



**CITY OF ALBUQUERQUE**  
*Energy Conservation Council*  
FY2005 Annual Report





May 1, 2005

**To:** Mayor Martin J. Chavez and Albuquerque City Council

**From:** Dr. Bill Gross - Chairman, Energy Conservation Council (ECC),  
4/1/04 -3/31/05

**Subject: Energy Conservation Council Annual Report Transmittal**

On behalf of the Energy Conservation Council (ECC), I am pleased to submit the Annual Report regarding our past year's activities and accomplishments. Please note that Wayne Evelo steps up from being Vice Chairman to the Chair for 4/1/05 through 3/31/06. Wayne is very experienced with managing energy efficiency projects at the U.S. Department of Energy's Albuquerque facilities and currently oversees the Sandia National Laboratories Energy and Natural Resources Programs.

The ECC worked closely with Richard Harding, Deputy Director, Facilities, Energy & Security Services Division, and Gene Bustamante, Energy Specialist, as we evolved into an effective, productive organization. We are deeply committed to be of service to Albuquerque and the public in reducing City operating expenses by instituting energy efficiency measures. In the process pollution and power plant water consumption have been significantly reduced.

Some actions during the previous twelve months have been:

- Completed recommendations for energy efficient actions, and the City has spent virtually all of the 1% of the capital budget set aside for renewable energy.
- Developed accounting form for annual dollars, pollution and water saved
- Provided consulting assessment for the City Million Solar Roofs program
- Provided legislative help on the Governor's Clean Energy Task Force
- Produced "Energy Matters" programming on GOV TV 16
- Developing an Advisory Committee to add additional experience and skills to Council activities and also to provide experienced new members as required by members cycling off the Council.
- Implemented the first ECC Website (<http://www.cabq.gov/energy>)

In conclusion, please accept the appendices for more detailed examples of Energy Conservation Council productivity.

MAYOR, CITY OF ALBUQUERQUE  
Martin J. Chavez

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James Lewis

CHIEF OPERATING OFFICER  
Ed Adams

CHIEF FINANCIAL OFFICER  
Gail Reese

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Dave Melton  
Mike Minturn  
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Vacant

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Suzanne Busch  
Gene Bustamante  
Wayne Riddle  
Mark Sandoval

SUPPORT

Carolyn Fudge, Legal  
Connie Tachias, Administrative  
Jean Arya, Contract Consultant  
Laurie Roach, Technical Writer

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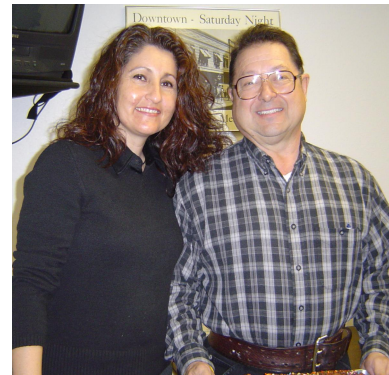
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## ACKNOWLEDGEMENTS

In December 2002, the Albuquerque City Council and the Administration provided vision and leadership aimed at influencing the manner in which the City of Albuquerque manages and consumes energy in its facilities. The Council adopted an unprecedented ordinance (FSO-02-70) that reserves one percent of the total capital budget targeted for energy conservation projects.

The Energy Conservation Council, under the direction of the Facilities, Energy & Security Services Division Manager, established priority criteria to select projects for funding as a direct result of the ordinance. By providing a mechanism for community leadership in reduction of energy consumed, it is the City's intent to serve the public welfare by developing and implementing a community-wide effort to conserve energy.

As Council Chairman, I want to give particular appreciation and recognition for the helpful, effective participation of three City officials, Richard Harding, Gene Bustamante, and Connie Tachias, Secretary and Coordinator for the Energy Conservation Council. I also especially complement Richard and Gene for their care in recommending voluntary nominees with staggered terms who were appointed to the Council. The City is very fortunate to have such strong, complementary skilled and experienced Council members who work very effectively together. The Council receives guidance from the U. S. Department of Energy's Rebuild America and Rebuild New Mexico programs as well as the State of New Mexico's Energy Conservation and Management Division. Many technical and trade associations are also used as a resource.



*Connie Tachias, Secretary  
and Coordinator for the  
ECC and  
Gene Bustamante,  
Energy Specialist.*

## EXECUTIVE SUMMARY



*Dr. Bill Gross, ECC Chair, Don Maetz, 2004 Chair,  
Richard Harding, DMD Deputy Director*

This Annual Report was produced by the community led City of Albuquerque's Energy Conservation Council (ECC). The Albuquerque City Council and Administration is the primary audience for the following

outline of activities and evaluations of effectiveness. The results are for the 2005 fiscal year (FY2005) goals as required by the 1% Energy Conservation Set-A-Side ordinance. This report satisfies the requirements of the Ordinance FSO-02-70 Section 4 Chapter 14-8-5-4 (J).

## INTRODUCTION

The mission of the ECC was achieved by selecting projects to receive funding for energy efficiency and conservation measures. The ECC also satisfied its mission by providing education and awareness through workshops, newsletters, television, a website and monthly meetings. The ECC meets on a monthly basis at various City of Albuquerque facilities. Often, the ECC also has a knowledgeable energy expert provide a detailed presentation on applicable energy efficiency technologies or opportunities to facilitate the effectiveness of the ECC. Meeting minutes are consistently taken and reviewed. Early in the year, the ECC created and prioritized goals and objectives. These were used as benchmarks of achievement.

Although the ECC has been extremely successful in achieving many important goals for energy conservation in the City of Albuquerque, we know we could do more. The ECC has found that, as volunteers with other full time commitments, we are unable to do



sufficient analytical analyses of potential projects. We are also unable to properly begin and maintain an up-to-date record of the progress and projections of the dollars, pollution and water saved. In addition, it is important to track the actual annual savings, as well as total savings, from the inception of each program. Therefore, we are recommending the hiring of a full time Energy Engineer to handle these vital tasks as well as others.

This document is organized based on the ECC priorities. The ordinance sections are identified in order to demonstrate actions based on the City of Albuquerque Ordinance.

## **STRATEGIC PLANNING**

### **COA Solar Plan**

The ECC succeeded in establishing a solar subcommittee aimed at developing a strategic plan for various programs. This subcommittee developed and pursued additional mechanisms for implementing solar renewable projects within City



*Dave Melton with Photovoltaic/Fuel Cell Mobile Unit.*

government as well as in the general community. This group also achieved much more. They developed a Ten Year Plan including Gantt charts. See appendix. The solar subcommittee and team is called the “Neighborhood Solar Team.”

### ***Ordinance Reference – FSO-02-70 Section 4 Chapter 14-8-5-4 (B)***

**Results Summary:** The City is in its first year of a ten-year partnership with the U.S. Department of Energy’s Million Solar Roofs program. This partnership will study over 30 public buildings owned by the City of Albuquerque through a project titled, “Neighborhood Solar.” It is the intent of this project to secure performance-based contracts for installing, financing, and maintaining solar thermal and solar photovoltaic systems in all applicable buildings.

In December 2004, City of Albuquerque Mayor Martin Chavez facilitated the signing of a partnership agreement between the University of New Mexico and the Center for Research and Development in Electrochemistry (CIDETEQ) located in Queretaro, Mexico. The partnership focuses on the collaboration of research to enhance the exchange of technical information in the areas of water treatment and solar energy.

In addition to this research and development exchange, the City has recently partnered with Sacred Power to build and demonstrate a 2kW PV/Hybrid with a 5kW fuel cell.



*Construction of  
Photovoltaic Fuel Cell  
Mobile Unit*

## **Project Status/ Project Environmental Benefits**

Based on ideas and suggestions from the ECC chairman's experience, ECC members generated an accounting spreadsheet / measurement tool to be used as a reporting guide at each meeting. The CIP 1% funding projects are listed by individual department and given an ECC code or reference number. The project manager is listed along with the dollars allocated to date and the dollars spent. It includes the annual dollars saved and the basic environmental benefits of capital projects. Pollution avoidance per year is included for coal, CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>x</sub> and water. The payback in years is given as well as the justification and the status of each project. The spreadsheet is revised monthly and is used in measuring and reporting back to the City Council and Administration when requested. This tool also presents, at a glance, the total project dollars, potential project

dollars, and a balance for future projects. Now that the tool is in place, the members will be able to use the format for years to come.

### ***Ordinance Reference – FSO-02-70 Section 4 Chapter 14-8-5-4 (G)***

**Results Summary:** The City of Albuquerque’s commitment to energy management and conservation was emphasized with the passing of the 1% Energy Conservation Set-A-Side. This source of capital funds is to be applied to retrofit projects based on energy savings criteria established in part by the ECC. A requirement of the ECC and the technical oversight committee is to monitor and provide status on the cost and benefits of each funded project. In addition to the actual value of the energy savings generated by each of the funded projects, the ECC notes that a direct environmental benefit is also achieved through the implementation of each energy conservation measure. Therefore, energy reduction savings will be measured in dollars, pollution, and water consumption and these will be indicated on the spreadsheet. See appendix.

## **Regional Energy Planning Process**

During FY2005, the ECC recognized the need to develop a regional energy plan for the City of Albuquerque. This plan should include all aspects of energy issues from transportation to residential and agricultural initiatives. During this initial stage, members from the ECC reviewed the South Valley study authored by Barbara Ford *“Saving Money: Boosting the Local Economy – How Bernalillo County’s South Valley Can Benefit from Energy Efficiency.”* Ford’s study was developed in November of 1999 as part of a Community and Regional Planning Master’s program at the University of New Mexico. It served as a source book for the people of the South Valley to outline measures to reap multiple benefits of smarter energy use. These measures include saving money, reducing pollution, improving quality of life, increasing self reliance, and creating more local economic activity. The ECC decided that a similar educational analysis should be commissioned for the entire City of Albuquerque.

## ***Ordinance Reference – FSO-02-70 Section 4 Chapter 14-8-5-4 (D)***

***Results Summary:*** In February 2005, the ECC Chair, Past Chair and Technical Writer met to develop an outline for the City of Albuquerque Energy Study. An Executive Summary will be added. The document will cover the following:

- Energy Use in Albuquerque
- Environmental Costs of Energy Use (with spreadsheets)
- Residential and Automobile Energy Use
- Business Energy Use
- Transportation
- Energy and APS
- Recycling Opportunities
- Government Legislation
- Future Electrical Demand Side Management
- Million Solar Roofs
- Water Usage and Distribution
- Cost and Safety Trade-offs
- Energy Conservation Council

This study will begin July 1, 2005. Barbara Ford will be contacted so she is aware of what the ECC is planning to produce. This document may serve as a baseline for a community-wide plan for addressing all forms of energy management ranging from residential to agricultural initiatives.

## **“Green” Certificates for Renewable Energy**



The ECC promoted the marketing of Renewable Energy Certificates from the Southside Water Reclamation Plant. When these certificates are sold, the resulting funds will be used to reduce the cost of water treatment, promote

*Mike Minturn with Clean Energy Representative*

additional renewable projects, or to support un-funded ECC objectives such as education and awareness.

### ***Ordinance Reference – FSO-02-70 Section 4 Chapter 14-8-5-4 (C)***

#### ***Results Summary:***

With the City of Albuquerque’s recent expansion of the co-generation plant at the Southside Water Reclamation Plant (SWRP), much attention has been given to the environmental benefits derived from this advanced use of biogas for electrical generation. As a self-certified Qualified Facility from the Federal Energy Regulatory Commission, the SWRP takes advantage of exporting unused electrical energy to the Public Service Company of New Mexico under mandated rates. In recent past, this has accumulated to several thousand dollars in revenues to the City of Albuquerque. “Green” certificates are also available to the SWRP for energy generated from biogas. These certificates have a shelf life and a separate market value that can be traded in accordance with the State of New Mexico Renewable Portfolio Standard. The certificates, along with any other available options generated from any potential landfill gas or solar photovoltaic projects, must be captured as opportunities for the City of Albuquerque.

Currently, the local office of the US Department of Energy has been discussing the potential purchase of the SWRP green certificates.

## **EDUCATION AND AWARENESS**

### **Gov TV 16 (Energy Matters)**

#### **Programming**

The “Energy Matters” series continued to grow. We were able to target areas of energy management such as weatherization, ECC operations, co-generation applications, alternative fuels initiatives, and more.



*Gene Bustamante, Don Maez, and Jean Arya reviewing “Energy Matters” programming schedule.*

### ***Ordinance Reference – FSO-02-70 Section 4 Chapter 14-8-5-4 (D and E)***

**Results Summary:** The Energy Matters programs were recently picked up by the Government Access Channels in both Los Alamos and Silver City. The ECC sponsored program, “Energy Matters,” which airs on cable channel 16 is one of the ECC’s greatest educational accomplishments over the last year. The series was developed as a direct result of the Council Bill that re-activated the ECC as an organized group. The language in the Ordinance mandated the ECC to establish, across the community, energy awareness and educational outreach programs aimed at energy conservation and renewable energy applications. The “Energy Matters” series is the ECC’s first attempt at a community-wide energy awareness program. See the appendix for a full account of the programming this fiscal year.

<b>Month</b>	<b>Topic</b>
Feb-04	(host Richard Harding) ECC
Mar-04	Renewable Energy Transportation
Apr-04	Wind Generation
May-04	Eva. Cooling v. Refrigerated Air
Jun-04	Rebuild America/New Mexico
Jul-04	Energy Efficiency at APS
Aug-04	Energy Production at Sewer Plant
Sep-04	Balanced Energy
Oct-04	Weatherization
Nov-04	CoA Energy Efficiency
Dec-04	Energy Bills in Legislative session
Jan-05	High Performance Building
Feb-05	Energy saved by Recycling

## Energy Awareness Program

The ECC introduced the very successful Albuquerque Public Schools (APS) Energy Awareness program into City Government and will continue to investigate the ability to pilot a similar rewards program within the boundaries of the City's fiscal rules and regulations.

Members of ECC have played vital roles in implementing energy conservation and awareness in their respective organizations. For example, Ron Rioux has been instrumental in supporting legislation to bring new standards to K through 12 curriculum by benchmarking energy savings in the classroom. This has been accomplished through their faculty, students and administration Energy Conservation and Incentive Program.

With these new standards, APS has built its energy conservation rebate program tying four key groups at schools: The Administration, at least one teacher, their students, and the custodial team.

An APS pilot program that pays schools to reduce their electricity usage is being hailed a success, returning funds to participating schools in the program. Launched in the fall of 2000-2001 nine Sandia Cluster Schools, the program has proved so popular that it has over a third of the district schools in the 2004-2005 school year. The "Energy Conservation



*Edward Gonzalez Elementary,  
First APS "E School."*

Rebate Program" compares a schools current monthly electrical consumption to their base-line year, which is the 2000-2001 school year. Schools in the program that reduce their electrical use receive one-third of the savings back into their budget to choose how to spend their energy rebate. If their energy use is down, the school is paid funds directly into an account the school identifies each quarter---funds that can be used to enhance classroom needs, professional development and travel, and improve custodial equipment, --- virtually anything other than bonuses or salaries. The funds-back program is part of an

array of energy-saving efforts undertaken by the District's Maintenance and Operations (M&O) Division for the past nine years. In the last 3 1/2 years of the program over \$1.2 million dollars has been saved and over \$400,000.00 has been returned directly to participating schools. The program has received wonderful support from PNM, Rebuild New Mexico, Summit Electric, the city of Albuquerque, Sacred Power, and the Dept. of Energy Minerals and Natural Resources. In fact, based on an initiative from the Governor a program was established called "Schools w/ Sol." This program installs operational solar systems at 10 schools a year for educational purposes. Last year APS schools received 2 systems and before the end of this school year APS will have 3 more systems up and running to provide hands on learning tools for students. This April the National Renewable Energy Laboratory, from Golden CO, will be in Albuquerque to do a workshop for APS teachers to help them learn and teach about alternative forms of energy. This focus is on solar generation of different forms of energy and wind energy. This is the 8th workshop put on to support energy and conservation education in the classrooms of APS.

***Ordinance Reference – FSO-02-70 Section 4 Chapter 14-8-5-4 (D)***

***Result Summary:*** The value of the savings to date is \$407,751.36. Since the program inception three and one half years ago, the savings amounts to 1.2 million dollars. Albuquerque Public Schools Energy Management Program has pursued behavioral modifications with respect to energy management since 2001 as a means of saving energy. The program focuses on energy conservation awareness and education aimed at four key groups at schools; the administrators, at least one teacher, their students, and custodians. Schools participating in the program receive training to put energy conservation into action and in return receive a portion of their savings directly back into their school's budget. The principles of this low-cost and/or no-cost program are based on seven fundamentals:

- Provide an outreach and educational energy conservation program to administrators, teachers, custodians, and students and encourage family/community support.
- Provide resources which allow facility managers the means to reduce energy consumption and thus improve environmental conservation.



- Provide projects/programs designed to perpetuate the educational process that will create program sustainability.
- Provide statistical information/programs designed to stimulate energy awareness and justify ongoing reward incentives directly related to energy conservation/efficiency within the district.
- Provide a utility monitoring system and an appreciation program reinforcing how lifestyle changes in their school and home can impact utility bills as well as preserve natural resources.
- Provide a recognition program impacting all levels of involvement.
- Provide open communication with all utility companies.

The ECC also promotes energy awareness through training opportunities. For example, the ECC is cosponsoring with Rebuild New Mexico, and the New Mexico Energy Minerals & Natural Resources Department a "Measurements and Verification of Energy Savings" Seminar on May 17, 2005. The topic includes teaching techniques to accurately measure and verify the energy and monetary savings from energy retrofit project.

The ECC encourages interested parties to attend the PNM Energy Academy series of energy related workshops.

### **City Employee Shared Savings / Suggestion Programs**

The ECC is committed to promoting energy savings and awareness programs to city employees. Educational seminars, motivational and conservation tips will be part of this awareness program. Appreciation awards, statistical information, lifestyle changes are items that can be implemented and studied to launch a successful program.

The general public as well as City of Albuquerque employees are encouraged to send any energy related ideas or suggestions directly to Gene Bustamante at [gbustamante@cabq.gov](mailto:gbustamante@cabq.gov).

***Ordinance Reference – FSO-02-70 Section 4 Chapter 14-8-5-4 (C)***

## **ECC Homepage on COA Website**

The ECC coordinated the efforts to sponsor an ECC homepage on the COA Website at <http://www.cabq.gov/energy>. The homepage is designed to provide current information on members, meetings, performance of energy projects, ECC newsletters, and energy related activities as well as links to energy analysis tools. See appendix.

***Ordinance Reference – FSO-02-70 Section 4 Chapter 14-8-5-4 (D)***

## **ECC Newsletter Distribution Expansion**

The ECC expanded the newsletter distribution by doubling the size of the current distribution list. The list has over 250 email addresses and it continues to grow. The newsletter content and format has improved since the first edition was conceptualized.

***Ordinance Reference – FSO-02-70 Section 4 Chapter 14-8-5-4 (D)***

***Results Summary:*** Since sponsoring a newsletter in FY2004, the ECC commenced distributing four quarterly editions of the electronic newsletter. The goal of the newsletter is to promote activities and awareness of energy related issues and to communicate specific ECC actions affecting the greater Albuquerque region. This venue for information has been well received by the target audience and will continue to evolve as a platform for ECC communications and outreach as part of the education program. The newsletter also appears on the web. See appendix.

## **PNM's Environmental Sustainability Program**

The ECC has committed to partner with PNM's newly formed Environmental Sustainability Program to utilize limited shared resources to promote energy conservation.

***Ordinance Reference – FSO-02-70 Section 4 Chapter 14-8-5-4 (E)***

***Results Summary:*** At the December 2004 monthly ECC meeting, Mr. Jeff Burkes (Public Service Company of New Mexico’s Environmental Sustainability Director) addressed the ECC whereby setting forth a basic plan for treating energy conservation from the utility’s perspective. Many common goals appeared to be shared with the ECC. After the presentation, members of the ECC offered to work with Mr. Burkes in a collaborative approach to pilot any future demand side management programs that PNM might offer.

## **PROJECT DEVELOPMENT**

### **Leadership in Energy and Environmental Design (LEEDs)**

The ECC worked with the City administration through an executive order to commit the City to adopting specific standards to implement the use of high performance Green Building practices throughout the City. All City funded projects greater than 5,000 square feet and/or using 50 kW demand will be mandated to build a minimum rating of “Silver” using the US Green Building Council’s LEED-NC, LEED-EB, LEED-CS, or LEED-CI rating system.

***Ordinance Reference – FSO-02-70 Section 4 Chapter 14-8-5-4 (E)***

***Results Summary:*** An executive order has been established for Green Building Standards for City projects.



*Cleveland Middle School. Example of Solar Photovoltaic at an APS Facility.*

## **Million Solar Roofs**

The ECC supported the Million Solar Roofs efforts and ensured that a sound and economically viable project was built in the spirit of energy and environmental excellence. See appendix for details on Workshops, Action Plans and Results.

### ***Ordinance Reference – FSO-02-70 Section 4 Chapter 14-8-5-4 (E)***

The City of Albuquerque solicited an RFP for an Energy Performance Contract for the installation and maintenance of Solar Pool Heating and Photovoltaic Systems for its five High School Pools. Responses have been received and a contract is anticipated in late spring/early summer 2005.

# POLICY DEVELOPMENT

## Legislation/Governor's Clean Energy Task Force



*Dr. Bill Gross, ECC Chair with Louise Martinez, Energy, Minerals and Natural Resources.*

The ECC actively participated in and supported the Governor's Clean Energy Task Forces to draft legislation for the upcoming session that fosters local job creation, a sustainable environment and exports of renewable technology and energy; thereby elevating New Mexico to a status of a Clean Energy State.

## *Ordinance Reference – FSO-02-70 Section 4 Chapter 14-8-5-4 (F)*

Members of the ECC have been recognized as leaders in the field of energy management and have been asked to participate in the Governor's Clean Energy Task Forces such as Distributed Solar Energy and Greenbuild task forces. ECC members will continue to actively participate and draft legislation. Several ECC members and a technical committee member attended the Sustainable Energy and



*Don Maez, Past ECC Chair with Bryon Paez, Lobbyist at State Capitol*



Economic Day Event at the State Capitol on January 25, 2005. The ECC had a booth and interfaced with many other energy organizations as well as lobbyists and

legislators.

*ECC Chair, Dr. Bill Gross, with Vice Chair, Wayne Evelo and Past Chair, Don Maez. Laurie Roach, Technical Writer, with booth display.*

## **COA Energy Ordinance Consolidation**

As directed by the ECC and technical committee, a consultant is reviewing all city ordinances and is making recommendations for combining or consolidating various documents into a single, or packaged, document in order to better manage the desired results.

***Results Summary:*** A draft of the proposed changes has been presented to the technical committee and to council staff. Examples of changes included in this draft are: extending the payback period for energy projects, permanently funding the 1% for Energy Conservation Set-A-Side, and recommending the hiring of a full time staff Energy Engineer.

## **Energy Code Training**

The ECC will assist in the coordination of training opportunities between the general public and the State of New Mexico's Conservation and Management Division in order to successfully implement the 2003 International Energy Code for new construction.

***Ordinance Reference – FSO-02-70 Section 4 Chapter 14-8-5-4 (F)***

## **ECC SUSTAINABILITY**

### **Membership Recruiting**

The ECC is continually accepting resumes for advisory and board memberships. Interested parties are asked to send their resume to Richard Harding, Deputy Director of Municipal Development, 1801 Fourth Street Bldg. B., Albuquerque, NM. ECC

membership is voluntary with staggered terms and operates under the direction of the City's Facility and Energy Management Office. The Council and Mayor's Office approves and selects all applicants.

***Ordinance Reference – FSO-02-70 Section 3 Chapter 14-8-5-2***

***Results Summary:*** The ECC has successfully recruited two new members for the upcoming term. One potential member is from Public Service Company of New Mexico, and the other is from Bernalillo County. The ECC has also submitted two candidates to the ECC Technical Committee to forward to the Administration for approval.

## **ECC STUDY/ASSESSMENT**

### **Alternative Fuels Application**

The ECC, working with a third party consultant, plans to commission an alternative fuels application study sometime in 2005. This study will utilize the US Department of Energy's offering of their Clean Cities Technical Assistance Tiger Team. This approach



***Frank Burcham,  
Alternative Fuels Vehicle Network  
and Mike Minturn, Land of  
Enchantment Clean Cities,  
work on alternative fuels studies.***

has assembled experts in the field to help conduct the study at no cost to the City. Working with the National Renewable Energy Laboratory in Golden, Colorado, the alternative fuels application study will focus on transportation activity centers such as airports, mass transit, school districts, local governments, and/or light/medium/heavy duty delivery fleets to improve the penetration of alternative fuel use and implementation of fuel-efficient technologies.

***Ordinance Reference – FSO-02-70 Section 4 Chapter 14-8-5-4 (A)***

### ***Summary of Results:***

Several niche applications exist for alternative fuel applications. As an example, within City Government, parking meter readers could benefit from the use of neighborhood electric vehicles made by General Motors. Water meter readers could benefit from compressed natural gas vehicles. The City of Albuquerque could benefit from a comprehensive study aimed at assessing what other cities are doing in terms of applying alternative fuels in their niche fleets. The study would compare alternative fuel versus conventional fuel costs and performance versus emissions for light and heavy-duty applications with recommendations made as to which alternative fuels match best with specific fleet vehicles. It would also match existing and planned alternative fuel station infrastructure with City fleets and their operation and fueling needs.

## **City of Albuquerque International Airport Hydrogen Fueling Project**

The City of Albuquerque International Airport, along with the New Mexico Hydrogen Technology Partnership (HyTeP) and the US Army's National Automotive Center (NAC), in collaboration with other federal, state and local government agencies is developing a hydrogen production, storage and dispensing facility located at the site of an existing Compressed Natural Gas (CNG) refueling station at the Albuquerque International Sunport. Hydrogen will be produced through the reformation of natural gas available at the target site. Produced hydrogen will be stored and dispensed as hydrogen and hydrogen blended with natural gas (HCNG) and both dispensed as fuels in support of internal combustion engine vehicles. Specific vehicles will be selected to use the fuel based on their proximity to the station and partners' commitments to use the fuel as their primary transportation fuel. Station equipment specifications will begin the summer of 2005 with operation of the station planned for 2006.

## **Energy Savings Performance Potential**

It is an objective of the ECC in FY2005 to closely examine the opportunities that exist by utilizing and contracting with energy savings performance contractors such as Chevron Energy Solutions and/or Public Service Energy Services.



***Ordinance Reference – FSO-02-70 Section 4 Chapter 14-8-5-4 (A)***

***Support Summary:*** Several presentations have been made to the ECC regarding performance based contracting and financing of energy related projects. The specific projects addressed have a direct relationship to the types of opportunities available within the City of Albuquerque. These types include municipal correctional facilities, wastewater treatment plants, landfill gas electrical generation, roof mounted photocell installations, wood chip co-generation, large-scale facility lighting retrofit, etc. The experience in bringing capital dollars and qualified engineering expertise along with project management skills to the City of Albuquerque have the makings for a sound energy conservation project. The ECC will use this data to prioritize future projects.

**Landfill Gas Proposal**

The ECC studied the options available to the City of Albuquerque and pursued funding from the State of New Mexico’s Clean Energy Grant program to support this endeavor.

***Ordinance Reference – FSO-02-70 Section 4 Chapter 14-8-5-4 (A)***

***Results Summary:*** The City of Albuquerque Environmental Health Department was awarded a Clean Energy Grant from New Mexico Energy Minerals and Natural Resources. In the application for the grant, support from the ECC was mentioned, and it was stated in the proposal that the completed project would be publicized on “Energy Matters.” The City was the only applicant awarded the maximum available amount; \$100,000. The project is now underway, with plans to install a 70kW microturbine powered by landfill gas. The electricity produced will be used by the gas extraction system; the groundwater remediation system; and excess power will be sold to Public Service Company of New Mexico.

## **APPENDICES**