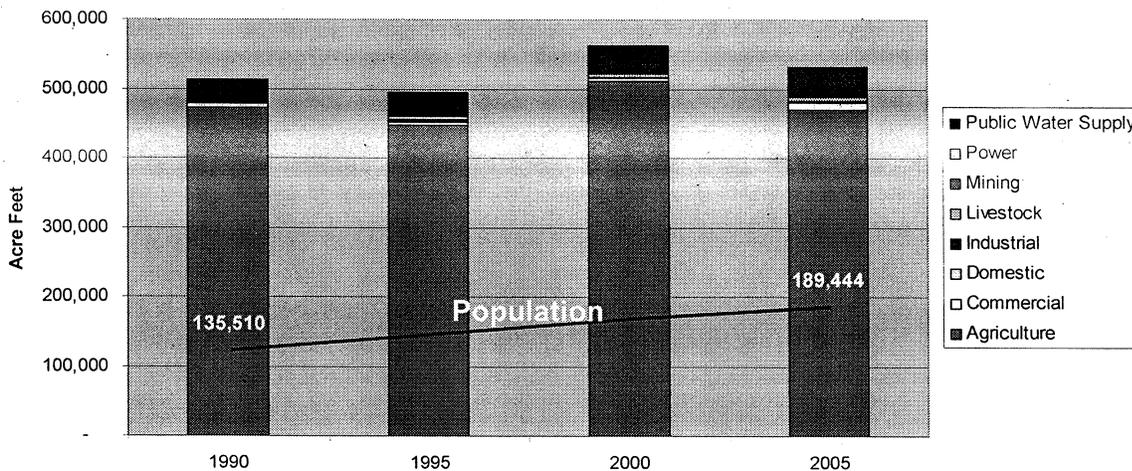
#### Why We Care

It is no secret that water is a scarce commodity in the west, and as long as our population continues to grow, water supply will remain a contentious issue. Now a new factor is emerging, which is that climate change may very well reduce the amount of water available for consumption throughout much of the southwest, including southern New Mexico. A 2008 study<sup>9</sup> by researchers at NMSU and UNM found that water availability may be reduced up to 25%, and that the total economic losses that result could be as high as \$300 million annually. Much of this impact will be felt in the agricultural sector, as water tends to be transferred from agricultural use to municipal and industrial use when demand exceeds supply. The City shall continue to work in concert with regional agencies including NMSU researchers and the agriculture community as we advance sustainable water use practices and management plans across all sectors of our community.

#### Current Conditions

Water use in the Lower Rio Grande Basin is strictly regulated and all available water is currently allocated. Any new water use, such as a new subdivision or industrial development, must obtain existing water rights from another holder within the basin, or tie into the City system which obtains it on their behalf. Agriculture has always been the dominant end use for water, accounting for 88% in 2005. Although the public water supply grew from 6% to 8% of total use from 1990 to 2005, the county population grew by nearly 40% in the same time frame.<sup>10</sup>

Dona Ana County Water Use by Category



The amount of water consumed in Las Cruces varies from year to year, but the average from 2001-2005 was 222 gallons per capita per day (GPCD), which translates into total

<sup>9</sup> Hurd, B.H. and J. Coonrod. 2008. Climate Change and Its Implications for New Mexico’s Water Resources and Economic Opportunities, New Mexico State University, Agricultural Experiment Station, Technical Report 45, Las Cruces, NM. 28 p.

<sup>10</sup> Office of the State Engineer, [http://www.ose.state.nm.us/publications\\_technical\\_reports\\_wateruse.html](http://www.ose.state.nm.us/publications_technical_reports_wateruse.html), Accessed 8/3/2010.

withdraws of around 20,000 acre feet per year.<sup>11</sup> The City maintains a 40-year Water Plan which outlines how it intends to provide water to a growing population through a combination of conservation and water rights acquisition. Conservation measures are expected to reduce water demand by 20% over the 40-year planning horizon, and should delay the need to develop costly unconventional solutions such as desalination.

#### Progress to Date

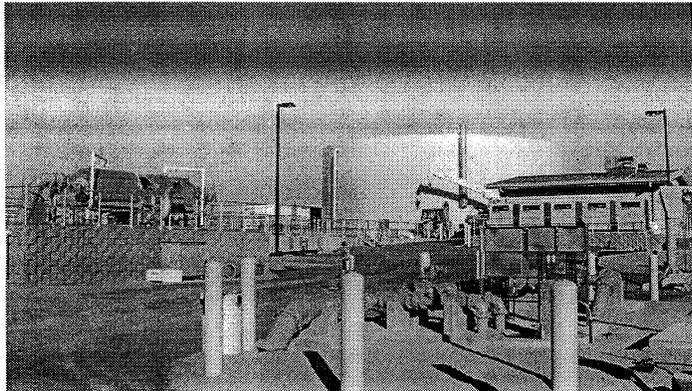
In 2000, the City adopted a Water Conservation Ordinance that places restrictions on outdoor water use, including:

- Even/odd watering days with no watering on Mondays
- No watering between 10am and 6pm from April 1 to September 30
- No wasting of water, which includes failing to fix leaks, allowing water to flow onto other properties or the street, and washing paved surfaces with a hose.

This ordinance has been considered a success mostly due to voluntary compliance, as total water consumption in the five years following adoption dropped steadily despite a growing population.

The City began Phase I of a Water Conservation Program in 2005, which was aimed at reducing water use among single family residential customers. This program includes xeriscaping public workshops, xeriscaping of City property, a school water conservation curriculum, detailed information included with water bills, and letters to top water users. The goal was to reduce single family household consumption by 5% per capita in 5 years. By 2009, that goal had been exceeded – system wide water use had decreased by 5% per capita, and use among single family households was down nearly 10%. The current rate of *residential* water use in the City is 153 GPCD, which is already below the 161 GPCD average for southwestern cities. Phase II of the program is now in development with hopes to build on this success.

The City operates multiple well permits, and is required under its base permit to return treated effluent to the Rio Grande during times of drought, so that it can be used downstream. This limits our ability to use reclaimed water throughout the City, but we have begun developing



this capability on the east side. A new reclamation facility was recently dedicated on East Lohman with the capacity of treating one million gallons of wastewater per day, and delivering the reclaimed water to large irrigation end users, such as golf courses, parks, and schools. It is currently operating at 25% capacity, but as more development occurs, more reclaimed water will become available in that area.

<sup>11</sup> City of Las Cruces 40-year water plan, available at <http://www.las-cruces.org/utilities/123.pdf>

### Internal Objectives and Actions

*Objective 3.1: Continuously monitor water consumption in City buildings, parks, and other operations. This will enable evaluation of the success of actions taken, as well as identify outliers for which repairs or retrofits might be necessary to save water.*

Action 3.1a: Produce a quarterly report of water consumption covering all City activities.

Lead section: Sustainability

Support sections: Water Resources, Parks & Recreation, Information Technology

Begin: 2Q 2011

*Objective 3.2: Reduce water consumption in City operations by 5% per square foot of managed space by 2015.*

Action 3.2a: Ensure that all new fixtures installed use the least amount of water that is practical for the application.

Lead sections: Building Services, Project Management, User departments

Support sections: Sustainability, Purchasing

Begin: 4Q 2011

Indicator: number and type of installations, gallons of water consumed

Action 3.2b: Identify City properties with underutilized turf that can be replaced with xeriscaping or other water-wise cover, and retrofit as funding allows.

Lead sections: Parks and Recreation, Water Resources

Support sections: Sustainability, Geographic Information Systems

Begin: 1Q 2012

Indicator: Number of acres identified and retrofitted, gallons of water saved

*Objective 3.3: Reduce applicable non-revenue water contributions in the distribution system from 13% to 9% of total diverted water by 2045.*

Action 3.3a: Conduct audits of water distribution infrastructure to determine items for corrective action before they might otherwise be noted.

Lead section: Water Resources, RES/TS (Water Conservation)

Begin: 4Q 2011

Indicator: Number of actions taken, % change of non revenue water contributions

## Community Objectives and Actions

*Objective 3.4: Reduce community-wide water consumption rate to 180 gallons/person/day by 2030. This reduction is a requirement of the Office of the State Engineer in order to maintain the City's well operation permits.*

Action 3.4a: Complete and adopt Phase II of the water conservation plan. Review and update as needed any elements of the Emergency Response Plan which includes provisions for reducing water use during periods of extended drought.

Lead section: RES (Water Conservation)

Support section: Sustainability

Begin: Ongoing

Action 3.4b: Offer public workshops (such as Lush & Lean) and multimedia educational materials to educate residents and business owners about water saving opportunities.

Possible partners: WERC, DACC, NMSU Extension Service, Bureau of Reclamation

Lead section: RES (Water Conservation)

Support section: Sustainability

Begin: Ongoing

Indicators: Number of sessions hosted, number of participants, number and type of materials distributed

Action 3.4c: Offer free water audits to generate custom recommendations for property owners to save water, and follow-up with participants to track savings. Invite highest water users to participate in the program. Pursue grants and initiatives that may provide additional incentives to advance utilization or conversion to water conserving technologies.

Lead section: RES (Water Conservation)

Support section: possibly Parks & Recreation

Begin: 2Q 2012

Indicators: Number of audits conducted, number of retrofits performed, gallons of water saved

*Objective 3.5: Improve awareness, compliance and enforcement of existing water conservation ordinance.*

Action 3.5a: Improve water waste reporting hotline response and recording.

Lead sections: RES (Water Conservation), Codes Enforcement, Central Dispatch

Begin: 1Q 2012

Indicators: Number of complaints, number of resulting responses

Action 3.5b: Initiate a progressive punishment system for the water conservation ordinance, including warnings and education for first offenders. This would require an ordinance amendment.

Lead sections: RES (Water Conservation), Codes Enforcement

Begin: 2Q 2012

Indicators: Number of complaints, number of resulting responses

*Objective 3.6: Increase the use of non-traditional water sources throughout the community.*

Action 3.6a: Pursue grants or other funding opportunities to incentivize a variety of water conservation, harvesting, or reclamation activities by residents and businesses.

Lead section: RES (Water Conservation)

Begin: 1Q 2012

Indicators: Number of installed systems, number of gallons captured/reclaimed each year.

Action 3.6b: Work with interested developers to make reclaimed water available to new developments as additional reclaimed water becomes available.

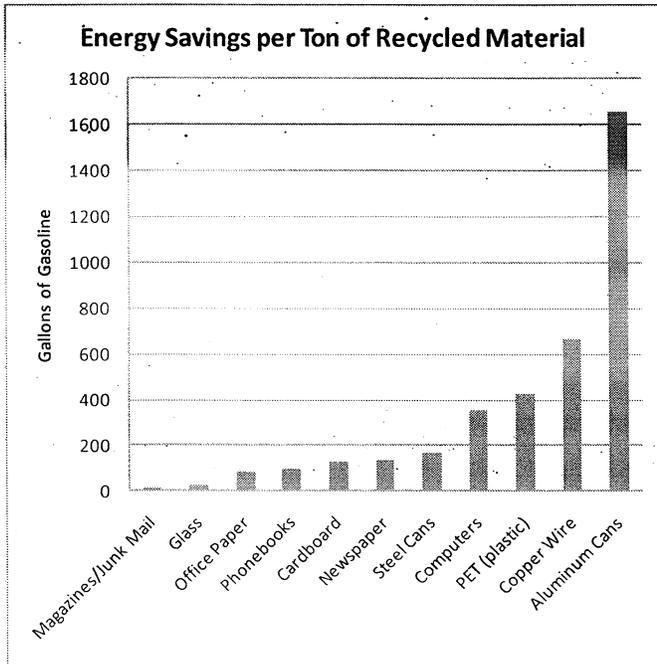
Lead sections: Development Services, Utilities

Support section: Sustainability

Begin: Ongoing

Indicators: number of connections, annual gallons delivered

## Goal 4: Reduce and Recycle Solid Waste



### Why We Care

The South Central Solid Waste Authority (SCSWA) operates the Corralitos Landfill west of the City limits, which receives all solid waste from the City and much of the surrounding region. While there is currently plenty of capacity for future disposal at this location, there are many reasons to try to reduce the volume of waste destined for the landfill. For example, landfill expansion can be costly due to required measures to protect groundwater and pending regulations on methane emissions. Furthermore, recycling rather than disposal can save significant amounts of energy and associated pollution, and conserve natural resources that would otherwise be depleted to create new goods. According to a 2005 EPA report,<sup>12</sup> the

energy savings per ton of recycled material range from 9 gallons of gasoline for magazines and junk mail to over 1655 gallons for aluminum cans. There are also significant material savings, so less land is impacted by mining, drilling, or harvesting of timber.

### Current Conditions

In 2008, Doña Ana County disposed of 189,764 tons of municipal solid waste, and recycled 10,443 tons, for a recycling rate of 5.5%, which is well below the state average rate of 11% and the national average rate of 32%.<sup>13</sup> Recyclable materials must be dropped off at one of 6 commercial collection points or 17 schools throughout the City. Used motor oil, fluorescent bulbs, electronic equipment, and packing Styrofoam can be recycled only at the recycling station on West Amador. Yard waste and other green material can be recycled at the Foothills Landfill on the east side of town. Yard waste is composted into mulch for use in landscaping, and is available to the public free of charge. The City also composts its biosolids from the Jacob Hands Wastewater treatment plant. This EPA certified Grade A compost is rich in iron (which is lacking in many area soils) and is also available free of charge.

### Progress to Date

In an effort to increase recycling opportunities, in August 2009 the City transferred its recycling operation to SCSWA, which has spearheaded a regional approach to recycling. The SCSWA has ceased processing recyclables on site, and now transfers them to a plant in El Paso that separates and sells them to manufacturers. This arrangement was made feasible by the

<sup>12</sup> Choate, A. et al, 2005, Waste Management and Energy Savings: Benefits by the Numbers. Available at: <http://epa.gov/climatechange/wywd/waste/downloads/Energy%20Savings.pdf>, accessed 8/3/2010.

<sup>13</sup> New Mexico Environment Dept, Solid Waste Bureau, 2008 NM Solid Waste Annual Report.

economies of scale created when the City of El Paso instituted a curbside recycling program in 2008. It also allowed SCSWA to begin a program of single stream recycling in early 2010, which means that people no longer have to separate their materials by type. This convenient single stream program, along with the recent acceptance of additional types of paper and plastic, have contributed to a doubling of the recycling rate in Doña Ana County since February 2010. Curbside recycling was recently approved by the City and SCSWA Board, and will be implemented in Spring 2011. The program will include bi-weekly collection, and is expected to again double the recycling rate in the community.

**Recyclable Materials** (as of Summer 2010)

The following materials can be dropped off in any collection bin unless otherwise marked:

Office paper	Brown paper bags	Shredded paper (single cut only, bagged)
Newspapers	#1 and #2 plastic	Corrugated cardboard (except pizza boxes)
Magazines	Steel/tin cans	Chipboard (cereal boxes, tissue boxes, etc.)
Telephone books	Aluminum cans	Junk mail

The following are recyclable only at the specified location:

Motor Oil (Amador)	Packing Styrofoam (Amador)
Fluorescent and CFL bulbs (Amador)	Yard Waste (Foothills Landfill)
Electronic Equipment (Amador)	Clean Fill (Foothills Landfill)

Internal Objectives and Actions

*Objective 4.1: Increase the recycling rate at City operated facilities to 35% by 2015.*

Action 4.1a: Determine the baseline recycling rate at City operated facilities.

Partner: SCSWA  
 Lead section: Sustainability  
 Support section: Solid Waste  
 Begin: 1Q 2011  
 Indicator: Tons of material collected

Action 4.1b: Increase employee education related to recycling, including benefits and accepted materials. This can be done by utilizing the employee newsletter and e-mail system.

Partner: SCRaP  
 Lead section: Sustainability  
 Begin: 1Q 2011  
 Indicators: Number of educational messages delivered, change in recycling rate

Action 4.1c: Increase the number of convenient drop off points for recycling throughout City work spaces and establish collection schedules and procedures for handling recyclable materials:

Partner: SCSWA

Lead sections: Sustainability, Building Services

Begin: 1Q 2011

Indicators: Number of participating facilities, number of collection points by type for each facility

Action 4.1d: Expand composting operations at City facilities that have kitchens.

Possible Partner: Fairlight Community Garden

Lead section: Senior Programs

Begin: Ongoing

Indicators: Number of gallons of material diverted

### Community Objectives and Actions

*Objective 4.2: Achieve a 30% total recycling rate for Doña Ana County as a region by 2020.*

Action 4.2a: Implement curbside recycling for single-family residences throughout City.

Partner: SCSWA

Support sections: Solid Waste, Sustainability

Begin: 2Q 2011

Indicators: household participation rate, tons of material collected and diverted

Action 4.2b: Encourage increased awareness of and participation in the commercial recycling program, which includes multi-family residences.

Possible Partners: Chambers of Commerce, SCRaP

Lead section: Sustainability

Begin: 1Q 2012

Indicators: Number of participating locations, tons of material collected and diverted

Action 4.2c: Support efforts at recycling education with school children and the community as a whole. Include recycling messages on CLC TV, and Community Connections, as well as in-person education at special events.

Partners: SCRaP, Las Cruces Public Schools

Lead section: Keep Las Cruces Beautiful

Support section: Sustainability

Begin: Ongoing

Indicators: Number of events and published messages

Action 4.2d: Provide convenient recycling containers for public use at City parks and outdoor events, such as the Farmer's Market and sporting events, contingent upon available funding for maintenance.

Possible partner: SCSWA

Lead section: Parks & Recreation

Support section: Sustainability, Economic Development

Begin: 2Q 2011

Indicators: Number and location of containers, amount of material collected

Action 4.2e: Relocate several existing recycling drop-off containers from the city center to the edges of the city and beyond. This is contingent upon successful implementation of curbside recycling and growth in commercial recycling participation. When these are accomplished, some drop off points likely will be underutilized and could be used to make recycling more convenient for rural residents.

Partner: SCSWA

Support section: Sustainability

Begin: 1Q 2013

Indicators: Number and location of containers, amount of material collected

Action 4.2f: Investigate ways to enable the collection of glass, including finding a local beneficial reuse or encouraging the startup of a glass recycling business in the area.

Partner: SCSWA, SCRaP

Support sections: Sustainability, Economic Development

Begin: Ongoing

Action 4.2g: Investigate the feasibility of implementing a "pay as you throw" system that would reward recycling and reduction in trash generation. This could be done by distributing smaller trash containers to participating customers, and charging these customers less for each pickup.

Partner: SCSWA, SCRaP

Support sections: Sustainability, Solid Waste

Begin: 3Q 2013

"Pay As You Throw" is a term used to describe solid waste fees that vary depending on the amount of trash thrown away. One way of implementing this system would be to offer a choice of container sizes, with larger ones costing more than smaller ones.

*Objective 4.3: Increase the amount of municipal compost utilized throughout the community.*

Action 4.3a: Promote compost availability in print, online, and on CLC channel 20.

Partner: SCSWA, SCRaP

Lead Section: Water Conservation, Sustainability

Support sections: PIO, Solid Waste, Water Resources

Begin: 3Q 2011

Indicators: Number of promotional pieces, number of website hits, volume of compost collected

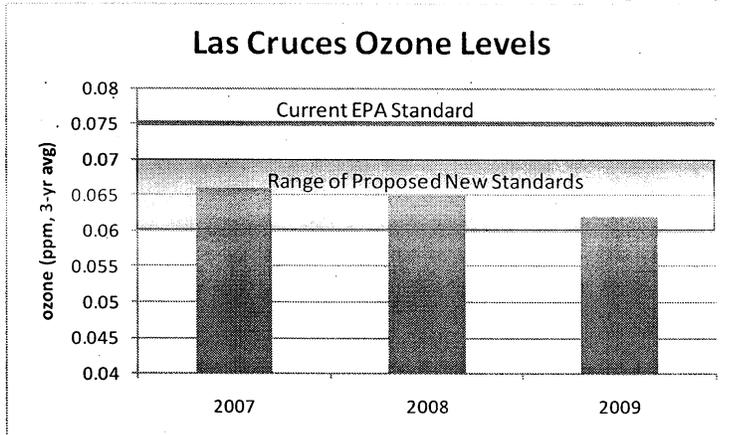
## Goal 5: Prevent Air and Water Pollution

### Why We Care

Clean air and water are essential to public health, and so pollution prevention may be the most fundamental aspect of sustainability. Because of this, there are efforts already in place at the federal, state, and local level to protect these resources from contamination. Due partly to our relatively small population and distance from larger cities, we are fortunate to have relatively low levels of pollution, but we should not take this for granted, especially since we continue to grow as a community.

### Current Conditions

The US Environmental Protection Agency regulates six air pollutants: lead, sulfur dioxide, nitrogen oxides, carbon monoxide, coarse and fine particulate matter, and ground-level ozone (or smog). Of these, the Las Cruces area is in compliance with regulations for all but coarse particulate matter, or PM10. The main source of PM10 in our area is not related to vehicle emissions, but rather to wind-blown dust. Much of this dust originates in undeveloped desert during the spring windy season and some is carried great distances, and is thus beyond our control, but some originates from local disturbed sites that have exposed soils due to vegetation removal. As a result of this “fugitive dust” a 2008 EPA report ranked Las Cruces the 8<sup>th</sup> worst city in the nation in terms of the number of days (11) where the Air Quality Index (AQI) exceeded the “unhealthy” level. However, these were all our windiest days, and our air quality on the other 354 days was likely much better than the other cities on the list, whose pollution problems are more the result of automobiles and power plants.



Currently, the EPA is considering lowering the standard for ground level ozone, and depending on the final standard, all of Doña Ana County, including Las Cruces, may be out of compliance despite the fact that our ozone levels are actually declining. If we fall out of compliance, we would be forced to adopt a suite of restrictive measures to reduce pollution, particularly from vehicles.

Las Cruces administers two water pollution prevention programs in accordance with the Clean Water Act's National Pollutant Discharge Elimination System (NPDES). The first is the Stormwater Pollution Prevention Program. This program is housed in the Engineering Services Section of Public Works and focuses on reducing water pollution at the watershed level. It is responsible for implementing the Stormwater Management Plan<sup>14</sup>, which includes six control measures:

- Public Education and Outreach on Storm Water Impacts

<sup>14</sup> Available online at: [http://www.las-cruces.org/public\\_works/engineering\\_services/pdfs/Final%20Revised%20SWMP%2004-16-09.pdf](http://www.las-cruces.org/public_works/engineering_services/pdfs/Final%20Revised%20SWMP%2004-16-09.pdf)

- Public Involvement/Participation
- Illicit Discharge Detection and Elimination (IDDE)
- Construction Site Storm Water Runoff Control
- Post-Construction Storm Water Management in New Development and Redevelopment
- Pollution Prevention/Good Housekeeping for Municipal Operations

The second program is the Industrial Pollution Prevention Program, housed in the Regulatory and Environmental Services section of the Utilities Department. This program attempts to control pollution entering both the city's water distribution system and sewage treatment system, as both must meet Clean Water Act standards. Program components include:

- Annual effluent sampling at local industrial sites
- Fats, Oils, and Grease (FOG) program to ensure that restaurants maintain functioning grease interceptors
- Backflow prevention at commercial sites to ensure water in the distribution system flows only in one direction and does not become contaminated

The Utilities department has also participated in the environmental remediation of a Superfund site near Griggs and Walnut, which is a bi-product of an old airport located in the vicinity. Active containment of underground pollutants is ongoing to prevent impacts to our water supply.

#### Progress to Date

In general, pollution problems in Las Cruces have been kept at bay. The number of "unhealthy" days due to PM10 according to the AQI was lower in 2008 (11) than in 1998 (14). The 3-year running average ground-level ozone readings have declined by 6% since 2007. The industrial pollution prevent program has been able to keep pollutant levels in check to the point that the treated effluent from the Jacob Hands plant on Amador that is discharged into the Rio Grande is cleaner than the water already in the river by almost any measure. In addition to its high quality, this discharge is virtually the only water in the Rio Grande at certain times of the year, so it helps to sustain riparian plant and animal species.

That said, we continue to have localized problems with wind and water erosion of soils at disturbed sites, resulting in dust and sediment issues. And as the population of our city and region grows, so do the number of tailpipes, industrial sites, and other sources of air and water pollutants. It is essential that we continue and improve upon proactive measures to prevent contamination of our critical resources to protect our most vulnerable residents. Failure to do so may result in costly regulatory burdens after the problems have already become entrenched.

#### Internal Objectives and Actions

*Objective 5.1: Reduce emissions from City vehicles.*

Action 5.1a: Achieve better compliance with vehicle anti-idling policy through improved education and progressive enforcement.

Lead section: Fleet Services, all departments

Support sections: Sustainability, Human Resources

Begin: Ongoing

Indicators: Fuel efficiency of individual vehicles, number of complaints received

Action 5.1b: Retrofit diesel engines with emission control devices as funding permits and pursue grant funding to expedite the retrofitting process.

Lead Section: Fleet Services

Support sections: Sustainability, Grants Administration Office

Begin: Ongoing

Indicators: Number of retrofits; emissions reductions

Action 5.1c: Conduct regular emissions testing of all City vehicles. Include a 5-gas exhaust analyzer test in each gasoline vehicle's annual inspection. Every diesel vehicle is to have an opacity meter test administered twice a year by Fleet Services to determine diesel emissions.

Lead Section: Fleet Services

Begin: Ongoing

Indicators: Number of repairs made and emission reductions resulting from testing

*Objective 5.2: Minimize soil and water pollution resulting from maintenance of City facilities.*

Action 5.2a: Improve tracking and reporting the amount and location of fertilizer, pesticide and herbicide application.

Lead section: Engineering Services (SWPP)

Support sections: Parks & Recreation, Street Systems, Sustainability

Begin: Ongoing

Action 5.2b: Document and expand a program of Integrated Pest Management (IPM), which controls unwanted weeds and insects with less use of potentially dangerous chemicals through the use of alternatives (i.e. non-synthetic chemicals and biological controls).

Lead section: Parks & Recreation

Support section: Sustainability

Begin: Ongoing

Indicators: Reduction in quantity of synthetic pesticides applied, quantity and type of alternatives utilized

*Objective 5.3: Improve capacity to identify and mitigate non-point source water pollution.*

Action 5.3a: Participate in the regional Paso del Norte Watershed Council, which will increase competitiveness for grants, potentially allow access to additional testing facilities, and tap into regional expertise.

Lead section: Engineering Services

Begin: Ongoing

Action 5.3b: Establish a comprehensive geodatabase of all stormwater infrastructure, including location of outfalls, ties to EBID, and invert and slope of all facilities. This would require additional staff to complete data collection in a timely manner.

Possible Partner: NMSU Geography Department  
 Lead sections: Engineering Services, Regulatory & Environmental Services  
 Support section: Geographic Information Systems  
 Begin: 1Q 2013

#### Community Objectives and Actions

*Objective 5.4: Reduce the number of air quality violations due to particulates, and retain attainment status for other air pollutants.*

Action 5.4a: Amend dust control ordinance to reduce the contribution of areas with disturbed soil to fugitive dust, and improve compliance through better education and enforcement.

Lead Section: Permitting & Inspections  
 Support Sections: Engineering Services, Codes Enforcement  
 Begin: Ongoing  
 Indicators: Number of complaints and citations, number of PM10 violations

Action 5.4b: Deploy Intelligent Transportation Systems (ITS) to help improve signal timing and reduce roadway congestion and its resulting emissions.

Lead Sections: Traffic Engineering, Metropolitan Planning Organization  
 Begin: Ongoing  
 Indicators: change in traffic delay at treated locations

Action 5.4c: Promote the use of reclaimed water for dust control applications.

Lead Section: Water Resources  
 Begin: 1Q 2012  
 Indicators: increase in water sales from East Mesa plant

Intelligent Transportation Systems (ITS) is a method of using information technology to improve traffic flow and decrease congestion without adding additional lanes or roadways. When successful, it can reduce the amount of traffic delay, which lowers auto emissions more cost effectively than new construction. There are a wide range of technologies that are part of ITS. Some examples of ITS include computerized signal timing, signal preemption for transit and emergency vehicles, and traffic cameras that detect congestion so that messages can be sent to motorists to seek alternate routes.

*Objective 5.5: Increase public knowledge of the important contributors to water pollution.*

Action 5.5a: Educate the public about prevention of non-point source water and air pollution using Channel 20, City website, and Community Connections.

Responsible sections: Engineering Services (SWPP), Regulatory and Environmental Services

Support sections: Public Information Office, Sustainability

Begin: 3Q 2011

Indicators: Number of airings, number of website hits, number of newsletter deliveries

Action 5.5b: Host educational booths at special events and visit schools to educate about pollution prevention.

Lead sections: Regulatory and Environmental Services, Engineering Services

Support section: Sustainability

Begin: Ongoing

Indicators: Number of events, number of visitors

## Goal 6: Encourage Sustainable Development and Transportation Options

### Why We Care

The built environment has an impact on nearly all aspects of sustainability. And because development and redevelopment occur slowly, and the results exist for decades or even centuries, the impacts are lasting. The way buildings are built determines the amount of energy they consume. The design and construction of the site impact hydrology, water quality, and the amount of sunlight that gets converted to heat. The location and density of these

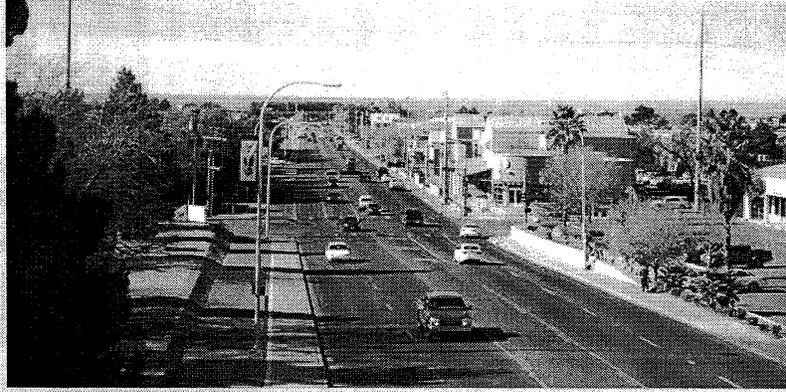
buildings and sites, coupled with the design of public rights-of-way affect what transportation options are viable for people. These transportation choices in turn have a large impact on overall energy consumption and pollution levels. There are also social equity implications of transportation choice (or lack thereof) as private automobiles are an expensive (and for some, unaffordable) mode of transportation compared to walking, cycling, or taking transit.

Land use and transportation planning have been a key concern of the City for decades. In recent years, these efforts have begun to explicitly deal with issues of sustainability. There are many ongoing efforts at transportation and land use planning and implementation already underway that will get into much more detail than this chapter. Therefore, this chapter is not intended to be comprehensive, but rather to offer several measureable objectives and actions that complement other efforts.

### Current Conditions

The City has a low density of development, due largely to the relatively low cost of land. In 2009, the City contained about 19,700 acres of developed land, and about 43,900 housing units, which represents a housing density of just over 2.3 units per acre on average. This is well below the 7 units/acre that is generally considered the minimum density to be conducive to a robust transit system, since lower densities mean buses have to travel farther to pick up and deliver passengers. As a result, most bus riders currently are transit dependent, meaning they only ride because they have no other options. Lower density also makes it harder for residents to live within walking distance of businesses, schools, and recreational opportunities. The average Walk Score<sup>15</sup> for Las Cruces is 49 (on a scale of 0-100), which is on the upper end of the “car

The City recently completed plan amendments to the University District that will allow more mixed use development and encourage a more pedestrian friendly environment just north of NMSU.



<sup>15</sup> Walk Score is a comparative index calculated based on proximity to a variety of destinations, based on Google Maps. See [www.walkscore.com](http://www.walkscore.com)

dependent” range. While higher density could improve transportation choice and sustainability, it should be noted that regulations that force higher density in other parts of the country have often had a negative impact on housing affordability, so it is not a simple problem to solve.

#### Progress to Date

A number of recent planning efforts have encouraged redevelopment of existing areas where infrastructure, a mix of uses, and transportation options already exist. The infill policy was revised in 2009 to streamline the approval of redevelopment of underutilized property within the core of the city, in addition to development of vacant property that was already encouraged. The University District plan and zoning overlay were updated in 2010 to allow more density and diversity of land uses to encourage development of more pedestrian accessible destinations in that area. The downtown plan, adopted in 2005, continues to be implemented with Tax-Increment Financing now in place to fund improvements to public spaces and encourage private redevelopment.

In terms of transportation, the City adopted a Complete Streets resolution in 2009, which states that all transportation users and modes of transportation must be considered and integrated when designing public rights of way, in an effort to make walking, cycling, and accessing transit safer and more convenient. In the last decade, the City has increased the number of miles of bicycle lanes more than 5-fold, from 10.7 in 2000 to 53 in 2010. The bus transit service was redesigned in 2008 to provide more convenient two-way service, and to be able to accommodate increased frequency on select routes as funding becomes available, while still maintaining transfer options.

#### Internal Objectives and Actions

*Objective 6.1: Increase convenience and public access to transit as a way to decrease transportation-related energy consumption, increase transportation system capacity, and lower household transportation costs.*

Action 6.1a: Proactively up-zone properties in close proximity to current and planned transit corridors to allow greater density, more affordable housing, and greater transportation choice to residents.

Lead Sections: Planning & MPO, Development Services, Neighborhood Services  
Begin: 1Q 2012

Indicators: change in allowable density by area, number of units developed within walking distance of transit

Action 6.1b: Create a system of pre-paid transit passes for NMSU and DACC students and faculty, so that they can get unlimited rides by showing their ID card.

Partners: NMSU, DACC

Lead section: Transit

Support section: MPO

Begin: 3Q 2012

Indicators: number of riders from NMSU and DACC

Action 6.1c: Complete Intermodal Center design and construction.

Lead sections: Transit, Project Management  
Begin: Ongoing

Action 6.1d: Enable transmission of real-time bus arrival information at bus stops and via cell phones.

Lead sections: Transit  
Support sections: MPO, Information Technology  
Begin: 1Q 2013  
Indicators: number of information outlets

*Objective 6.2: Achieve Bicycle Friendly Community designation from the League of American Bicyclists.*

Action 6.2a: Review upcoming roadway maintenance and reconstruction projects for opportunities to improve cyclist safety at low or no additional cost. Of particular interest is the utilization of road diets on 4-lane roads operating under capacity.

Lead sections: Traffic Engineering, Street Systems, Project Development  
Support section: MPO  
Begin: Ongoing  
Indicators: number and location of upgraded bicycle facilities

Action 6.2b: Examine existing roadways with limited right-of-way for use of "sharrows," a newly recognized pavement marking that communicates to cyclists and motorists the safest way to share the road.

Lead sections: Traffic Engineering, MPO  
Begin: Ongoing  
Indicators: number of applications, number of recorded incidents at affected locations

Action 6.2c: Increase education and outreach activities related to bicycle safety and rules of the road.

Partners: Las Cruces Public Schools, Mesilla Valley Bicycle Coalition, Bicycle Friendly Community Task Force  
Lead sections: MPO, Codes Enforcement  
Support section: Public Information Office  
Begin: Ongoing  
Indicators: number of print, television and internet outreach activities, number of events and participants

Community Objectives and Actions

*Objective 6.3: Complete and implement plans in the core of the City that encourage revitalization and reinvestment in existing neighborhoods and commercial areas.*

Action 6.3a: Complete improvements to public right of way in downtown area to create a more vibrant pedestrian streetscape and encourage private redevelopment, including pursuit of additional funding sources.

Partner: Las Cruces Downtown Partnership

Lead sections: Economic Development, Project Development

Support section: Grants Administration, Contracts Administration, Traffic Engineering, MPO

Begin: Ongoing

Indicators: Number of completed projects, additional funding pursued and secured

Action 6.3b: Identify and pursue funding for redesign of University Avenue right of way as a more multi-modal, pedestrian friendly facility in accordance with recently adopted University District Plan.

Partner: NMSU

Lead sections: Planning & MPO, Project Development

Support sections: Grants Administration, Contracts Administration, Traffic Engineering

Begin: 1Q 2013

Action 6.3c: Complete Picturing El Paseo planning and public involvement project.

Partners: US EPA, US DOT, HUD, various local partners

Lead section: Planning & MPO

Support sections: Sustainability, Neighborhood Services, Economic Development, Project Development, Traffic Engineering

Begin: Ongoing

Indicators: Number of events, number of participants, delivery of vision document for El Paseo Corridor

Action 6.3d: Explore policies that would encourage owners of vacant lots or buildings in the core of the City to redevelop or sell the property, rather than retain ownership indefinitely in the current state.

Lead sections: Planning, Economic Development

Begin: 1Q 2012

*Objective 6.4: Encourage the development of green neighborhoods and homes throughout the community.*

**Action 6.4a:** Create a streamlined development process similar to the infill process that expedites approval for developments that meet certain green building criteria, such as LEED for Neighborhood Development, LEED for Homes, or Build Green New Mexico.

Possible Partners: Building Industries Association of Southern New Mexico,  
Institute for Community Engagement

Lead sections: Planning, Development Services

Support sections: Sustainability

Begin: 3Q 2011

Indicators: number of certified subdivisions or construction projects

**Action 6.4b:** Adopt a locally-calibrated version of the SmartCode that can be voluntarily substituted for standard development codes for master-planned developments or planned-unit developments and that facilitates development of compact, walkable, mixed-use neighborhoods.

Lead sections: Planning, Development Services

Support sections: Sustainability

Begin: 1Q 2012

Indicators: number of projects utilizing the Smart Code

The SmartCode is a type of form-based zoning code, in that it is more concerned with the style and relationship of buildings to each other than with regulating the type of use within the building, as a conventional zoning code does. The SmartCode incorporates an additional element called a land use transect, which attempts to re-establish the traditional gradient between very low density rural areas and very high density urban ones. The SmartCode also attempts to ensure that all urban and most suburban residences are within walking distance of public facilities such as schools and parks, as well as businesses that provide essential services. For more information on the SmartCode, visit <http://www.smartcodecentral.org/>.

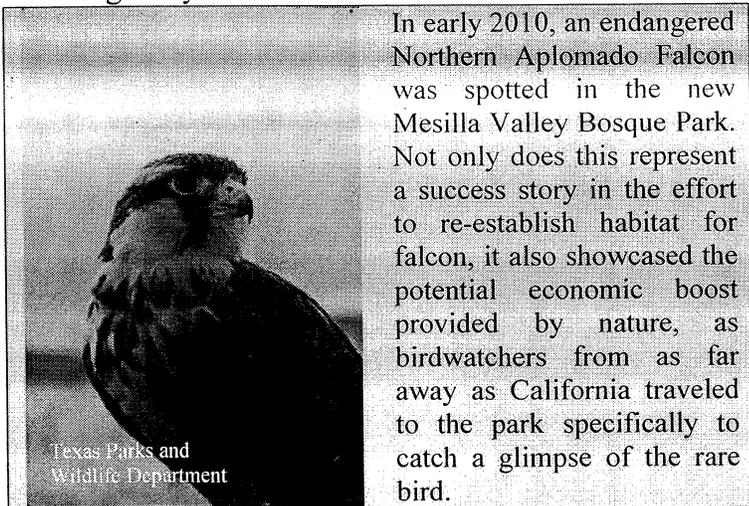
## Goal 7: Conserve Habitat and Ecosystems

### Why We Care

Many area visitors and new residents of Las Cruces are attracted to the area because of its striking natural beauty and recreational opportunities. In fact a recent conference was held in Las Cruces to highlight the economic benefits of our open spaces. But as we grow, some of these qualities may be impacted by overuse, so sound planning and management are necessary. Healthy open space can provide a number of ecosystem services, which are expensive and often impossible for humans to mimic after they are disturbed. These services are very diverse and wide-ranging. For example, undisturbed soil absorbs stormwater, which limits flooding and recharges aquifers. Birds and bats help control insect pests that would otherwise damage crops or, like mosquitoes, cause harm to humans. Meanwhile, beneficial insects such as bees pollinate crops and fruit trees while producing their own useful goods. Conservation of habitats can help ensure these valuable services continue.

### Current Conditions

As much as 97% of the biodiversity in the southwestern desert region is found in riparian areas due to the available water. However, our own major riparian area, the Rio Grande, is ecologically impaired by the fact that all its water is allocated for agriculture. This means that outside the growing season, there is very little water present to sustain vegetation and wildlife (the main source locally is effluent from our sewage treatment plant). In 2004, the City completed a plan for the Rio Grande Corridor<sup>16</sup>, which helped lead to the creation of the new Rio Grande Bosque Park near Mesilla, in collaboration with the Southwest Environmental Center, Bureau of Reclamation, and Elephant Butte Irrigation District. This is the first of several potential wetland sites planned along the river that can provide critical habitat for native species and migratory birds.



In early 2010, an endangered Northern Aplomado Falcon was spotted in the new Mesilla Valley Bosque Park. Not only does this represent a success story in the effort to re-establish habitat for falcon, it also showcased the potential economic boost provided by nature, as birdwatchers from as far away as California traveled to the park specifically to catch a glimpse of the rare bird.

Several federal efforts are currently underway to manage and protect land in Doña Ana County. The Organ Mountains –Desert Peaks Wilderness Act would designate 259,000 acres in throughout the county as wilderness, and another 100,000 acres (mostly east of Las Cruces) as Natural Conservation Area, which is less strict than wilderness but still protects land from development. This bill is currently under consideration in the US Senate. Another federal effort is the Bureau

of Land Management's Tri-County Resource Management Plan. This document is currently in draft form, and outlines BLM policy regarding which lands are available for disposal, and how lands that are retained will be managed to balance grazing, recreational use, and natural resource

<sup>16</sup> Available at <http://www.las-cruces.org/PDFs/RioGrande.pdf>

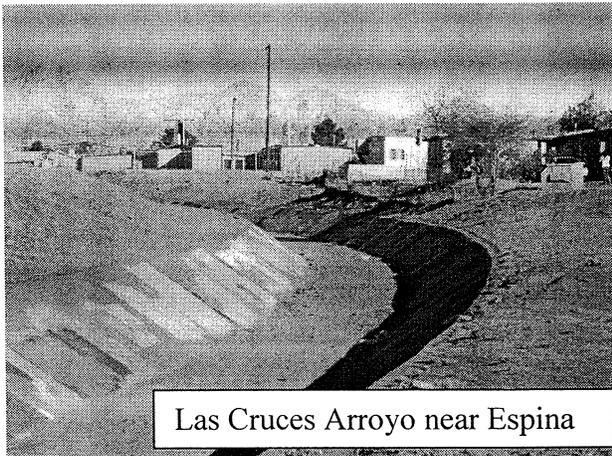
conservation. The City is a designated “cooperating agency” in this effort, and has provided input regarding expected growth rates and land needs to accommodate growth. Nearly all of this federal land is outside the City limits and beyond our direct control. However, there are still many opportunities to incorporate conservation practices as we manage our own land and plan for new growth.

#### Progress to Date

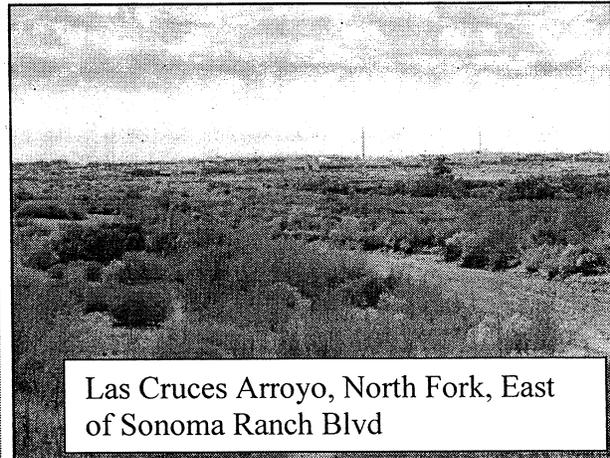
In August 2010, the City co-hosted a conference called Green Infrastructure in the Southwest: Challenges and Opportunities. This event brought in about 30 regional and national experts and nearly 200 participants to explore ways to incorporate natural processes into the management of stormwater and runoff from developed sites, while in the process cleaning the water and often providing habitat and recreational opportunities. This event will inform evolving City policies regarding this issue.

The City signed a memorandum of understanding in Spring 2010 with researchers at NMSU to relocate burrowing owl nests from City-owned flood control properties with high levels of maintenance activity. Artificial burrows are being constructed at less impacted locations on site, and so far relocation efforts have been quite successful. The Public Works department is seeking to build on this success by developing a set of maintenance protocols that will allow certain lands behind the Las Cruces Flood Control Dam serve as habitat for birds and other wildlife while maintaining the dam’s core function of flood protection.

Upon annexation of 4200 acres of undeveloped land on the east side of town in 2007, the City secured easements for the 100-year floodplain around all the major arroyos in this property from the State Land Office. This will allow for the preservation of these arroyos in close to their natural state as new development occurs in the area. This has been the preferred approach to new development around arroyos in recent years, compared to years ago when concrete channelization was the typical course of action.



Las Cruces Arroyo near Espina



Las Cruces Arroyo, North Fork, East of Sonoma Ranch Blvd

Internal Objectives and Actions

*Objective 7.1: Foster a network of wildlife habitat areas and corridors on City owned or maintained property.*

Action 7.1a: Complete a maintenance plan and set of protocols for the Las Cruces Flood Control Dam that recognize public safety and regulatory compliance as the first priorities, but otherwise minimize unnecessary damage to vegetation and other features that provide ecosystem services.

Lead sections: Engineering Services, Street Systems  
Support section: Sustainability  
Begin: Ongoing

Action 7.1b: Participate in the US Army Corps of Engineers ecosystem restoration project on the Las Cruces Flood Control Dam property.

Lead sections: Engineering Services, Project Development  
Support section: Sustainability  
Begin: Ongoing

Action 7.1c: Amend design standards to allow and encourage appropriate green infrastructure applications.

Lead sections: Engineering Services, Planning, Development Services, Permitting & Inspections  
Support section: Sustainability  
Begin: 2Q 2011

Action 7.1d: Establish a formal urban forestry program for City parks and rights of way, contingent upon available funding.

Responsible sections: Parks & Recreation  
Support section: Sustainability, Street Systems  
Begin: 1Q 2013  
Indicators: Amount of tree canopy cover

Action 7.1e: Complete Arroyo Preservation Plan and associated design standards, including the use of arroyos as part of the trail system.

Responsible Sections: Engineering Services, Planning  
Begin: Ongoing

Action 7.1f: Contingent upon available funding, design new parks to attain Sustainable Sites certification to maximize each project's potential to improve and regenerate the natural benefits and services provided by ecosystems in their undeveloped state while providing recreation, social, health and economic benefits to the citizens of Las Cruces.

Lead Section: Project Management, Parks and Recreation

Support Section: Sustainability

Begin: 1Q 2012

Indicator: Certification Level (One to Four Stars)

#### Community Objectives and Actions

*Objective 7.2: Support further implementation of the 2004 Rio Grande Riparian Conservation Plan.*

Action 7.2a: Evaluate the feasibility of voluntary contributions on water bills to fund ecosystem restoration projects along the river.

Possible Partners: Southwest Environmental Center, EBID, International Boundary Water Commission, City of El Paso

Lead sections: Water Resources, Sustainability

Begin: 3Q 2011

Action 7.2b: Explore possible partnerships in projects that contribute to restoration of riparian habitat.

Possible Partners: Southwest Environmental Center, NM State Parks

Lead sections: Water Resources, Sustainability

Begin: 1Q 2011

## Goal 8: Support Local Food Networks

### Why We Care

Food has traditionally not been a focus of local government interest in Las Cruces, but was brought up repeatedly during public input sessions. There is growing interest in the concept of community food security, which is concerned with how susceptible the food supply is to disruption by uncontrollable outside forces. These could range from contamination, to fuel-driven price increases, to disaster-induced shortages. Local food is generally considered more secure because the supply chain is shorter and less complex so there are fewer possible failure points. It may also be more sustainable by virtue of having traveled fewer miles from farm to plate. Agriculture is and has always been a cornerstone of the local economy, generating \$372 million in sales in 2006, so the opportunity is certainly there to produce more food for local consumption.



### Current Conditions

There is little data on local food consumption within Dona Ana County, but at the state level, the numbers are fairly low. New Mexico imports about 95% of the food we eat from other states or countries, and exports about 95% of what we grow<sup>17</sup>. There are many economic reasons for this that are beyond the control of local government, but there are some

things we can do to increase community access to locally grown food.

For example, the City operates a Farmer's & Crafts market on Wednesday and Saturday mornings throughout the year. Saturday markets have more vendors (about 200 on average) and larger crowds (around 2000 typically, increasing to around 5,000 on the busiest holiday weekends). However, the majority of vendors are selling crafts rather than food. There are currently 39 active vendors of local, raw food, which includes produce, meat, and honey.

### Progress to Date

The Farmer's Market is helping to provide low-income residents access to high-quality, healthy produce, which is typically a problem for people living near or below the poverty line. Among the 58 farmer's markets operating in the State, the Las Cruces market is responsible for fully 15% of all WIC redemptions, which is the federally-funded health and nutrition program for women, infants, and children.

There are three working community gardens in Las Cruces: the Fairlight Community Garden at the Community of Hope campus on 999 Amador, the corner of Tornillo and Spruce in the Mesquite neighborhood, and at the Alma d'Arte/Court Youth Center. There is also an effort

<sup>17</sup> Dr. Mark Uchanski, NMSU Asst. Professor, in an April 2010 presentation, "Sustainable Food and Agriculture: Choices for the Future"

underway to provide community support to establish and maintain community gardens on the grounds of four area public schools.

Further progress in developing local food networks will rely heavily on outside organizations, such as Mountain View Market Co-op, NMSU, the OASIS student group, La Semilla Food Center, the Food Policy Council, and the local Farm Bureau. The City will look to develop partnerships with these and other groups in an attempt to break down barriers that may exist to local food availability.

#### Internal Objectives and Actions

*Objective 8.1: Increase the amount of local food purchased by the City.*

Action 8.1a: Support efforts to buy local food for the Las Cruces Convention Center.

Possible Partners: Global Spectrum, NMSU Extension Service

Lead section: Sustainability

Begin: Ongoing

Indicators: Local food purchased by weight and category, number of meals served with local food

Action 8.1b: Develop local menu options for the Sage Café near the East Mesa Recreation Center.

Lead section: Senior Programs

Support Section: Purchasing

Begin: 4Q 2011

Indicators: Local food purchased by weight and category, number of meals served with local food

Action 8.1c: Explore fiscal impacts of local food purchasing for Munson Center and eventually the new Central Kitchen. Share any findings with Las Cruces Public Schools and other local institutions.

Possible Partners: Las Cruces Public Schools

Lead section: Senior Programs

Support Section: Purchasing

Begin: 3Q 2012

Indicators: Local food purchased by weight and category, number of meals served with local food

## Community Objectives and Actions

### *Objective 8.2: Expand the amount and diversity of local food sold at the Farmers' and Crafts Market.*

Action 8.2a: Enable acceptance of Supplementary Nutrition Assistance Program (SNAP) benefits at the market. This will require a method of accepting EBT card payments, either directly at each vendor station, or at a central location that distributes tokens for transactions with vendors.

Lead section: Economic Development  
 Begin: 4Q 2011  
 Indicators: Number and value of EBT transactions

Action 8.2b: Change vendor rules to specifically allow produce from community gardens to be sold at the market.

Lead section: Economic Development  
 Begin: 1Q 2011

Action 8.2c: Create a promotional relationship with other regional farmers' markets.

Possible Partners: Southern NM Farmers' Market Group, La Semilla Food Center, Mountain View Market  
 Lead section: Economic Development  
 Begin: 1Q 2012  
 Indicators: Number and type of outreach activities

Action 8.2d: Hold regular cooking and food preparation demonstrations, including recipe sharing to encourage experimentation with a variety of local foods.

Possible Partner: NMSU Extension Service, Mountain View Market  
 Lead section: Economic Development  
 Begin: 3Q 2012  
 Indicators: number of events

### *Objective 8.3: Increase the number of community gardens within the City.*

Action 8.3a: Support efforts to create community gardens at schools with agreements to allow conditional public use of these gardens. These gardens could create educational opportunities for the schools as well as supply healthy local produce to school cafeterias.

Possible Partners: Las Cruces Public Schools, Extension Office, Master Gardener Program, Keep Las Cruces Beautiful  
 Lead sections: Sustainability, Water Conservation, Parks & Recreation  
 Begin: Ongoing  
 Indicators: Number of active gardens

Action 8.3b: Identify and map available land that may be suitable for locating community gardens, particularly in areas with higher concentrations of multi-family housing.

Possible Partners: NMSU Geography Dept.

Lead section: Sustainability

Support sections: GIS

Begin: 3Q 2011

Indicators: number of suitable parcels, number of resulting gardens

*Objective 8.4: Increase the amount of food produced on small private lots within the City.*

Action 8.4a: Co-promote events and classes sponsored by the Master Gardener program to increase local knowledge about growing food.

Possible Partners: NMSU Extension Service

Lead section: Sustainability

Begin: 3Q 2011

Indicators: number of events, number of participants

Action 8.4b: Identify and remove zoning and other restrictions on urban agriculture, provided that potential nuisances can be mitigated.

Lead section: Development Services

Support sections: Sustainability, Codes Enforcement

Begin: Ongoing

Action 8.4c: Explore possible financial or utility incentives to help reduce the cost of urban agriculture. This might include special rates or rebate programs. Public education in gardening-related water conservation should also be emphasized.

Lead Sections: Sustainability, Water Resources

Begin: 3Q 2013

## Implementation Summary

The following table contains a chronological summary of the actions details in the previous chapters, along with short notes on progress to date, which will be updated as the plan is reviewed annually. In addition to the indicators for individual actions, several overarching indicators will be tracked, including overall greenhouse gas emissions, total energy consumption, and any recognition the City may receive, such as Bicycle Friendly Community designation.

Action	Description	Begin	Indicators	Progress/Result
<b>1.1a</b>	Produce a quarterly report of energy consumption covering all City activities.	2011-1Q	Overall energy consumption and cost	Establishing data collection and reporting system using Planet Footprint
<b>1.2h</b>	Design all new City buildings to attain LEED certification with a focus on maximizing points in the energy efficiency category.	2011-1Q	LEED level attained; energy savings realized	City Hall and Convention Center are LEED buildings
<b>1.2j</b>	Reduce fleet size and consider fuel economy in the decision process.	2011-1Q	# & MPG of vehicles removed	
<b>2.1b</b>	Pursue third party power purchase agreements to finance installation of photovoltaic systems on City property.	2011-1Q	Installed capacity (kW); annual energy generation (kWh)	RFP preparatory research underway
<b>2.2a</b>	Utilize B20 (20% biodiesel), preferably locally produced using yellow grease in all approved diesel engines.	2011-1Q	Gallons of petrodiesel displaced	Evaluation of bid responses underway
<b>2.5a</b>	Co-promote participation in El Paso Electric's Voluntary Renewable Energy Program.	2011-1Q	# of program participants	
<b>4.1a</b>	Determine the baseline recycling rate at City operated facilities.	2011-1Q	Tons of material collected	
<b>4.1b</b>	Increase employee education related to recycling, including benefits and accepted materials.	2011-1Q	Messages delivered; change in recycling rate	
<b>4.1c</b>	Increase the number of convenient drop off points for recycling throughout City work spaces.	2011-1Q	Participating facilities; collection points	
<b>7.2b</b>	Explore possible partnerships in projects that contribute to restoration of riparian habitat.	2011-1Q	N/A	

<b>8.2b</b>	Change vendor rules to specifically allow produce from community gardens to be sold at the market.	2011-1Q	N/A
<b>1.3c</b>	Adopt and enforce the 2009 International Energy Conservation Code or equivalent.	2011-2Q	N/A
<b>2.4d</b>	Establish a protocol for permitting and inspection of utility-scale renewable energy installations.	2011-2Q	N/A
<b>3.1a</b>	Produce a quarterly report of water consumption covering all City activities.	2011-2Q	N/A
<b>4.2a</b>	Implement curbside recycling for single-family residences throughout City.	2011-2Q	Participation rate; tons of material collected
<b>4.2d</b>	Provide convenient recycling containers for public use at City parks and outdoor events.	2011-2Q	# of locations; amount of material collected
<b>7.1c</b>	Amend design standards to allow and encourage appropriate green infrastructure applications.	2011-2Q	N/A
<b>1.2b</b>	Establish and capitalize an internal revolving loan fund to finance energy efficiency improvements.	2011-3Q	# and value of projects funded; \$ and kWh savings realized
<b>1.3b</b>	Hold training sessions on energy efficient behavior, appliances, and construction	2011-3Q	# of events, # of attendees
<b>2.3b</b>	Provide outreach on available financial incentives and expected return on investment for renewable energy installations.	2011-3Q	# of sessions and participants, # of website hits
<b>2.4b</b>	Work with the Federal Aviation Administration to allow photovoltaic generation facilities on airport property.	2011-3Q	N/A
<b>4.3a</b>	Promote compost availability.	2011-3Q	FAA report on solar policy issued and under review
<b>5.5a</b>	Educate the public about prevention of non-point source water pollution.	2011-3Q	# of promotions, volume of compost distributed
<b>6.4a</b>	Create a streamlined development process for developments that meet certain green building criteria	2011-3Q	# of airings; # of articles; # of website hits
<b>7.2a</b>	Evaluate the feasibility of voluntary contributions on water bills to fund river ecosystem restoration projects.	2011-3Q	# of certified projects

		2011-3Q	# of parcels; # of resulting gardens
<b>8.3b</b>	Identify and map available land that may be suitable for locating community gardens.	2011-3Q	# of events/participants
<b>8.4a</b>	Co-promote events and classes sponsored by the Master Gardener program to increase local knowledge about growing food.	2011-3Q	
<b>1.2g</b>	Institute a comprehensive set of policies and guidelines for employee behavior related to energy and resource conservation, and hold regular training to reinforce.	2011-4Q	Number and type of training sessions
<b>3.2a</b>	Ensure that all new fixtures installed use the least amount of water that is practical for the application.	2011-4Q	# and type of installations, gallons of water saved
<b>3.3a</b>	Conduct audits of water distribution infrastructure to determine items for corrective action before they might otherwise be noted.	2011-4Q	Leaks located; water saved; % of non-revenue water used
<b>8.1b</b>	Develop local menu options for the Sage Café near the East Mesa Recreation Center.	2011-4Q	Amount of local food purchased and served
<b>8.2a</b>	Enable acceptance of SNAP benefits at the market.	2011-4Q	Transaction # & value
<b>1.2c</b>	Establish policy for purchase of energy efficient equipment.	2012-1Q	N/A
<b>1.2d</b>	Establish standards for fuel efficiency by vehicle class in fleet purchases.	2012-1Q	Fleet-wide fuel economy; # of hybrid vehicles
<b>2.2c</b>	Investigate the feasibility of incorporating electric vehicle charging stations with renewable energy installations.	2012-1Q	Gallons of gasoline displaced, renewable transportation kWh
<b>2.4c</b>	Identify City-owned lands that may be suitable for private development of utility-scale solar generation facilities.	2012-1Q	N/A
<b>2.5b</b>	Investigate the feasibility of a partnership with a green credit broker that would generate some revenue for City green projects.	2012-1Q	# of program participants
<b>3.2b</b>	Identify City properties with underutilized turf that can	2012-1Q	acres identified and Area between City Hall and Library

	be replaced with xeriscaping or other water-wise cover.		treated, gallons of water saved	recently xeriscaped
<b>3.5a</b>	Implement a water waste reporting hotline.	2012-1Q	# of complaints; resulting responses	
<b>3.6a</b>	Pursue grants or other funding opportunities to incentivize a variety of water conservation, harvesting, or reclamation activities by residents and businesses.	2012-1Q	Installed systems; gallons captured/reclaimed	
<b>4.2b</b>	Encourage increased awareness of and participation in the commercial/multi-family recycling program.	2012-1Q	Participation rate; tons of material collected	
<b>5.4c</b>	Promote the use of reclaimed water for dust control applications	2012-1Q	Increase in water sales from east mesa plant	
<b>6.1a</b>	Up-zone properties close to transit to allow greater density, more affordable housing, and greater transportation choice to residents.	2012-1Q	change in density; # of transit accessible units	
<b>6.3d</b>	Explore policies to encourage development or sale of underutilized property in the City core	2012-1Q	N/A	
<b>6.4b</b>	Adopt a local version of the SmartCode that can be voluntarily substituted for standard development code	2012-1Q	# of projects utilizing code	
<b>7.1f</b>	Pursue Sustainable Sites certification for new park designs, funding permitting	2012-1Q	Certification level	
<b>8.2c</b>	Create a promotional relationship with other regional farmers' markets.	2012-1Q	# of outreach activities	
<b>3.4c</b>	Offer free water audits to generate custom recommendations for property owners to save water, and follow-up with participants to track savings.	2012-2Q	Audits conducted; retrofits performed; gallons saved	
<b>3.5b</b>	Initiate a progressive punishment system for the water conservation ordinance, including warnings and education for first offenders.	2012-2Q	# of complaints; resulting responses	
<b>6.1b</b>	Create a system of pre-paid transit passes for NMSU and DACC students and faculty.	2012-3Q	NMSU and DACC ridership	
<b>8.1c</b>	Explore fiscal impacts of local food purchasing for Munson Center and the new Central Kitchen.	2012-3Q	Amount of local food purchased and served	

8.2d	Hold demonstrations to encourage experimentation with a variety of local foods.	2012-3Q	# of events
1.3a	Establish a revolving loan fund or similar mechanism to finance weatherization and energy efficiency retrofits to qualifying private homes and businesses.	2012-4Q	Number of retrofits funded, actual energy savings
2.1c	Investigate the feasibility of adding solar-powered lighting to bus shelters to enhance nighttime security.	2012-4Q	# of shelters equipped
2.2b	Pursue funding for purchase and evaluation of electric and plug-in hybrid vehicles for trial and evaluation.	2013 4Q	Gallons of gasoline displaced
4.2e	Relocate several existing recycling drop-off containers from the city center to the edges of the city and beyond.	2013-1Q	N/A
5.3b	Establish a comprehensive geodatabase of all stormwater infrastructure.	2013-1Q	N/A
6.1d	Enable transmission of real-time bus arrival information at bus stops and via cell phones.	2013-1Q	# of information outlets
6.3b	Pursue funding for redesign of University as a more multi-modal, pedestrian friendly facility	2013-1Q	N/A
7.1d	Establish a formal urban forestry program for City parks and rights of way.	2013-1Q	Tree canopy cover
4.2g	Investigate the feasibility of implementing a "pay as you throw" system.	2013-3Q	Partner in 5-city grant application to inventory existing cover
8.4c	Explore possible financial or utility incentives to help reduce the cost of urban agriculture.	2013-3Q	N/A
1.3e	Consider adding blower door tests as an inspection option to meet energy efficiency standards.	4Q-2011	N/A
5.3a	Participate in the regional Paso del Norte Watershed Council.	N/A	N/A
1.2a	Conduct energy assessments on City facilities to identify and quantify opportunities for savings.	Ongoing	Number of audits; \$ and kWh savings identified/realized
1.2e	Integrate energy efficiency considerations into	Ongoing	# of facilities treated, Review of judicial complex HVAC

	preventative maintenance decisions.	savings realized	system to include energy and maintenance costs
<b>1.2f</b>	Monitor emerging energy efficiency technologies, and implement when they become cost effective.	Ongoing N/A	
<b>1.2i</b>	Select the most efficient replacement available when water pumps reach the end of their useful life.	Ongoing Realized energy savings	
<b>1.3d</b>	Emphasize energy efficiency standards in HUD-related programs.	Ongoing # of retrofits completed	
<b>2.1a</b>	Execute grants to install photovoltaic and small wind systems at Convention Center and Museum of Nature and Science.	Ongoing Installed capacity (kW); annual energy generation (kWh)	Selection process for Convention Center contractor nearing completion
<b>2.3a</b>	Give property owners the option of financing renewable energy installations through special property tax assessments.	Ongoing # of participants; installed capacity; energy generated	Obstacles currently exist that must be addressed at the federal level to enable this type of financing.
<b>2.3c</b>	Ensure permitting and inspections of renewable energy installations are as inexpensive and streamlined as possible.	Ongoing # of permits processed, # and type of trainings completed	
<b>2.4a</b>	Market large developed parcels in West Mesa Industrial Park for manufacturer or assembly of renewable energy equipment.	Ongoing # of facilities; # of jobs created	
<b>3.4a</b>	Complete and adopt Phase II of the water conservation plan which includes provisions for extended drought.	Ongoing N/A	
<b>3.4b</b>	Offer public workshops and multimedia educational materials to educate residents and business owners about water saving opportunities.	Ongoing Sessions hosted; participants; materials distributed	
<b>3.6b</b>	Work with interested developers to make reclaimed water available to new developments as additional reclaimed water becomes available.	Ongoing # of connections; gallons delivered	
<b>4.1d</b>	Expand composting operations at City facilities that have kitchens.	Ongoing Gallons of material diverted	
<b>4.2c</b>	Support efforts at recycling education with school children and the community as a whole.	Ongoing # of events and published messages	

4.2f	Investigate ways to enable the collection of glass.	Ongoing	N/A	
5.1a	Improve compliance with vehicle anti-idling policy	Ongoing	# of complaints; vehicle fuel efficiency	
5.1b	Retrofit diesel engines with emission control devices as funding permits.	Ongoing	# of retrofits; emissions reductions	Applied for funding through EPA in 2009 and 2010 – as yet unfunded.
5.1c	Conduct regular emissions testing of all City vehicles.	Ongoing	# of repairs made; emissions reductions	
5.2a	Improve tracking and reporting the application of fertilizer, pesticide and herbicide.	Ongoing	N/A	
5.2b	Document and expand a program of Integrated Pest Management.	Ongoing	Type and quantity of pesticides applied	
5.4a	Amend dust control ordinance to reduce the amount of fugitive dust	Ongoing	# of complaints; # of PM10 violations	Draft ordinance under review.
5.4b	Deploy Intelligent Transportation Systems	Ongoing	Change in traffic delay in treated areas	
5.5b	Host educational booths at special events and visit schools to educate about pollution prevention.	Ongoing	# of events; # of visitors	
6.1c	Complete Intermodal Center design and construction	Ongoing	N/A	
6.2a	Integrate cyclist safety into roadway maintenance & reconstruction projects.	Ongoing	# and location of upgraded facilities	
6.2b	Incorporate sharrows where appropriate.	Ongoing	# of applications; # of recorded incidents	
6.2c	Increase education and outreach activities related to bicycle safety and rules of the road.	Ongoing	# of information pieces, # of events/participants	
6.3a	Complete public improvements to downtown area.	Ongoing	# of completed projects; funding secured	
6.3c	Complete Picturing El Paseo planning and public involvement project.	Ongoing	# of events/participants; delivery documents	3-day public input charette completed in November
7.1a	Complete a maintenance plan and set of protocols for the Las Cruces Flood Control Dam.	Ongoing	N/A	
7.1b	Participate in the USACE ecosystem restoration project on the Las Cruces Flood Control Dam property.	Ongoing	N/A	

<b>7.1e</b>	Complete Arroyo Preservation Plan and associated design standards.	Ongoing	N/A
<b>8.1a</b>	Support efforts to buy local food for the Las Cruces Convention Center.	Ongoing	Amount of local food purchased and served
<b>8.3a</b>	Support efforts to create community gardens on school property.	Ongoing	# of active gardens
<b>8.4b</b>	Identify and remove zoning and other restrictions on urban agriculture, provided nuisances can be mitigated.	Ongoing	# of code revisions

Attachment A

NOTE: The following table is a summary of written comments turned in as part of the group exercises at the Sustainability Action Plan public input meetings held in January 2010. Participants were asked to identify goals, actions to achieve the goals, obstacles to success, and possible ways to overcome the obstacles. Similar goals were combined into a single row for this table. **This table does NOT represent a draft plan.**

Goals (w/ frequency)	Actions	Obstacles	Possible Remedies
<p>Increase recycling rate by making recycling more convenient and accepting more variety of materials</p> <p>16</p>	<ul style="list-style-type: none"> <li>• Begin curbside recycling</li> <li>• Increase number of drop-off sites so people don't have to go as far</li> <li>• Recycle glass and more types of plastic</li> <li>• Compost organic waste at schools and larger facilities</li> <li>• Make it illegal to dump green waste; require composting</li> <li>• Make recycling a requirement</li> <li>• Encourage placement of recycling bins at apartment complexes via tax incentives</li> </ul>	<ul style="list-style-type: none"> <li>• Increased cost for equipment and operations</li> <li>• Apathy, ignorance about the benefits of recycling; resistance to change</li> <li>• Lack of awareness about what can be recycled and when pickup occurs</li> <li>• Resistance if it requires too much extra effort</li> </ul>	<ul style="list-style-type: none"> <li>• Dedicate % of sales tax; lodger's tax to recycling efforts</li> <li>• Find grants or state/federal appropriations for equipment</li> <li>• Tax increase by referendum to fund recycling</li> <li>• Education of all segments of society, including schools and political leaders, about benefits of recycling and costs of landfill operation/expansion</li> <li>• Make it more expensive to throw things away than to recycle ("pay as you throw"), and use fees to subsidize recycling, or to provide recycling participation credit</li> <li>• Start with less frequent pickups, and increase as funds allow</li> <li>• Collaborate with other communities that have facilities</li> <li>• Do a pilot project modeled after successful curbside recycling in other communities</li> <li>• Sponsor special recycling events utilizing volunteers</li> <li>• Utilize same existing trash trucks for recycling pickup</li> </ul>
<p>Reduce water use in City and private operations, ensuring that consumption is not depleting the aquifer over time</p>	<ul style="list-style-type: none"> <li>• Encourage citizens and schools to use low-flow and water conservation measures, particularly for low-income residents</li> <li>• City should lead by example: conservation practices in its own facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Population growth may offset efficiency gains</li> <li>• Socio-economics: some simply can't afford the greener appliances</li> <li>• Cost of City incentives and enforcement</li> </ul>	<ul style="list-style-type: none"> <li>• Increase cost of violating water conservation ordinance and use fines to fund conservation.</li> <li>• Education and outreach, especially to children, on topics like xeriscaping, native plants, ecological need for water, costs of excess consumption</li> </ul>

<p>11</p>	<ul style="list-style-type: none"> <li>• Use inclining block rate pricing to incentivize conservation while allowing moderate use to remain affordable</li> <li>• Promote grey water use for irrigation</li> <li>• Promote rain water collection</li> <li>• Improve enforcement of conservation ordinance</li> <li>• Charge more for new developments outside of City</li> <li>• Replace inefficient toilets, shower heads, water heaters, washers</li> <li>• Quantify ACTUAL water use in the City, determine what a “sustainable” level of water consumption actually is and ensure we don’t exceed it even as population grows</li> <li>• Limit grass or watering of yards</li> <li>• ban flood irrigation</li> </ul>	<ul style="list-style-type: none"> <li>• Politics of water “rights”</li> <li>• Aversion to City intervention into personal freedoms</li> <li>• Most water consumption occurs outside City limits (agriculture)</li> <li>• Cost of constructing water reclamation facilities</li> <li>• Voluntary participation may be limited</li> <li>• Belief that it is not (yet) an issue</li> <li>• Special interests blocking examination of issue – golf courses/businesses</li> <li>• Resistance to redoing landscaping</li> </ul>	<ul style="list-style-type: none"> <li>• City could buy appliances @ cost and offers them to citizens for less \$ than they can get it as individuals</li> <li>• Include information on aquifer levels on each bill</li> <li>• Involve groups like NMSU OASIS, wildlife society, etc.</li> </ul>
<p>Increase energy efficiency in City facilities and in the community as a whole</p> <p>11</p>	<ul style="list-style-type: none"> <li>• Conduct energy audits on all City buildings</li> <li>• Use more efficient lighting, including LED where appropriate</li> <li>• Turn off office equipment @ night</li> <li>• Education on weatherization, thermostats, etc.</li> <li>• Tiered pricing structure for energy</li> <li>• Set commercial standards for energy consumption</li> <li>• Retrofit existing buildings with insulation, windows, etc.</li> <li>• Shift electricity use to off-peak hours</li> <li>• Utilize automatic shut off and</li> </ul>	<ul style="list-style-type: none"> <li>• Availability of trained personnel to do audits</li> <li>• Up front cost of improvements</li> <li>• Short term thinking</li> <li>• Lack of awareness about energy use and its implications</li> <li>• Need current data, and real time data on usage with smart meters</li> <li>• Habits are hard to break</li> </ul>	<ul style="list-style-type: none"> <li>• Workforce training</li> <li>• Documentation of long term savings</li> <li>• Educate about lifecycle costs</li> <li>• Buy efficient bulbs in volume at offer to citizens at discount rates</li> <li>• Report periodically on progress</li> <li>• Rising cost of energy means we can’t afford not to</li> <li>• Work with EPE to sponsor retrofits</li> <li>• Lobby PRC to allow EPE to charge higher rates at peak times, and require installations of smart meters that can tell the difference</li> <li>• Establish low interest loan programs</li> </ul>

Attachment A

<p>Increase generation of renewable energy, as much as we consume</p> <p>12</p>	<p>programmable thermostats</p> <ul style="list-style-type: none"> <li>• solar hot water in day use City buildings</li> <li>• City building codes could require minimum PV system, or solar hot water heaters in buildings</li> <li>• Offer incentives such as fee waivers</li> <li>• Use renewable fuel (such as biofuel, electricity) in fleet vehicles</li> <li>• Install PV on all parking lots and other City property</li> <li>• Install wind turbines on the mesa and hydropower on the river</li> </ul>	<ul style="list-style-type: none"> <li>• Up front cost of improvements</li> <li>• Cheap fuel</li> <li>• Resistance to change</li> <li>• Resistance from utilities—reduced sales</li> <li>• Need trained installers</li> <li>• Aesthetics of wind and PV installations</li> <li>• Impacts of renewable energy on threatened species</li> <li>• Battery recycling for electric vehicles</li> </ul>	<ul style="list-style-type: none"> <li>• Education – true cost of energy</li> <li>• Tie City utility contracts to renewable cooperation</li> <li>• Lobby PRC to require EPE to increase the amount of renewable electricity generation in the grid</li> <li>• Provide clear examples, and make renewable energy the City image</li> <li>• Provide incentive programs such as low interest loans or tax breaks</li> <li>• Rising cost of energy will make it more viable</li> <li>• Support research programs for technologies, especially algae biofuel</li> <li>• Encourage community wind/solar projects so poor people can benefit as well</li> </ul>
<p>Increase the share of food consumed from local sources, thereby supporting local growers/processors, and improving food security</p> <p>9</p>	<ul style="list-style-type: none"> <li>• Plant fruit &amp; nut trees in parks instead of shade trees, and adopt out landscapes to be planted, cared for, by community groups</li> <li>• Encourage home gardens</li> <li>• Support community gardens; encourage use of vacant lots for this</li> <li>• Legalize backyard hen keeping</li> <li>• Purchase local food for City services and encourage schools to do same</li> <li>• Encourage preservation of agricultural lands</li> </ul>	<ul style="list-style-type: none"> <li>• Fruit trees grow slower and are more expensive to maintain</li> <li>• Current incentives favor larger, more distant operations</li> <li>• Lack of gardening expertise</li> <li>• Cost of installation/maintenance of gardens</li> <li>• Apathy and ignorance of food system</li> </ul>	<p>357</p> <ul style="list-style-type: none"> <li>• Work with NMSU researchers, Food to Table Program, and OASIS student group</li> <li>• Promote farmers markets more</li> <li>• Host/support workshops about gardening, garden support structures (greenhouses, cold frames, drip systems, etc.)</li> <li>• Charge import tax on food that travels long distance (if legal)</li> <li>• Education – compile a comprehensive list of local food resources</li> <li>• Tax incentives for ag land owners and users</li> <li>• Create more CSA programs with local farmers, along with direct market with beef/poultry farmers</li> <li>• Foster communication between public &amp; agriculture producers, bridging the distance between the two</li> </ul>
<p>Protect the quality of</p>	<ul style="list-style-type: none"> <li>• Limit the use of pesticides and</li> </ul>	<ul style="list-style-type: none"> <li>• Cost differential of</li> </ul>	<ul style="list-style-type: none"> <li>• Education</li> </ul>

Attachment A

<p>our drinking water supply</p>	<p>herbicides</p> <ul style="list-style-type: none"> <li>• Employ more humans in manual weed control</li> </ul>	<p>manual vs. chemical methods</p> <ul style="list-style-type: none"> <li>• Overcome misinformation</li> </ul>	<ul style="list-style-type: none"> <li>• Positive examples from other communities</li> <li>• Increase fines for violations</li> </ul>
<p>2 Reduce greenhouse gas emissions and dependence on fossil fuels</p>	<ul style="list-style-type: none"> <li>• Improve efficiency of existing buildings</li> <li>• Design new buildings to require less heating and cooling</li> <li>• Utilize renewable electricity and motor fuel</li> <li>• Provide for transit, biking and walking facilities throughout City and beyond (e.g., Railrunner)</li> <li>• Encourage reduction of waste and recycling</li> </ul>	<ul style="list-style-type: none"> <li>• Budgetary constraints</li> <li>• utility company support</li> <li>• knowledgeable builders, city officials, residents, businesses</li> <li>• leadership and dedication</li> <li>• codes, regulation may be unpopular</li> <li>• The sense of many that fossil fuels are limitless</li> </ul>	<ul style="list-style-type: none"> <li>• City program development – Sustainability public info/education, especially in schools</li> <li>• MPO multi-modal planning</li> <li>• LEED-ND – neighborhood development</li> </ul>
<p>3 Increase the number of people utilizing environmentally friendly transportation through better facilities and compact development</p>	<ul style="list-style-type: none"> <li>• Increase mileage of bike lanes/paths, esp. NMSU area</li> <li>• Design walkable/mixed use neighborhoods</li> <li>• Install more bike racks around town</li> <li>• spend more planning time &amp; money on other transportation options</li> <li>• Provide incentives for alternatives, disincentives for auto use</li> <li>• Adopt the bike friendly community task force recommendations, and keep this task force alive and meeting</li> <li>• Add shade along pedestrian routes</li> <li>• Allow mixed use development by right in many places</li> <li>• Incentivized infill development</li> </ul>	<ul style="list-style-type: none"> <li>• Developer resistance</li> <li>• Resistance from lenders</li> <li>• Not all existing roads have facilities, and they are expensive to build</li> <li>• Ease/convenience of driving</li> <li>• drivers/bikes do not communicate well on the road</li> <li>• Roadway design is often exclusively for autos</li> <li>• Right of way limitations</li> </ul>	<ul style="list-style-type: none"> <li>• Mobilize students to bike to school</li> <li>• Bike to shop/work/play month</li> <li>• education regarding safe bicycle riding &amp; driving with bikes</li> <li>• Make parking permits on campus expensive</li> <li>• Bike programs (yellow bikes in Silver City)</li> <li>• Local gas tax could be used to finance alternatives</li> <li>• Re-educate planners and engineers</li> <li>• Let the citizens of Las Cruces know why we're moving in this direction. Advertising – good PR</li> <li>• Reduce street widths, use existing ROW, drains (EBID) outfall channel, Interstates, highways</li> <li>• TIDDs for mixed use and infill</li> </ul>
<p>11 Protect habitat including wilderness areas and wildlife</p>	<ul style="list-style-type: none"> <li>• Develop plan to protect &amp; maintain ecosystem function, collaborate with university professors/</li> </ul>	<ul style="list-style-type: none"> <li>• Development encroaching on habitat areas</li> <li>• Property rights</li> </ul>	<ul style="list-style-type: none"> <li>• Stick to the vision plans</li> <li>• Evaluate development impacts on nearby habitat/wilderness</li> </ul>

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<p>corridors</p> <p>4</p>	<p>extension, to designate key areas</p> <ul style="list-style-type: none"> <li>• Survey endangered species frequently</li> <li>• ensure monitoring &amp; accountability</li> <li>• regional flood action group</li> <li>• Create a GIS planning map that identifies parcels of land with ecological value</li> </ul>	<p>Development interests</p> <ul style="list-style-type: none"> <li>• unwillingness or inability (time conflicts) of professionals to collaborate</li> <li>• Lack of financial support &amp; acquisition of land parcels</li> </ul>	<ul style="list-style-type: none"> <li>• Educate public (lectures, seminars, workshops, incl. schools) on benefits of conservation (decreased erosion, runoff, increased water quality, improved aesthetics, improved quality of life, recreational opportunities, possible ecotourism)</li> <li>• Consider conservation easements</li> <li>• Creative collaborations</li> </ul>
<p>Increase instream flow in the Rio Grande to be a year-round flow through the City creating a healthier ecosystem &amp; community destination</p> <p>Create a robust incentive program for sustainable actions</p>	<ul style="list-style-type: none"> <li>- Create an option for water utility clients to donate water rights or money to purchase water rights</li> <li>- Work with EBID to create a special water use district</li> </ul>	<ul style="list-style-type: none"> <li>- Current policies and public perceptions toward the river</li> <li>- The City's own plans to eventually use surface water as a drinking water source</li> </ul>	<ul style="list-style-type: none"> <li>- Partner with local NGOs; acquire new funding by mixing w/ wetland restoration projects; add value to the river through renewed recreational activities and associated businesses (e.g., charter fishing or possible canoe rentals, etc.)</li> </ul>
<p>Reduce junk mail delivery</p>	<ul style="list-style-type: none"> <li>- change payment structure for trash collection to promote recycling</li> <li>- Offer tax credits for green businesses</li> <li>- Promote savings of water conservation programs</li> </ul>	<ul style="list-style-type: none"> <li>- Budget limitations</li> <li>- Bad PR if handled poorly</li> </ul>	<ul style="list-style-type: none"> <li>- Tap into existing funding sources</li> <li>- Pool resources with other communities to make bulk purchases of water conserving appliances, etc.</li> <li>- Fund programs through savings in conservation programs (or the red light cameras)</li> </ul>
<p>Flood control and street runoff</p>	<ul style="list-style-type: none"> <li>- Make postage MUCH more expensive for junk mail (advertisement/unsolicited mail)</li> <li>- Coordinate how street runoff gets to the river</li> <li>- Oppose Wilderness Act that would prevent future flood control efforts</li> </ul>	<ul style="list-style-type: none"> <li>- Development</li> <li>- Existing storm drains</li> <li>- new clean water standards</li> <li>- New federal laws</li> </ul>	<ul style="list-style-type: none"> <li>- More coordination with other entities</li> <li>- Oppose new Clean Water Act laws</li> </ul>
<p>Recognize the accomplishments of Bellingham Washington</p>	<p>Have a BALLE speaker come to Cruces and enlighten our City decision makers on what can be done when one is truly educated and passionate about</p>	<p>The current culture of status quo "business as usual" that becomes the bottleneck for "real" change.</p>	<p>Educate our decision makers so they "get it" and are passionate about real change. Currently the best ideas will take too much energy to move forward. Our leaders need to</p>

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	bringing real & needed change on issues of sustainability		actively seek out "best practices" from cities that are leading in various sustainability arenas – food, energy, housing, transportation
Preserve and expand arroyos to control flooding	Connect arroyos to the extent possible to tailor the path of runoff flood waters	Unrestricted growth encroaching on arroyos	
Require that all City & County government buildings be minimum LEED Gold by 2014	<ul style="list-style-type: none"> <li>- Assess the needs</li> <li>- Include <u>illegible</u> in City ICIP</li> <li>- Make these \$s a high priority in ICIP budget</li> <li>- City/County <u>illegible</u> plan</li> </ul>	\$433 million of ICIP needs are already identified. Therefore, competition will be tough	<ul style="list-style-type: none"> <li>- Voices, many voices</li> <li>- City Council meeting</li> <li>- Prioritize in Vision 2040 plan</li> </ul>
A program to get kids more involved in their future. To help sustain the earth. To give a care.	I know we have Action for Youth, but we need some program to get more kids involved. Hands on program with rewards to kids would want to be in the program.		
Keep the public informed with Sustainability Action Plan	<ul style="list-style-type: none"> <li>- Website, e-mails, public meetings, more discussions like tonight</li> <li>- Give local solar and wind manufacturing tax break</li> </ul>	<ul style="list-style-type: none"> <li>- People just don't care</li> <li>- not enough education on sustainability</li> <li>- Cost (i.e., add insulation to an existing home)</li> <li>- "change is hard" attitude of a lot of people</li> </ul>	<ul style="list-style-type: none"> <li>- make plan "personal"</li> <li>- more meetings like this – make DVD and check it out at the library</li> <li>- tax rebates, grants, buy in quantity and sell at lower cost</li> </ul>
Long term infrastructure improvement & management plan	<ul style="list-style-type: none"> <li>- Condition assessment of existing water, sewer, gas, roads, drainage, other infrastructure.</li> <li>- budget for improvements to achieve needed capital improvements</li> </ul>	<ul style="list-style-type: none"> <li>- inadequate investment in infrastructure</li> <li>- short term thinking</li> <li>- underbudgeting of city needs</li> <li>- "not in my term" thinking</li> </ul>	<ul style="list-style-type: none"> <li>- Think long term &amp; budget</li> <li>- Priority that makes sense</li> </ul>
Turn Las Cruces into a well known hotspot for sustainability-minded individuals	Public relations approach – NMSU & City		
Partner with the County by 2012 to buy all needed supplies together and only buy	<ul style="list-style-type: none"> <li>- meet with the purchasing managers of both the City and County</li> <li>- Have lists available of all needed supplies</li> </ul>	<ul style="list-style-type: none"> <li>- turf issues</li> <li>- persuasion of staff who may not see this as important</li> <li>- cost may be an issue</li> </ul>	<ul style="list-style-type: none"> <li>- make this a rule or ordinance for doing government business</li> <li>- educate staff</li> </ul>

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sustainable products	- keep track of all ecologically sound product catalogs - only buy safe eco-products		
Create an eco-business incubator by 2012	Brainstorm what products could be useful to the region (recycled carpet, glass, plastic, paper) and decide 1 or 2 products that could be manufactured here	- money - place - infrastructure	- create or identify markets - do a feasibility study - find property - design a building that is ecologically correct
Reduce the amount of trash pickups the City needs to do which reduces operating costs and emissions	Place several "Big Belly" units throughout heavily trafficked areas in the city. These solar powered trash compactors reduce the amount of trips the city needs to make to empty the trash	The up-front costs	
Institute green/recycling practices, materials, procedures in all City office operations in new City Hall by 1-1-11	- Identify each area where changes can be made and what they are - compute cost and difficulty of each change, and benefit in \$, carbon, etc. - prioritize and get about it - build on OASYS at NMSU	- Takes time, effort from staff - public not aware of benefits	- Similar actions have been taken elsewhere -- learn from them - educate the public to demand it - track savings - credit department with savings, compliance
Outlaw hot water circulation systems on new buildings	Teach people how much it costs them in gas use to keep their water hot. The circulation cools the water (\$ & sense)	- These systems are convenient and make plumbing cheaper. People and builders like them. - Utilities sell more gas - The cost has never been clearly evaluated and made known	- Facts and cost education - green awareness
Form and sponsor Civic Action Groups targeted to sustainability issues	- Encourage groups to form - provide a focus and encouragement - support the groups -- take their input and give them jobs to do	Old fogies in the City might not support	Ignore them
Reduce plastics	- make plastic bags illegal - make plastic water bottles illegal	Retail business	
Reduce waste of time, materials, and money	Better coordination among all levels of government, including City, County, School District, and Federal	Jealousy of turf, and/or jurisdiction overlap	Review of organizational responsibilities with a view to removing overlap and increasing clarity

Attachment A

<p>Save resources to put our money into recyclable resources</p>	<p>Cut spending, as in renew old buildings rather than build new ones. Make stuff that lasts!</p>	<p>Americans are greedy and people want to move here but want cheap living</p>	<p>Stop building new houses – use what we got</p>
<p>Reduce waiting/idling time at intersections by 5% or 15 seconds</p>	<p>Reduce the cycle times of the light by 5%, and do further timing for traffic flow on Lohman Ave westbound</p>	<p>Cost of redoing circuitry on traffic cabinets or replacing</p>	<p>Do those that can be changed first illegible replacements</p>
<p>Lower plastic bag use by 25% by 2012</p>	<p>- limit on plastic grocery bag use - create incentive for people such as discounts when supplying their own bags for reuse/recycle at the entrance/exits</p>	<p>- Getting people to want to take that extra step - in the city recycling requires a lot of time to be invested</p>	<p>- Market the ideas over radio and TV - making recycling more simple, individuals may be more inclined to contribute</p>
<p>Develop plans for upgrading older neighborhoods for traffic flow, walking, and bicycling so they are closer to being on par with new areas (50% within 2 years)</p>	<p>Mapping needs for easier pedestrian &amp; biking pathways, better traffic control to aid pedestrians. Survey both infrastructure and neighborhoods in older parts of town. Could the EBID channels be improved for walking and biking – as is done in other cities like ABQ?</p>	<p>- Very old infrastructure, no place for new paths - people apathetic about changes or afraid they could raise prop. Taxes - lack of city funds, time to carry out surveys</p>	<p>Smaller neighborhood meetings, clear definition of goals &amp; the need for sustainable neighborhoods, as well as for the city.</p>
<p>More efficient use of space, so as to leave as much land as possible undeveloped. Curb construction of new business buildings by 40% by 2015</p>	<p>Limit the number of new buildings being erected in favor of currently unused spaces (old blockbuster has been empty for months! Those situations are horribly inefficient). Can be measured by comparing current to future new building construction.</p>	<p>Many corporations want their buildings to have a particular look or style, and renovating an existing building is more labor intensive than starting from scratch @ a time when labor and supplies are cheap</p>	<p>Offer incentives such as tax breaks for businesses using previously constructed buildings rather than new ones. This plan leaves more land undeveloped, which leaves more space for wildlife, also lowers material waste. Possibly lowers contracting job availability.</p>
<p>Increase green housing</p>	<p>Provide incentives for building green housing</p>	<p>Costs extra money to construct, not enough builders that understand how</p>	<p>Education to children</p>