



Governor's Energy Office
Strategic Plan

FY 12-13 Budget Request

Introduction and Department Summary

The generation and consumption of energy has vast implications for the health and safety of our State: our economy, our environment, and our citizens. Energy represents approximately 10% of Colorado's economy, nearly \$24B in economic activity.

Recently, Colorado has taken a unique national leadership in advancing all levels of clean energy from wind and solar to natural gas and clean coal technologies. Colorado has an excellent opportunity to grow and improve our energy market, but various factors prevent the natural expansion of this sector. These factors include market barriers, regulatory obstacles, biased information, and lack of awareness. GEO has cultivated an exceptional set of skills in-house that will address these barriers.

In their successful execution of the above programs, GEO has acquired technical capacity and a strong foundation of expertise in the energy industry. Additionally, GEO has received national recognition for their efforts, leading to Colorado's current standing as a leader in development and deployment of renewable energy.

As Colorado's population grows from 5 million to an expected 8.1 million in 2040, demand and consumption of energy will grow as well. More than ever, GEO's presence is necessary to ensure the wise use of our resources. GEO will work with both the public and private sector in overcoming the obstacles to energy efficiency and clean, renewable sources of energy. Ultimately, GEO's efforts will lead to job creation as business opportunities related to development of renewable and clean energy grow; greater energy security as Colorado increases its reliance on domestic and in-state resources; maintain consumer costs over time as market barriers for clean energy are reduced; and an improved environment as energy efficiency, clean technology, and renewable sources continue to become market ready. .

The Governor's Energy Office (GEO), initially called the Office of Energy Conservation and later called the Office of Energy Management and Conservation, was created to respond to the oil crisis of the late 1970's. The program was reduced in the 1980's when oil prices dropped, becoming essentially a federal pass-through for low income weatherization services and limited federal grants. With the passage of Amendment 37, a voter-initiated renewable energy standard in 2004, and Colorado gasoline prices reaching \$2.00 per gallon for the first time, the state once again turned its attention to energy issues. Governor Bill Ritter was elected on a platform known as the New Energy Economy and put Colorado on the forefront of renewable energy development. Governor Hickenlooper took office in January of 2011 and under his direction, GEO has expanded their focus to include sustainable transportation fuels and the promotion of innovative clean technologies within the traditional energy industry.

FY2012-13 Strategic Plan

More fundamentally, GEO is transitioning from promoting the evolution of Colorado's energy sector through providing direct incentives and supporting a wide range of legislation to advancing the energy sector by identifying and addressing barriers to effective and efficient energy markets.

GEO is organizationally structured into four areas: Policy, Programs, Weatherization, and Operations.

GEO Policy staff interfaces with industry groups, the Public Utilities Commission, regulated and non-regulated utilities, independent power producers, transmission siting authorities, state and federal legislators, academia, and emergency management planners and responders. Their role is to promote an energy infrastructure (electric power sector, transportation fuels) that reduces Colorado's dependence on foreign energy sources and provides cost-competitive resources that are also environmentally sustainable. Additionally, this staff develops and maintains Colorado's emergency energy assurance plan.

Program staff promotes energy efficiency and renewable energy in the residential, commercial, industrial, and agriculture sectors and improve government effectiveness through resource management (energy performance contracting and greening government). The Weatherization team administers the federal low-income weatherization program, which retrofits homes to an efficiency standard defined by the U.S. Department of Energy.

Operations staff works with industry and academia to develop the ecosystem necessary to accelerate the development of the clean tech energy sector and reduce market barriers to energy financing. Other initiatives include increasing energy literacy, GEO performance measurement, and accounting, budget, procurement, and human resource support.

Through energy efficiency, clean, cost-competitive, and renewable energy resources, Between 2009 and 2011, the GEO became a clearinghouse for energy information and services to help Colorado's citizens, businesses and public sector achieve energy sustainability. The American Recovery and Reinvestment Act (ARRA) provided funding for these programs.

All ARRA funds will be expended before the end of FY12, and the Recharge Colorado program and GEO's Colorado Carbon Fund will be moved outside of state government where they will be administered by the private sector. With the completion of ARRA and reduction in programs, GEO staff count will be reduced from 47 in FY09 to 32 in FY13. Historically, the Petroleum Violation Escrow (PVE) account, annual federal grants, Limited Gaming funds, and most recently, the ARRA have funded the office. As the balance of the PVE account nears zero, and the ARRA funds close in April of 2012, the GEO had planned to fund the office with Limited Gaming transfers to the Clean Energy Fund (CEF) established in §24-75-1201 C.R.S. However, in 2011 the JBC passed on to the full legislature SB11-159, which among other things removed GEO's funding mechanism.

Statutory Authority

GEO statutory authority is found in at Title 24, Article 38.5, Sections 101 and 102, Colorado Revised Statutes (2011).

Mission Statement - Current

To lead Colorado to a new energy economy by advancing energy efficiency and renewable, clean energy resources.

Mission Statement - Proposed

GEO Colorado’s energy market and industry to create jobs, increase energy security, lower long-term consumer costs, and protect our environment.

Department Five-Year Vision

GEO partners with a broad group of stakeholders to make emerging energy sources more economically viable and established energy sources more environmentally sustainable, by 1.) providing our elected leaders with holistic perspective on energy policy based on quantitative, cost-benefit analyses, factoring variables including employment, energy security, consumer costs, and environmental impacts, 2.) incubating a limited set of programs to catalyze more effective energy markets, and 3.) supporting economic development activities including boosting the energy innovation ecosystem and attracting new energy investment to the state.

GEO is seeking FY13 Cash Funds of approximately \$3million to achieve the following:

- Facilitate the development of a balanced energy portfolio in the electric power sector
- Diversify Colorado’s transportation fuels portfolio
- Unlock the potential of energy efficiency in the residential, commercial, and agricultural sectors
- Boost the innovation ecosystem
- Promote transmission development for internal and external electricity markets
- Support the Office of Economic Development and International Trade’s business development efforts
- Provide policy direction at the legislature and the Public Utilities Commission

FY2012-13 Strategic Plan

- Create public sector resource efficiency – internal to GEO, greening state government, and energy performance contracting

Additionally, GEO will use federal funds to continue to provide income-based Weatherization services.

Objectives

- Increase jobs and investment in the energy sector - create over 10,000 new, over-median wage, direct jobs across the industry. Position Colorado as a recognized leader in the energy sector by doubling research & development investment and output in the energy sector.
- Create a balanced energy portfolio for the electric power sector and transportation fuels to reduce Colorado’s dependence on traditional sources of energy.
- Develop a population more educated and informed about energy production and consumption.
- Increase energy efficiency across the residential, commercial, industrial, agricultural, and public sectors.
- Deliver operational efficiencies throughout the organization. Foster a GEO that is open, transparent, and analytical.

Performance Metrics

Given the significant change in funding with the close of the Recovery Act and in approach within the new administration, GEO proposes a new set of performance metrics be adopted as follows:

GOVERNOR'S ENERGY OFFICE PERFORMANCE METRICS	FY 13 Target
Balanced Energy Portfolio for the Electric Power Sector Performance Metrics - Activity 1	
Incremental new electric power sector energy sector jobs to be created by 2017 over "business as usual" case	1000
Reduction in emission intensity per megawatt hour of source generation	10%

Reduction in percentage of electric power sector energy imported to Colorado by 2017	5%
Produce a comprehensive Energy Assurance Plan for reliability and security in the state	1
Balanced Energy Portfolio for the Transportation Fuels Sector Performance Metrics - Activity 2	
Incremental new transportation fuels jobs to be created by 2017 over "business as usual" case	2500
Reduction in percentage of transportation sector energy imported to Colorado by 2017	5%
Number of liquid transportation fuels energy assurance exercises conducted	2
Enabling Energy Efficiency Performance Metrics - Activity 3	
Jobs created	51
Security, Cost, Environmental benefits (1 kilowatt hour (kWh) = .0007 metric tons Carbon Dioxide (CO2) / 1 therm of natural gas = .005 metric tons CO2)	5960 metric tons CO2
Market penetration target for ENERGY STAR mortgage or equivalent	0.15%
Market penetration target for International Energy Conservation Code 2009 or better	85%
Market penetration target for percentage of homes reporting Green Multiple Listing Service (MLS) features	1%
Developing Transmission for Internal/External Market Performance Metrics - Activity 4	
Create a plan to increase megawatts of export capacity	1
Provide input to drive the completion of certificates of public convenience and necessity (CPCN)	2
Permitting: Best siting practices implemented at the county level	5
Greening Government Performance Metrics - Activity 5	
Security, Cost, Environmental benefits (1 kWh = .0007 metric tons CO2 / 1 therm of natural gas = .005 metric tons CO2)	3505 metric tons CO2
Security, Cost, Environmental benefits (1 gallon unleaded gasoline displaced= 19.56 lbs. of CO2e / 1 gallon diesel displaced = 22.38 lbs. CO2e)	2,893 metric tons CO2e
Avoided state expenditures (electric, gas, water, fuel, paper) not included in Activity 6 measurements	\$466,880
Public Sector Resource Efficiency Energy Performance Contracting Performance Metrics - Activity 6	
Jobs created through Energy Performance Contracts (EPC) projects	500
Energy services contracts	20
Energy Savings for Private EPC projects	18,000 MMBTUS

Energy Savings for Public EPC Projects	65,000 MMBTUs
Industrial Project Savings	400,000 MMBTUs
Security, Cost, Environmental benefits (1 kWh = .0007 metric tons CO2 / 1 therm of natural gas = .005 metric tons CO2)	65,295 metric tons CO2
Energy Market Development Performance Metrics - Activity 7	
Number of new energy sector jobs in the State	500
Energy Policy Development Performance Metrics - Activity 8	
Conduct a survey of legislators to evaluate the level of transparency and effectiveness in GEO's energy policy development	1
Low-Income Weatherization Assistance Program - No activity number	
Jobs created	190
Energy Security and Environmental benefits (1 kWh = .0007 metric tons CO2 / 1 therm of natural gas = .005 metric tons CO2)	4,880 metric tons CO2
Annual Estimated Client Dollar Savings	\$538,960
Cost/Benefit ratio with 20 year life	0.499
Boost Innovation Ecosystem - No activity number	
Amount of energy sector outside private sector funding to the state (GEO revolving loan fund, venture capital, other debt financing)	\$15,000,000
Improve Access to Energy Information - No activity number	
Number of media references to Colorado's energy sector	12
Number of visits to GEO website	50,000
Number of GEO public presentations and media interviews / quotes	180
Operations	
Number of policies / procedures published	12
Resource efficiency as measured by Operating budget \$ per FTE (budgeted \$8354.64 per FTE)	\$7,352 per FTE
Number of process improvements implemented via LEAD	10

Previous GEO performance targets were closely tied to ARRA funding, and are included here for reference:

Residential Programs	FY 09 Target	FY 09 Actual	FY 10 Target	FY 10 Actual	FY 11 Target	FY 11 Actual
Percentage of housing starts qualified as ENERGY STAR	10%	19%	25%	33%	35%	47%
Code Trainings Delivered in the state	30	10	0	13	24	87
Homes receiving insulation upgrades through “Insulate Colorado” Program or Recharge Colorado rebate program	2500	1400	2000	1867	3000	6501
Commercial Programs	FY09 Target	FY09 Actual	FY10 Target	FY10 Actual	FY11 Target	FY11 Actual
K-12 Efficiency Upgrades (Number of Districts in Performance Contract or other sustainable energy program)	50	47	60	83	100	68
Utility Bill Management Systems in Place	45	41	51	50	60	76

FY2012-13 Strategic Plan

State Buildings Square Footage under Performance Contract	90%	42%	50%	53%	55%	66%
Number of Public Agency Partners in High Performance Building Program	20	20	20	38	20	23
Number of State-Assisted Facilities Meeting Leadership in Energy and Environmental Design (LEED) Gold Target	0	0	6	0	12	8
Number of Zero Energy Public Buildings in Colorado	0	0	1	1	1	1
Number of Attendees at GEO High Performance Building Trainings	0	0	240	956	1000.0	1723.0
Renewable Energy Programs	FY09 Target	FY09 Actual	FY10 Target	FY10 Actual	FY11 Target	FY11 Actual
Solar Rebate Program – Residential Photovoltaic in kilowatts (kW)	500	541	1350	351	1570	2279
Solar Rebate Program – Solar Residential Thermal Systems in kilowatt equivalents (kWe)	1000	953	1200	32	275	1456
Small Commercial Solar Thermal kWe	500	358	397	6	27	767
Small Commercial Photovoltaic kW	250	105	300	190	730	674

FY2012-13 Strategic Plan

Industrial Efficiency Program - participation by top 100 industrial customers	50%	NA*	1.5 Trillion BTU saved from 10 companies	*NA	1.5 Trillion BTU saved from 10 companies	1.35 Trillion BTU from 9 companies
Number of Stations in Colorado offering bio-fuels	100	103	120	108	112	97
Gallons of biofuels sold (million gallons)	5.6	8.3	9.3	1.8	3	3.3
Woody Biomass Projects	2	6	10	5	5	7
Anaerobic Digestion Projects	2	0	1	0	1	0
Colorado Carbon Fund	FY09 Target	FY09 Actual	FY10 Target	FY10 Actual	FY11 Target	FY11 Actual
Funds Collected for projects	\$1,000,000	\$201,328	\$1,000,000	\$184,576	\$500,000	\$115,816
Tons of (CO2) Offset through Colorado Projects	50,000	0	50,000	0	23,000	20,518

Strategies

Work plans are in place to plan for, track, and implement the activities necessary to meet each of the FY 13 performance metrics. For example, the work plan for Activity #2 Balanced Energy Portfolio for the Transportation Fuels Sector identifies 11 distinct projects with associated milestones and deliverables to achieve the desired outcomes.

For FY13, GEO identified the diversification of the state’s transportation fuel use as a priority and seeks to decrease Colorado’s dependence on imported oil by achieving the following objectives to be achieved by June 30, 2012:

- Promote the use of natural gas as a transportation fuel by increasing market efficiency and transparency

- Develop a framework to aggregate vehicle purchases among fleets in order to decrease the incremental cost of CNG vehicles.
- Increase public awareness and education on alternative fuels, electric vehicles, and infrastructure in Colorado
- Strengthen analytical capability of GEO in the alternative fuels and electric vehicles market
- Promote a portfolio of alternative fuel and electric vehicle options.
- Begin a process to develop a roadmap to reach that goal
- Encourage economic development in high-value supply chains for alternative fuels and advanced vehicle technologies

Throughout the next fiscal year, the staff responsible for each of the performance measures will report their progress on a monthly and quarterly basis. These reports will be reviewed by supervisors and members of the executive leadership team and be shared with all staff members. If concerns arise that benchmarks are appearing to not be met monthly, a correction plan will be created to establish why the benchmark is not being achieved and what actions are being taken to ensure success. Staff members executing on plans and achieving their targets will be highlighted and recognized informally at weekly staff meetings and formally through the GEO recognition program.

In addition, at the quarterly executive leadership meetings members of the executive team will review these benchmarks and determine if additional resources or actions are required to allow for each milestone to be achieved. Through scheduled reviews of the milestones at all level of the agency, establishing action teams internally to respond with additional resources and/or utilizing Lean Management tools, the executive leadership team members will be able to quickly respond to benchmarks that are underperforming.

Evaluation of success in Meeting Benchmarks (prior year)

The benchmarks established for 2010- 2011 achievements were established in 2009 as part of the GEO's State Energy Plan for the American Recovery and Reinvestment Act funds. The evaluation of previous year's benchmark demonstrates that of the twenty-one benchmarks established across four core areas of the GEO, sixteen of the twenty-one benchmarks were achieved or exceeded.

For two of the benchmarks (Number of State-Assisted Facilities meeting LEED Gold Target and K-12 Efficiency Upgrades), a number of the projects in the programs were not completed within the state fiscal calendar year and could not be counted, although the projects are currently closing.

FY2012-13 Strategic Plan

The two benchmarks related to biofuels (Gallons of biofuels sold and Number of station offering biofuels) have actual results lower than the target due to decreased transportation fuel sales corresponding to the economic downturn and a shrinking price differential between gasoline and biofuels. In a survey of station owners, a vast majority of owners stated that because gas prices were relatively low, the cost saving impetus for drivers to switch to biofuels was not present and, as a result, they were unwilling to make additional investments into their stations to convert to biofuels.

The two benchmarks for the Colorado Carbon Fund (Funds collected for projects and Tons of CO2 offset) performed below expectations set in 2009 because the 2010-2011 market for carbon offsets had dramatically decreased. Raising funds for offset projects became difficult, resulting in less projects being developed. GEO is in the process of moving the Colorado Carbon Fund outside of state government, and will not seek new funding or use existing resources for this program beyond June 30, 2012.

Finally, while two of the benchmarks for the renewable energy program are slightly below or below the established target, two of the other targets met or far exceeded their benchmarks. The results indicate that small commercial solar thermal far exceeded the target (122% achieved), residential thermal meet the target (99% achieved), residential PV was slightly under target (93% achieved) and small commercial PV was under target (76%). The reason for the variances is that the rebate program went to a “market demand” response. Instead of having a prescriptive program that only allowed for a certain number of technologies to be developed in the program (i.e., only 1000 kW of residential PV and 1500 kWe of residential solar thermal etc) the GEO allowed for the various technologies to “compete” with each other and residents and small businesses determined the total number and types of systems installed in the program based upon their demand.