# Colorado Governor's Energy Office | Annual Report Fiscal Year 2008–09





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The Governor's Energy Office (www.colorado.gov/energy) was created by an Executive Order on April 16, 2007. GEO's mission is to lead Colorado to a New Energy Economy by advancing energy efficiency and renewable, clean energy resources. GEO works with communities, utilities, private and public organizations, and individuals to promote renewable energy such as wind, solar, hydroelectric and geothermal, and energy efficiency technologies in commercial and residential buildings.



#### Greetings,

I am privileged to present the second annual report from the Governor's Energy Office for the fiscal year 2008–09. The energy office was redesigned and re-missioned in 2007 to help achieve my vision of a New Energy Economy in Colorado.

I am pleased to report that we have moved well down the path of making that vision a reality. Initial introduction of renewable and energy efficiency programs in Colorado have met with enthusiastic support throughout the state. We have created new jobs that can't be exported. Families living on the financial margins are enjoying lower energy bills, we are producing more energy from renewable resources and buildings are being built with greater emphasis on sustainable energy use.

The emerging industries associated with renewable energy production and energy efficiency have identified our state as a national and international leader of a clean energy movement—what we in Colorado call the New Energy Economy. As a result we have seen an unprecedented level of private investment in companies relocating to Colorado, developing cutting edge technology in Colorado and creating jobs for thousands of Coloradans—in Colorado. In 2007–08, we established the office and began developing programs. The office received its first allocation of state resources to offer Colorado citizens incentives and programs to advance energy efficiency and renewable energy. In 2008–09, we followed that initial development with full scale deployment of programs throughout the state. The GEO's Regional Representative program established integral partnerships with utilities, local organizations and local governments throughout the state to advance community driven programs toward sustainable energy solutions.

Midway through the fiscal year, the country and Colorado were hit with the biggest economic recession since the great depression. Capital markets dried up and unemployment hit record highs. Fortunately, our early investment in development of the New Energy Economy offered opportunities for families and businesses around the state to permanently lower their operating costs through lower energy bills, and job creation in the New Energy Economy continued through the recession, mitigating the significant economic slowdown in Colorado. We are by no means out of the woods, but the foundation we've created with the vision of developing a new ecosystem of sustainability within the New Energy Economy has positioned Colorado well for the federal investments made through the American Recovery and Reinvestment Act. While other states are starting from the ground, we have a strong foundation of programs to build upon for the next fiscal year as those federal funds begin to flow into communities around the state.

Our goal for the Energy Office is to provide solutions and mechanisms for families and businesses to easily and affordably reduce their energy costs and the harmful emissions associated with increasing energy use. Simultaneously, we can develop good jobs for Coloradans and a vibrant industry focused on a sustainable energy future for our children and grandchildren.

This annual report is a progress report of our path toward achieving that goal. We have come far, but there is still much farther to go. My administration, and the Governor's Energy Office, will continue to lead Colorado forward.

Sincerely, Bill Ritter Jr. Governor

Bill Roth J

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The light of the setting sun reflects off solar panels at SunEdison's 8.2-megawatt solar photovoltaic plant outside of Alamosa.

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Martin Clift of Ascent Solar makes equipment adjustments at the company's manufacturing facility in Littleton, Colorado.



# Expanding Colorado's New Energy Economy

### Introduction

When Colorado Gov. Bill Ritter Jr. took office, he planted the seeds of a New Energy Economy. Those seeds have since taken root, and accomplishments are blossoming. Under his leadership, our state has become a pacesetter in developing renewable energy and energy efficiency, creating green jobs, drawing capital investment and attracting innovative companies.

Gov. Ritter's Energy Office has played a critical role in developing the ecosystem to realize the Governor's vision of a new energy economy. Work on building the foundations of our New Energy Economy that marked the GEO's initial year have flowered into a sustained period of outcomes and achievement that have made Colorado an international example in leading the world to a clean energy future.

The GEO's work has fortified the markets for new energy with pioneering programs that have spread the adoption and deployment of solar, wind, biofuels and energy efficiency. Not only is this work creating jobs and saving taxpayer dollars, but it's driving energy conservation, cutting greenhouse gases and other pollutants and buttressing our energy security by reducing our dependence on imported power. Indeed, fiscal year 2008–09 saw the GEO move the New Energy Economy forward in dramatic fashion. The GEO worked on many fronts through a variety of efforts across the public, private, non-profit and utility sectors to weave new energy and energy efficiency into Colorado homes, towns, schools and businesses, to educate our diverse green energy workforce and reinforce Gov. Ritter's tireless efforts to attract new energy industry to Colorado.



Two windmills spin out electricity at the Cedar Creek Wind Farm east of Grover in northeast Colorado.

# Highlights of the GEO's 2009 fiscal year accomplishments:

- Created a statewide solar incentive program—the first of its kind ever in Colorado—that produced installation of 499 solar energy systems, creating enough electricity to power 486 homes with 100 percent solar energy.
- Partnered with 48 new public agencies—state, cities, counties, school districts and higher education—to save taxpayer dollars by dramatically cutting energy costs and installing renewable energy systems.
- Received the EPA's 2009 ENERGY STAR Partner of the Year Award for the GEO's work with dozens of community partners, all supporting construction of more than 2,100 efficient ENERGY STAR New Homes in 2008.
- Developed stronger working relationships with all 57 electric and gas utilities in Colorado leading to greater utility participation—including provision of matching funds—in GEO programs offering solar, wind and insulation rebates.
- Partnered with eight agencies across the state to weatherize 3,477 lowincome households and install 1,156 energy-saving appliances, such as furnaces and refrigerators.

- Launched the Colorado Carbon Fund, the first program of its kind in the nation. More than 400 individuals and businesses contributed \$300,000 to offset their greenhouse gas emissions in fiscal year 2009. Using this funding, the CCF is investing in a landfill gas-toenergy project equal to taking 8,500 cars off the road each year.
- Provided technical and financial support for several new projects—including systems in Park, Larimer and Pueblo counties—that will use biomass derived from beetle-killed pine as a fuel source to heat public buildings and a public swimming pool.
- Collaborated on the design of New Energy Economy legislation, including measures that reduce barriers for homeowners and new home buyers to benefit from solar energy and make it easier for schools to pay for renewable energy projects, including compressed natural gas, hybrid and electric buses.
- Worked closely with sister state agencies and fleet managers to reduce petroleum consumption by 10 percent from the previous fiscal year.



Troy Clous, left, and Lisa Berti of Abound Solar inspect solar modules at their Loveland facility.

Directed GEO grant dollars to dozens of New Energy Economy efforts, including the development of a community college program for solar certifications, the construction of a first-of-its-kind solar farm, allowing customers to buy into off-site solar power and installation of solar electricity systems at two Jefferson County elementary schools.

The Governor's Energy Office is proud of its results in fiscal year 2009. Even as its creativity has states across the nation looking to Colorado's model for advancing their own clean energy plans, the GEO is accelerating and broadening its work leading the pace in a world that is acting quickly to adopt smarter energy strategies for a carbon-constrained future.

Looking ahead to 2010, the GEO has embarked on an ambitious plan to direct tens of millions of American Reinvestment and Recovery Act dollars to a wide array of new programs designed to take the New Energy Economy another giant step forward and keep Colorado at the head of line in job security, environmental security and energy security.

# Colorado's New Energy Economy highlights, FY 2008–09

The New Energy Economy marks a central component of Gov. Bill Ritter's efforts to lead Colorado forward. Utilities, universities, community organizations, enterprising companies, the Office of Economic Development and International Trade, the Colorado Department of Labor and Employment, the Department of Local Affairs and many other partners in the New Energy Economy took major steps to advance Colorado's embrace of new and diversified energy sources in the past fiscal year. The Governor's Energy Office thanks and acknowledges these visionary leaders who are helping make Colorado a beacon in the new energy future.

- Tri-State's first wind farm is planned for the central swath of Colorado's eastern plains. Tri-State Generation & Transmission Association Inc. will purchase power from a new 51-megawatt facility planned near Burlington in partnership with Duke Energy.
- A 17-megawatt solar photovoltaic plant to be owned and operated by SunPower in the San Luis Valley will supply Xcel Energy. The system is adjacent to an existing 8.2-megawatt solar plant already providing power.



- Xcel Energy won approval to launch an Innovative Clean Technologies Program to develop demonstration projects in biomass, concentrating solar power and energy storage. The first project will be a concentrating solar array near Grand Junction.
- United Power, a rural electric cooperative serving parts of the Front Range, installed a solar array that allows customers to buy a portion of the array, and be credited for the electricity it generates. The project was aided by a Solar Innovation Grant from the GEO.
- The Trailblazer project, a facility to capture waste heat produced by a Kinder Morgan natural gas compressor near Peetz in Highline Electric Association territory in eastern Colorado will produce more than 27,000 megawatthours of electricity annually.

- Denmark-based Vestas began work on three new production facilities in Colorado—two in Brighton and one in Pueblo—in addition to the Windsor plant that opened earlier in 2008.
- The Colorado State Capitol became the first and only LEED certified state capitol in the country through the leadership of the Colorado Department of Personnel and Administration and funding from the GEO.
- Connecticut-based Hexcel Corp, a producer of carbon fiber and other advanced composite materials and a Vestas supplier, broke ground in early 2009 on a manufacturing facility in Windsor.
- Colorado State University at Pueblo opened a new solar 1.2-megawatt solar system developed by BP solar in January 2009 that will meet 10 percent of the school's energy needs.

Colorado Gov. Bill Ritter, left, tours Confluence Energy in Kremmling, Colo. with owner, Mark Mathis, center. Confluence Energy turns beetle kill wood into pellet and biomass production.

- Ascent Solar opened a new world headquarters and manufacturing facility in March 2009 for its flexible thin-film solar module. The company plans to add up to 200 new jobs over the next couple of years.
- AVA Solar, now Abound Solar, opened its manufacturing plant in Longmont in April 2009.
- Four Colorado projects designed to convert wood waste, including beetle-killed pine, to energy and energy feedstocks received grants of \$250,000 each through the American Reinvestment and Recovery Act.
- Major solar arrays began generating power at the Belmar shopping district, the Colorado Convention Center and Denver International Airport, adding to a growing list of large photovoltaic systems in Colorado.
- Denver's FuelTek converted 25 Ford F-250 pick-ups to compressed natural gas (CNG) for Pioneer Natural Resources and installed a CNG fueling station near Trinidad to support Pioneer's work in southern Colorado.
- Solar Technology Acceleration Center (SolarTAC) announced it will build the nation's largest public-private partnership for solar energy research and development in Aurora.

- The Public Utilities Commission approved a plan for Xcel Energy to reduce customer energy demands 421 megawatts by 2015 through rebate programs. That's the equivalent of two medium-sized power plants.
- Colorado's community colleges added programs to prepare students for New Energy Economy jobs, including training in wind, solar, hybrid and efficiency technologies.
- The Colorado Renewable Energy Collaboratory—a joint project of the National Renewable Energy Laboratory (NREL), University of Colorado, Colorado State and the Colorado School of Mines—continued cooperative work around new energy and made progress on building additional joint research centers around carbon management, energy efficiency and solar technology. Additionally, representatives of CU, CSU, and Mines joined the National Renewable Energy Laboratory's managing board.
- A major community effort made the Democratic National Convention in August of 2008 the greenest in history, thanks to carbon offsets, waste reduction, a bicycle sharing program, recycling and use of renewable energy to power the event.



Jim Wedeman of Ascent Solar holds up a piece of Polyimide film used at the company's manufacturing facility in Littleton.

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# Renewable Energy

The Governor's Energy Office made significant strides in deploying solar and wind power. The GEO provided financial assistance, legislative and policy support as well as technical guidance for renewable energy. Such efforts continued to strengthen markets and industries for renewable technologies while reducing energy costs and carbon emissions. The GEO also laid strong foundations for evolving efforts to tap geothermal power and reap the significant potential of small hydroelectricity projects in the state.

### Solar energy

The deployment of solar energy continues to grow rapidly in Colorado, now ranked 3rd nationally for distributed solar photovoltaic capacity and 6<sup>th</sup> for its solar resource. The GEO's Solar Rebate Program along with rebates from Xcel Energy and Black Hills Energy contributed to the growth in the solar market. The GEO Solar Rebate Program offered partnerships with local municipal and rural electric cooperatives and played a key role in solar expansion, leading to 499 installations totaling 2.36 megawatts of capacity distributed among homes and businesses. That generates the electricity equivalent to the average needs of 486 Colorado homes.

The GEO, working with the Colorado Solar Energy Industries Association, provided matching funds to 36 communitybased groups and rural electric associations. Those dollars provided rebates to help homes and businesses purchase solar photovoltaic and hot water systems. As part of the program, five Colorado schools received grants for solar energy systems and the Colorado State Veterans Center at near Monte Vista received a grant for a large solar hot water system. In all, GEO's Solar Rebate Program leveraged \$1.4 million to install \$9.3 million worth of solar power on homes, schools and businesses.

Additional solar energy projects were launched through other GEO grant programs, including New Energy Economic Development (NEED) grants, Solar Innovation Grants (SIG), Renewables in Performance Contracting grants and New Energy Communities (NEC) grants, which were provided in partnership with the Department of Local Affairs. The grants produced an array of solar energy projects, from those helping small communities incorporate solar power to larger endeavors, such as a solar cooperative farm that allows customers of rural electric provider United Power to buy power from their own share of an off-site solar array.

The GEO's work to deploy solar energy was part of a broader movement in Colorado to increase the use of solar power. Xcel Energy's Solar\*Rewards program added thousands of solar energy systems in the state, and the trend of large solar arrays generating power at major facilities continued in the fiscal year, with the Belmar shopping district, the Colorado Convention Center, the Nestle Purina Plant and Denver International Airport joining the list that already includes Fort Carson and the Denver Federal Center, among others.

### Wind power

The GEO's small wind rebates resulted in eight turbines erected in the Sangre de Cristo Electric Association, with eight more in southeastern Colorado and two in Estes Park. The program helped developed a small, but growing industry and provided rural Coloradans with a new source of clean, renewable electricity. Small wind turbines help offset as much as one-third to one-half of a property's utility bill. In all, the GEO leveraged \$36,260 to install \$447,705 worth of small turbines. The GEO also held eight free educational seminars with several electric cooperatives, the Rocky Mountain Farmers Union and Colorado Working Landscapes.

The fiscal year also saw six rural schools selected to participate in the Wind for Schools program, a collaborative effort between the GEO, Colorado State University, the U.S. Department of Energy and the National Renewable Energy Laboratory. When erected by the fall of 2009, the turbines will generate a small share of the school's electricity as well as act as an educational resource for teachers, students and local residents who might be considering installing wind power.

The small wind program was a microcosm of Colorado's continued growth in utility-scale wind energy, driven by major investments by the state's largest utilities and their customers. In 2009, Colorado ranked 8<sup>th</sup> in installed wind capacity and 11<sup>th</sup> in wind resources. Xcel Energy has led aggressive efforts to add wind power to Colorado's energy portfolio and, by the end of the fiscal year, the state's largest utility cooperative, Tri-State Generation and Transmission, was preparing to announce plans for a 51-megawatt wind farm near Burlington.



### Geothermal

The GEO is building a foundation for geothermal energy production in Colorado by bringing together industry experts, geothermal communities and energy developers to bring the most promising projects to fruition. Representatives of Colorado's Geothermal Working Group, supported by the Department of Energy's Geopowering America Program, visited Nevada and hosted experts from the geothermal hot spot of Iceland to gather technical knowledge. This spring the working group met in Salida for its 2<sup>nd</sup> annual conference, inviting all with interest in building a geothermal industry in the state. The GEO provided a \$45,000 grant to Mt. Princeton Geothermal LLC to cover about one-third of the cost of drilling test wells in a region south of Buena Vista considered to be Colorado's top spot for potential geothermal production. The Colorado Geological Society and the Colorado School of Mines continue to work closely with the GEO on unleashing the potential of geothermal in Colorado.

### Hydroelectric

A GEO-sponsored working group on small scale hydroelectric projects has focused much of its effort on how to simplify the regulatory process and reduce barriers to development of small scale hydropower. From a list of 200 potential projects, the working group has prioritized 10-15 projects across the state that present the greatest opportunity for accelerated development. All would produce less than 2 megawatts, but all take advantage of existing dams, ditches, canals and pipelines to make the projects more practical. These projects also would avoid any additional diversions from Colorado streams, as they use water flows already designated for crops or municipal supplies. Looking ahead, the GEO hopes to assist in project development with Recovery Act dollars. In addition, state and federal water agencies are developing financing alternatives for small hydroelectric projects.

#### Legislation

The GEO was integrally involved in designing and drafting successful legislation in the 2009 session intended to move more renewable energy into the marketplace and will be helping to implement these measures moving forward.

- HB 1149 (Merrifield/Carroll M.): Requires homebuilders to offer prospective buyers the option of having their home pre-wired for solar or having a system installed as part of construction. This makes it easier to finance solar energy by having the costs, or some of the costs, wrapped into a home mortgage.
- HB 1312 (Kerr/Schwartz and Romer): Creates a loan program to help schools pay for renewable energy projects, as well as hybrid and electric school buses. This will help schools direct more money to classrooms and less toward utility and fuel bills.
- SB 51 (Carroll/Levy): Takes numerous steps to make solar energy systems more affordable for homeowners and improve market conditions for solar energy companies doing business in Colorado. The measure provides treasury bonds to participating banks and lenders for renewable and efficiency projects.

Betty Merrifield greets her dog, Lola, as she waters flowers in one of her family's greenhouses in Buena Vista. The Merrifield family uses geothermal technology to heat and cool their greenhouses.



# **Biomass and Biofuels**

The GEO played an important role in building markets for biofuels, developing the prospects for advanced biofuels from new agricultural sources and expanding markets for locally produced biomass, including fuel produced from beetle-killed lodgepole pine in Colorado's high country. Such steps advance our New Energy Economy by diversifying our energy supplies, building new markets and reducing greenhouse gas emissions.

### **Biofuels**

The GEO has worked closely with the Governor's Biofuels Coalition to dramatically increase the number of stations selling biofuels—E85 ethanol and biodiesel. In the past fiscal year the total sites selling biofuels reached 109 in Colorado. By the end of 2008. nearly 9 million gallons of biofuels had been sold, with projections of an additional six million in 2009, even as competing petroleum prices dropped.

The past year reflected the steady success of efforts by the Governor's Biofuels Coalition that began in 2006, when just 11 stations sold biofuels in the state. The GBC represents Colorado businesses, public agencies, environmental groups, agricultural interests and others involved in the production, distribution, promotion and use of biofuels. The National Renewable Energy Laboratory has deemed Colorado the fastest growing state for biofuel infrastructure, and states including Arizona and New Mexico are adapting our public–private approach to increasing access to and use of biofuels.

Colorado, already home to five plants that refine ethanol, is also leading the way to the development of advanced biofuels those that can be developed using agricultural waste and other non-food plant sources. Several advanced biofuel companies—including ZeaChem, Range Fuels, AmBio Diesel and Rocky Mountain Sustainable Enterprises—now call Colorado home. Solix Biofuels, a first of its kind algae-to-biofuels pilot facility, was also preparing to open on Southern Ute land in southwestern Colorado.

In June, the GEO, in partnership with the Western Governor's Association and the U.S. Department of Energy, hosted a workshop on advanced, low-carbon biofuels. The event brought together leading industry, scientific, academic, environmental and public policy experts to discuss how Colorado could continue moving biofuel research, production and distribution forward.



Jars of homemade biodiesel are part of the inventory at the Colorado State University Engines and Energy Conversion Laboratory in Fort Collins.



#### Biomass

The past year saw significant progress in building a New Energy Economy marketplace for Colorado's wealth of forest biomass. The GEO continues its efforts to turn the state's pine beetle devastation into an opportunity for entrepreneurs, an energy saver for public facilities and a lowcarbon or carbon-neutral source of community power and heat.

Beetle-killed logs as well as major stores of wood supplies from various efforts to thin overgrown forests to reduce catastrophic wildfire risk provide a dependable supply of material for conversion to wood pellets and other products to fire heating systems for swimming pools, schools, homes, businesses and other buildings.

Developments in 2009 included: Agreements to convert the Park County Recreation Center to a wood pellet heating system that will reduce the need to heat the swimming pool with costlier propane; installation of a hot water boiler system at the Salvation Army Mountain Camp in Estes Park fueled with local forest wood; as well as the installation of two hot water boilers at the Mountain Parks Environmental Center in Beulah that will use local wood to provide heat for classrooms and lodges. In addition, the GEO is tracking and supporting nearly 50 other projects that have requested technical and financial assistance. These projects and others like them benefit from the GEO's resources, including funding for feasibility studies, design and engineering work as well as air quality testing. Often, the GEO can provide basic technical expertise that interested project developers might lack to get projects off the ground.

### Legislation

The GEO supported or assisted in designing and drafting successful legislation in the 2009 session intended to improve the marketplace for biofuels. Key biofuels legislation included:

- SB 098 (Schwartz/Vigil): Simplifies the tax rebate structure to make blended biodiesel a more financially appealing alternative to traditional diesel.
- SB 092 (Kopp/Marostica): Requires a significant increase in the use of alternative fuels by state-owned motor vehicles, focusing particularly on compressed natural gas as an alternative fuel.

- SB 124 (Isgar/Roberts): Extends funding to the Colorado Agricultural Value-Added Development Board to promote agricultural renewable energy-related projects and research, such as those involving biofuels development or wind and solar energy.
- HB 1331 (Gagliardi/Boyd): Creates incentives through updated tax credits to buy fuel-efficient hybrid, electric, plug-in hybrid electric and compressed natural gas vehicles, credits to convert vehicles to plug-in electric hybrids or compressed natural gas, and incentives to reduce large truck idling. The bill updates tax credits to exclude certain hybrid SUVs that don't meet a mile-pergallon threshold. The bill also provides incentives to governments and nonprofits for these purchases or conversions through a state rebate program.



A Honda hybrid vehicle is part of a growing number of hybrids in the State Motor Pool's fleet of fuel efficient vehicles in downtown Denver.



# Energy Efficiency—In the Home

Our homes are significant energy users. Inefficient energy use drives unnecessary power generation, wastes consumer money and drags down our economy. Some studies estimate that buildings account for more than 20 percent of our country's energy consumption. The GEO worked on several fronts to reduce residential energy consumption in Colorado homes. Initiatives in the past fiscal year included boosting efficiency and weatherizing income-qualified households, educating builders, realtors and building code officials on more effective energy code standards, promoting the construction of efficient ENERGY STAR qualified New Homes and providing rebates encouraging homeowners to upgrade their insulation.

### Insulate Colorado

This program provides rebates of up to \$300 for homeowners who hire an approved contractor for insulation and airsealing work. It gained significant momentum this fiscal year after its start-up in early 2008. In all, it issued 1,424 rebates through fiscal year 2009. That number doesn't include hundreds of additional rebates issued by partners who adopted the GEO program as their own. Those include Xcel Energy, Colorado Springs Utilities, Source Gas, Atmos Energy, Colorado Natural Gas, and Poudre Valley REA. Xcel alone has issued more than 800 rebates for insulation work for its customers.

The GEO supported a series of trainings across the state to ensure that contractors were conducting the work associated with Insulate Colorado properly and with high quality. More than 110 contractors attended trainings and, in turn, became qualified contractors. The GEO provided materials, such as yard signs, door hangers, and postcards for marketing the program.

### **Energy codes**

In 2007, the Colorado General Assembly passed HB 1146, which required local governments with a building code to adopt at a minimum—the 2003 International Energy Conservation Code (IECC). Since then, the GEO has provided training, resources and other support to the state's 329 code jurisdictions.

The GEO contracted with the International Code Council to provide a series of trainings across the state, focusing not only on the 2003 IECC codes, but the more stringent 2006 and 2009 versions. In fiscal year 2009, the ICC held 10 trainings, attended by 230 people. All attendees received a copy of the 2009 IECC code book and a Colorado-specific workbook.



Hank Myers of the Northeastern Colorado Association of Local Governments carries a bag of insulation at a Greeley warehouse as he and other workers weatherize two homes.



An energy efficient compact fluorescent light bulb lights a room. Such bulbs use 75 percent less energy and last about 10 times longer than incandescent bulbs.

#### **ENERGY STAR New Homes**

The momentum behind the ENERGY STAR New Homes (ESNH) program continues to grow dramatically under the leadership of the GEO and its partners in local governments, community organizations, utilities, homebuilder associations and Home Energy Rating providers. All are working together to put more efficient ENERGY STAR New Homes on the market.

Market penetration of ESNH continues to climb. By the end of second quarter of 2009, ESNH numbers reached 26 percent of market share. In 2008, Colorado was one of only 15 states to see ESNH market penetration reach 20 percent up from 7.8% in 2006. The results show that home builders—and home buyers—are embracing energy efficiency even in a challenging housing market.

In 2008 alone, GEO partners conducted over 50 ESNH trainings, with more than 900 attendees, a pace growing in 2009. These trainings, funded in part by GEO matching grants, cover marketing, building science and more to homebuilders, realtors, contractors, appraisers, Home Energy Raters and local building code officials. In addition, the GEO has also assisted homebuilder associations in paying for trainings designed directly for their members. In March, the GEO began offering a \$300 rebate directly to homebuilders who construct and certify ENERGY STAR New Homes in Colorado. The GEO, in partnership with the Bank of Colorado, has also developed a pilot program that offers buyers of ENERGY STAR qualified homes a one-quarter to one-half percentage point interest rate reduction.

Colorado's success in this area was recognized by the Environmental Protection Agency, which awarded the GEO its ENERGY STAR Partner of the Year Award in 2009. Gov. Bill Ritter accepted the award on the GEO's behalf at a ceremony in Washington D.C.

### Weatherization assistance

Reducing energy costs for income-qualified families is the mission of the GEO's weatherization program, and thousands of additional families were assisted in fiscal year 2009. The 2009 program provided free weatherization services to families with incomes up to 150% of the federal poverty level and priority was given to homes with elderly, disabled persons and children, as well as those with a high energy burden. Homeowners and renters in all 64 counties are eligible for this program. The GEO partnered with eight agencies spread across the state to weatherize 3,477 homes. Weatherization starts with a complete energy audit of the home; work can include installing insulation in attics and walls, sealing air leaks, furnace safety testing and furnace replacements. The program completed the installation of 1,156 energy saving appliances, including furnaces and refrigerators during 2009. In addition, energy kits containing long-lasting and highly efficient compact florescent light bulbs were sent to 13,024 families.

Bringing utility partners into the weatherization program has been a key initiative for the GEO. In addition to our continuing partnership with Xcel Energy, which provides energy rebates to weatherization clients, the GEO began discussions with several new utilities in the fiscal year. They included Source Gas, Atmos, Colorado Natural Gas and Delta Montrose Electric Association.

In an effort to assist more people eligible for weatherization services, the GEO established a new, information-sharing partnership with the Temporary Assistance for Needy Family (TANF) organization. TANF recipients are automatically qualified to receive weatherization services and this new partnership will enable the GEO to greatly expand the pool of eligible weatherization clients. Passage of the American Recovery and Reinvestment Act will bring nearly \$80 million additional dollars to the weatherization program over the next three years, and work to prepare for an expanded program began late in the fiscal year. The GEO's partner agencies bulked up their workforce, adding green jobs with expertise in energy audits, residential building science, and heating, venting and air conditioning technology. The weatherization program also implemented a critical new database management tool, known as Focalpoint. GEO and its partner agencies can use the tool to ensure production targets are being met, better manage the information flow, allow technical staff to access more information in the field and more efficiently and accurately identify eligible weatherization clients.



Jose Guillen secures his protective gear as he and others with the Northeastern Colorado Association of Local Governments prepare to weatherize a home in Greeley.



# Energy Efficiency— In Schools and Buildings

Commercial and public buildings are the country's primary energy consumers. The GEO addresses this by focusing on programs to ensure new buildings are designed with energy efficiency and renewable potential in mind from the start, as well as promoting projects and programs to make existing buildings—public and private—more energy efficient.

### High performance building program

One of the GEO's newest programs, the High Performance Building (HPB) program was effectively designed and launched in fiscal year 2008–09. In the last fiscal year, the GEO worked with 22 agencies, including 14 school districts on new construction projects. The program has also created two critical tools to help Colorado realize the goal of making every new building the most energy efficient possible: the FLEX Energy tool and the Colorado Collaborative for High Performance Schools (CO-CHPS).

The FLEX Energy tool allows architects and engineers to incorporate simple, yet important measures that leave room for the building to adapt to future changes in energy economics and resource availability. The FLEX Energy theme is simple: "If you didn't design it in, you likely designed it out." The GEO realizes that new projects face constraints that can prevent inclusion of certain energy efficiency and renewable energy measures. The FLEX Energy tool helps designers make simple decisions that allow for future inclusion of these measures, such as solar photovoltaic systems, biomass boilers, electric vehicle charging stations, ground source heat pumps and thermal energy storage.

The GEO's HPB program also led development of Colorado's own high performance building rating system for K–12 schools, known as Colorado Collaborative for High Performance Schools, or CO-CHPS. The rating system, released this summer, was developed by a diverse team of school officials, superintendents, facility managers, architects, engineers and state officials. To be certified as a CO-CHPS school, a project must meet a wide array of requirements tied to impacts on the local environment, water, energy, climate, materials, waste and indoor environmental quality.

Additionally, the HBP program offers technical assistance to school districts, local governments, state agencies and higher education institutions engaged in building projects. GEO consultants work with these projects to ensure that energy efficiency and high performance opportunities are included early on, and successfully achieved.



### **Energy performance contracting**

The GEO's energy performance contracting program keeps growing. In the past fiscal year, 46 new public agencies joined the program, bringing the total to 131—a 35 percent increase. The state, counties, cities, K–12 and higher education are all participating in the program and, at some facilities, have added renewable energy to supply their own clean source of electricity or heating. The GEO's program is also providing more services to K–12, helping facilities manage their energy use and bring energy education to faculty, teachers and students.

In addition, GEO contracted with Trident Energy and Nexant Inc. in the past fiscal year to provide technical support throughout the EPC process. With their assistance, GEO has been able to expand the services of the EPC program to better track projects, provide more timely and indepth reviews of projects and help agencies avoid and deal with challenges that might arise in the EPC process.

While existing buildings present more challenges for incorporating energy savings and renewable energy opportunities, the GEO works with energy service companies to root out dramatic savings and, in some cases, install renewable energy systems.

Josh Winegarner carries a section used for the new, more energy efficient heating and cooling system for Casey Middle School in Boulder.

This work is conducted through energy performance contracting, which allows a facility to pay for energy renovations through lower utility bills and utility rebates. The projects are financed in a way that doesn't require the costly up-front expenses that might otherwise deter building owners from taking on the work.

The Mesa County Valley School District #51 serves as just one example. The district is working through the GEO's energy performance contracting program to conduct \$4.2 million worth of upgrades at Central High School and other buildings. The company performing the work, Trane, anticipates nearly \$336,000 in annual energy savings and \$75,000 over five years in operation and maintenance savings.

The work will help protect the district from rising energy costs with an anticipated savings of 3 million kilowatt-hours annually. It also will reduce carbon emissions, translating to 391 cars removed from Colorado's roads and equal to the carbon stored by nearly 55,000 tree seedlings grown for 10 years.

Windmills appear blurred in this photo captured at the 300.5 megawatt Cedar Creek Wind Farm east of Grover.

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# Electric Utilities and Transmission

Utilities generate and distribute the electricity and heat critical to powering our fast-moving society. The GEO works closely with Colorado's 57 electric and gas utilities, from its largest—like Xcel Energy and Tri-State Generation and Transmission-to our many rural cooperatives and municipal utilities. The GEO develops partnerships with utilities and engages with Colorado's Public Utilities Commission to advance the New Energy Economy. The GEO also focuses on developing efforts to construct new high voltage transmission lines to collect and distribute clean electricity from Colorado's rich renewable energy zones on to the state's power grid.

### Utilities

The GEO's utilities program worked on several fronts in the past fiscal year, developing stronger ties to the state's utilities, partnering with more of them to offer GEO rebates, gaining cooperation from some of the state's largest utilities in working toward the goals of the Colorado Climate Action Plan and engaging the Public Utilities Commission on dockets important to advancing renewable energy and energy efficiency. The fiscal year also saw important efforts from non-regulated utilities to implement energy efficiency and renewable projects. Developing strong working relationships with Colorado's utilities is key to GEO's efforts. Many utilities that understand concerns about climate change and want to be a part of the New Energy Economy have growing numbers of customers who are excited about more opportunities to save energy and buy power from greener sources. Such interest manifested itself in the last fiscal year as more utilities partnered with GEO on rebates for small wind projects, solar projects, insulation and air-sealing incentives.

Utilities are also collaborating with the GEO in efforts to reach the goals of Gov. Ritter's Colorado Climate Action Plan. The plan asks the GEO to convene with Colorado's non-regulated utilities to develop plans for meeting a 2020 goal of reducing greenhouse gas emissions by 20 percent from the 2005 baseline year. The majority of large-generation unregulated utilities in the state are participating.

They include: Arkansas River Power Authority, City of Aspen, City of Fountain, City of Gunnison, Colorado Springs Utilities, Delta Montrose Electric Association, Ft. Collins Light and Power, Highline Electric Association, Holy Cross Electric Association, Platte River Power Authority, San Miguel Power Associations, Tri-State Generation and Transmission and United Power.

The GEO's utilities program also engaged in two important dockets before the PUC during fiscal year 2009. One involved clarifying how utilities are credited for renewable energy projects to comply with Colorado's Renewable Portfolio Standard and its goal of 20 percent renewable generation by 2020. A second major docket involved Public Service Company's rate case that began in the past fiscal year. The GEO's utilities program hopes to see new and innovative steps that account for the benefits of renewable energy generation from distributed sources, particularly large, commercial-scale solar energy.

Both Xcel Energy and Black Hills Energy, the state's two regulated electric utilities, continue to make great strides in meeting the state's renewable energy goals and building larger increments of clean energy and energy efficiency into their resource plans. The past fiscal year also saw promising moves from non-regulated utilities to advance renewable energy in Colorado. Examples include:

# Tri-State Generation and Transmission—Announced the pur-

chase of 51 megawatts of utility-scale wind power from a Duke Energy-owned wind farm to be built on Colorado's central eastern plains, near Burlington.

- United Power—Developed and installed a 10 kilowatt solar farm on the utility's property near Brighton. The utility will lease panels to customers and build the plant out to a 1 to 2 megawatt capacity. The project was assisted with a GEO grant.
- Highline Electric Association—Developed and installed a combined heat and power (CHP) plant which recovers waste heat from a natural gas compression station and converts it into electricity. CHP plants can provide needed energy while complying with the state's Renewable Energy Standard.
- Colorado Springs Utilities—Working through the final details on a utilityscale wind purchase of up to 50 megawatts. The effort is part of the municipal utility's growing interest in the benefits of renewable energy and the New Energy Economy.



#### Transmission

The growth of the New Energy Economy puts a sharper focus on bringing renewable energy to the marketplace. Delivering new high-voltage transmission lines to carry that electricity is the primary focus of the GEO's transmission program, which began in the 2009 fiscal year.

A grant from the U.S. Department of Energy helped launched the GEO on the Renewable Energy Development Infrastructure (REDI) Project. The REDI Project has developed technical, financial and policy frameworks to speed the construction of new high voltage transmission lines to bring additional renewable resource capacity onto Colorado's electricity grid. The REDI Project works closely with a wide variety of stakeholders, including renewable energy developers, utilities, transmission planners, financiers, the Colorado Public Utilities Commission and the Colorado Clean Energy Development Authority.

The GEO also convenes the Colorado Clean Energy Development Authority (CEDA). Its purpose is to finance or refinance transmission facilities to allow for more movement of utility-scale renewable energy. Currently, the GEO provides staffing and management for CEDA until it can afford to hire staff of its own.CEDA's legislative authority must be clarified before the organization can become a viable development authority.

The GEO's transmission program manager participated in the Western Renewable Energy Zones (WREZ) initiative. This project was launched in the spring of 2008 by the Western Governors' Association and the U.S. Department of Energy. The WREZ initiative includes representatives from throughout the Western Interconnection, which includes 11 states, two Canadian provinces and areas in northern Mexico.

The WREZ initiative helps to foster consensus within the Western Interconnection on how best to develop and deliver energy from renewable resource areas to load centers. The project has generated reliable information for use when considering costeffective and environmentally sensitive development of renewable energy.

The rising moon is reflected in an irrigation ditch near farmland in Florence. The GEO is working with stakeholders to develop more opportunities for small hydroelectric projects in the state.



Kyle Remley of Headwaters Energy lifts the head of a windmill assembly during installation at the Westcliffe home of Lou and Betsy Puls.



# Greening Government

In the past two years, Colorado has made important progress toward Governor Ritter's goals to green state government by reducing energy and water use, waste, paper consumption and petroleum use by mid-2012—as well as moving toward the purchase of environmentally friendly products inside state agencies.

Perhaps the highest-profile accomplishment of a state agency saw the Colorado State Capitol become the first and only state capitol in the country to receive the Leadership in Energy and Environmental Design (LEED®) certification from the U.S. Green Building Council for a variety of energy savings features, sustainable purchasing practices, easy access to public transit as well as recycling and other waste and materials reduction programs. The Department of Personnel and Administration topped off its success with the installation of solar panels on the capitol roof.

Equipment mechanic Elie Mardiros fills up a flex fuel car that is part of the State Motor Pool's fleet of fuel-efficient vehicles in downtown Denver. The GEO provided state agencies with LEED® training, and created a LEED® for existing buildings manual, customized for state government projects. In addition, the GEO has engaged all state agencies to determine the impact of energy performance contracting (EPC) in their facilities as a way to achieve energy savings. More than 80% of the agencies have initiated or completed an EPC through the GEO's commercial buildings and greening government programs.

To better understand energy improvements, the GEO contracted with Good Steward Software to provide all state agencies with EnergyCAP software, which will track, analyze, and manage energy and water use in state buildings.

The petroleum reduction strategy developed through Greening Government's 2007 Transportation Efficiency Audit earned Colorado's State Fleet the distinction of being named one of the "100 Best Fleets" for 2008. Among the 38,000 public fleets in the country, Colorado's was recognized as having one of the highest percentages of hybrid vehicles, a commitment to the use of biofuels, and a strategic plan to reduce vehicle miles traveled. In another major milestone for a green state government, the GEO and the State of Colorado Purchasing Office released the state's first Environmentally Preferable Purchasing (EPP) policy in June 2009. The EPP incorporates environmental specifications, in addition to traditional performance specifications, in product selection. The EPP policy will reduce pollution and waste, conserve resources and habitats, minimize local and global climate impact and contribute to sustainable economic growth within Colorado.

In addition to conserving Colorado resources, the EPP is expected to reduce state operating costs because the policy provides a preference for products that are durable, energy efficient, have low disposal costs and are purchased in bulk.

The Greening Government Coordinating Council, under the direction and guidance of GEO, continues to "lead by example" through programs and projects that reduce the environmental impact of state operations.



# Colorado Carbon Fund

The Colorado Carbon Fund marks the first state-based program in the country designed to help people and businesses offset their greenhouse gas emissions by directing money raised from carbon offset purchases to homegrown clean energy projects to be developed here in Colorado.

The Colorado Carbon Fund (CCF) is housed inside the GEO and launched in August of 2008. Over the past fiscal year the CCF has developed partnerships with Denver, Pueblo, Steamboat Springs, Summit County, Vail, Aspen, Boulder, Crested Butte and Telluride. All are helping promote the Carbon Fund's educational campaign—Project C—and will see 20 percent of the donations made in these communities return for local educational efforts and small-scale clean energy projects. The Project C campaign helps individuals and business owners to measure, reduce and offset their carbon footprints using tools on ColoradoCarbonFund.org. Since the launch of the Carbon Fund more than 400 individuals and businesses have contributed \$300,000 to the CCF, as of the end of the fiscal year. The program also benefits from Project C/Advancing Clean Energy license plates to give drivers a way to contribute to the fund and show support for clean energy projects in Colorado.

As the fiscal year closed, the CCF thanks to generous donations—prepared to announce a landfill gas-to-energy project in Larimer County that will have the environmental benefits equal to removing 8,500 cars from the road annually and supply power for up to 900 homes.

Chris Roma, left, and Danny Smith, right, of Shaw Environmental construct a piping system to extract methane gas from the Larimer County Landfill the methane gas will be converted to electricity and represents the first clean energy project partially funded by the Colorado Carbon Fund. Financial and program supporters of the Colorado Carbon Fund in its inaugural year include an array of people and businesses. Among them:

- Students at the University of Colorado who have donated more than \$90,000 to help offset carbon emissions from several campus buildings
- Alpine Bank has donated to the CCF to offset emissions tied to energy use at several bank locations in mountain towns
- The Visit Denver convention and tourism bureau worked with the CCF to develop carbon calculators that help conference and trade show organizers calculate carbon footprints for events and travel.
- Key Bank is donating \$10 to the CCF for every new account opened at its new metro area branches.
- Aspen Ski Company visitors donated nearly \$7,000 during the last ski season.
- Go Alpine offers taxi and airport shuttle passengers in Steamboat Springs an opportunity to offset emissions by donating to the CCF.
- BLineXpress in Eagle County supports the CCF with Colorado Carbon Fund license plates on all of its private limousines.



Energy lights downtown Denver and the evening sky as viewed from Highlands Ranch in September.



# Major Additional Initiatives

The GEO continues to be engaged in several important projects with many important partners in the public and private sector. Fiscal year 2009 saw significant progress in the following initiatives.

Industrial Challenge Program-Governor Ritter's Climate Action Plan directs the GEO to launch an "Industrial Challenge Program" targeting 7.5 percent of Colorado's greenhouse gas reduction goal by 2020. In early 2009, the GEO was awarded a \$900,000 competitive grant from the Department of Energy office of Energy Efficiency and Renewable Energy to deliver this program. It is slated to begin in the fall of 2009 and be administered by the Southwest Energy Efficiency Project with technical implementation from the Colorado State University Industrial Assessment Center and the Intermountain Combined Heat and Power Center. Greenhouse gas emissions reductions from this program are expected to be 1-2 million metric tons of carbon dioxide per year by 2020.

Front Range Renewable Energy Consortium (FRREC)—The state's Army, Air Force and National Guard bases have engaged the GEO, the Western Area Power Administration, Tri-State Generation and Transmission and the National Renewable Energy Laboratory in an initiative to develop between 100 and 400 megawatts of renewable energy on Department of Defense property in Colorado.

The FRREC is developing an operational charter and adding key organizations. The effort springs from the Energy Policy Act of 2005, which set a mandate of 7.5 percent or more of renewable energy use from Department of Defense facilities by 2013. In addition, Executive Order 13423 requires Federal agencies to obtain 25% of their energy from renewable sources by 2025. Finally, the Defense Authorization Act of 2007 requires that 25% of electricity consumed by military installations come from renewable sources by 2025. The GE has been instrumental in convening the FRREC and will be committing Recovery Act dollars to assist in its incorporation process, energy resource modeling and to ensure the effort continues to move forward.

Colorado Energy Assurance and Emergency Plan (CEAEP)—The GEO's utilities program was awarded a Department of Energy grant for \$653,209 to develop a statewide energy emergency planning program. Moving forward, the GEO intends to build a new intra-state framework for handling energy-related emergencies such as cyber attacks, major system outages and threats to critical energy infrastructure. The objectives include developing response actions that include new energy portfolios and Smart Grid applications. The project will focus on building regional energy assurance capability to allow the State of Colorado to coordinate and communicate statewide and have critical energy infrastructure partners in the areas of energy security, grid reliability, emergency response and large-scale disruption.



Michael Kostrzewa of Colorado State University instructs students as they raise a tower to measure winds as part of the anemometer loan program from the Department of Energy in Georgetown.



# **Connecting To Community**

The GEO communicates its programs, grants and other opportunities as broadly as possible through the media, the Internet, electronic newsletters, numerous public and private partners, professional and industry associations, workshops, trainings, community groups, advertising campaigns and through its own staff members. The GEO staff includes four regional representatives who travel the Western Slope, Eastern Plains, southern regions and the northern Front Range to help educate local governments, entrepreneurs and organizations about the New Energy Economy and the role they can play in bolstering clean energy sources in ways large and small.

Lelah Boone, 25, relaxes in the warm waters of Cottonwood Hot Springs Inn and Spa in Buena Vista. The owner of Cottonwood Hot Springs Inn and Spa, Cathy Manning started the business more than twenty years ago using geothermal technology to pump underground water to her hot spring pool.

The GEO Web site—www.colorado.gov/ energy-offers one measure of GEO's connections with its diverse public audience. The site had more than 90,000 visits in fiscal year 2009, with nearly 650,000 page views. The most viewed areas of the site included those with information about funding opportunities, financial incentives and employment. The GEO also worked closely with the news media, participating in dozens of announcements, press events and interviews resulting in hundreds of news articles, Web site postings and radio and television broadcasts intended to alert the public to the GEO's programs and progress in advancing the New Energy Economy.

The GEO took many additional steps to connect Colorado citizens and businesses with opportunities in energy efficiency and renewable energy. They included:

Providing \$35,000 to help sponsor 39 community events across Colorado attended by an estimated 40,000 people.

- Organizing the second annual New Energy Economy Conference, a full-day event attracting more than 800 people to the Colorado Convention Center. The event focused on sustainability in local communities and raised nearly \$24,000 for Energy Outreach Colorado, a nonprofit that provides energy assistance to low-income utility customers.
- Presenting the second annual "Governor's Excellence in Renewable Energy Awards" to honor outstanding contributions from individuals and organizations to protect Colorado's environment and provide clean power through renewable energy. The awards recognized winners in five categories.
  - Individual: Dr. Chuck Kutscher, NREL scientist for more than 30 years.
  - Small business: Coolerado Corp. for innovative air conditioning systems
  - Large business: Ascent Solar, thin film solar manufacturer
  - Institution: Red Rocks Community
    College, renewable energy instruction
  - Non-profit: Western Resource Advocates, advocating for renewable energy

A July afternoon sun reflects off United Power's Brighton Solar Farm. The facility allows customers to buy their own share of the facility's solar power.

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# **Revenues and Expenditures**

The GEO's revenues in fiscal year 2008–09 came from several sources: the Department of Energy, Clean Energy Funds directed by the state legislature and past legal settlements with the state of Colorado. The GEO spent \$25.2 million in fiscal year 2009, with dollars directed to the wide variety of efforts outlined in this annual report.

### GEO Balance Sheet—SFY09

SFY09 Revenues by Type		Expenditures by Type	Residential Efficiency Programs 3%
Weatherization Program (WX)/DOE, LEAP, Xcel	\$16,295,300.06		Commercial Elliciency Programs 4%
Energy Related Assistance (HB1387)	\$7,050,000.00		Renewable Energy Programs 9%
Solar Incentive/General Fund	\$1,013,750.00		
State Energy Plan (SEP)/DOE, PVE, CEF	\$1,542,709.89	Low Income Services 57%	Economic Development 4%
Clean Energy Fund—Other Services Provided/Misc Revenue	\$118,112.92		Public Information 1%
Clean Energy Fund—Project Donations	\$86,000.00		Colorado Carbon Fund 1%
Clean Energy Fund—from HB1387/Energy Related Assistance	\$498,805.76		Regional Representatives 0.5%
Public Schools Fund	\$655,077.00		Reserve 9%
Interest/CEF, PS, PVE	\$478,250.34		
SFY09 Total Revenues	\$27,738,005.97	=	Administration 11%
SFY09 Expenditures by Program			
General Admin/Salary	(\$2,265,812.94)	ΔΟΜΙΝΙΣΤΡΑΤΙΩΝ	11%
General Admin/Other	(\$698,362.67)	ADMINISTRATION	1176
Federal Weatherization Program	(\$10,343,077.40)		
Low Income Assistance (HB 1387): Energy Outreach Colorado	(\$1,050,000.00)	LOW INCOME SERVICES	57%
Low Income Assistance (HB 1387): Energy Related Assistance	(\$4,418,443.72)		
Residential Efficiency	(\$835,469.05)	RESIDENTIAL EFFICIENCY PROGRAMS	3%
Commercial Buildings Efficiency New/Existing	(\$674,214.07)		
Public Schools Efficiency	(\$214,171.89)	COMMERCIAL EFFICIENCY PROGRAMS	4%
Industrial Program	(\$41,770.00)		4/0
Greening Government	(\$270,097.82)		
Solar	(\$1,641,795.45)		
Wind	(\$111,572.83)		
Local Fuels	(\$446,490.49)	RENEWABLE ENERGY PROGRAMS	9%
Small Hydro	(\$95,646.59)		
Geothermal	(\$189,378.94)		
Economic Development (NEED Grants)	(\$1,037,762.26)	ECONOMIC DEVELOPMENT	4%
Utilities	(\$56,499.41)	UTILITIES	0.25%
Public Information	(\$365,542.74)	PUBLIC INFORMATION	1%
Colorado Carbon Fund	(\$321,773.52)	COLORADO CARBON FUND	1%
Energy Emergency Plan	(\$24,973.45)	ENERGY EMERGENCY PLAN	0.25%
Regional Representatives	(\$77,802.47)	REGIONAL REPRESENTATIVES	0.5%
Operational Reserve	(\$2,557,348.26)	RESERVE	9%
SFY09 Total Expenditures—fiscal ending 6/30/09	(27,738,005.97)		100.0%



# Looking Ahead

The coming year will be an eventful and exciting one for our New Energy Economy, as the GEO has ambitious plans to direct tens of millions of new dollars from the American Reinvestment and Recovery Act dollars in ways that save and create jobs, help sustain and support emerging clean energy industries, provide home and business owners more opportunities to save energy and help more Colorado communities benefit from the fast-growing emphasis on renewable energy and energy efficiency.

The GEO expects to compete well with other states to lure competitive ARRA dollars to Colorado, to push forward on a "Smart Grid" future for more efficient distribution and consumption of electricity, help our businesses, universities, military bases and research centers benefit from clean energy development and help Colorado toward a more secure energy future by assisting in the continuing diversification of our rich energy resources. Indeed, Colorado is blessed to be home to spectacular troves of energy—from important stores of natural gas, a cleanerburning fossil fuel, to abundant sunshine, wind, water and geothermal resources. All of them enrich our economy, build green jobs, reduce global warming emissions and ease our dependence on foreign energy sources. Governor Ritter and the GEO look forward to harnessing all this potential as we lead Colorado forward in the New Energy Economy.





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Greg Voss climbs down a ladder as he unhooks a cable from windmill newly installed by employees of Headwaters Energy at the Westcliffe home of Lou and Betsy Puls.