EnergyWise Plan

2016 UPDATE

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Departments & Organizations

- CalRecycle
- Caltrans
- CalFire
- California Department of Finance
- California Employment Development Department
- California Air Resources Board
- San Luis Obispo Council of Governments
- San Luis Obispo Regional Transit Authority
- San Luis Obispo County Central Services
- San Luis Obispo County Public Works Department
- San Luis Obispo County Fire Department
- San Luis Obispo County Human Resources Department
- San Luis Obispo County Planning and Building Department
- Staples Energy
- Pacific Gas and Electric
- SoCal Gas Company
- Waste Connections, Inc.
- United State Environmental Protection Agency
- International Council for Local Environmental Initiatives
- Intergovernmental Panel on Climate Change
- Economic Vitality Corporation (EVC)
- SLO County Integrated Waste Management Authority (IWMA)

This update was prepared by staff from the County of San Luis Obispo Energy Watch Partnership (Energy Watch). Energy Watch aims to reduce energy use, cost, and demand throughout the county, as well as reduce GHG emissions in accordance with local targets. Energy Watch is part of a strategy that was included in the EnergyWise Plan, which called for the creation of a regional collaborative to address energy efficiency in the County of San Luis Obispo.

SAN LUIS OBISPO COUNTY energy watch

PLANNING & BUILDING COUNTY OF SAN LUIS OBISPO

Executive Summary

The EnergyWise Plan (EWP) 2016 Update summarizes the progress toward implementing measures in the EWP and outlines the overall trends in energy use and emissions since the baseline year of the EWP inventory (2006). This EWP 2016 Update follows the structure of the EnergyWise Plan itself, which identifies one overarching goal – to reduce greenhouse gas emissions from community-wide and County operations sources by a minimum of 15 percent from 2006 baseline emissions by 2020. Implementation of this overarching goal is assigned to 12 more specific reduction goals, six for government operations and six for community-wide activity. Corresponding to these goals, significant efforts have been implemented, or are underway, throughout the community and government operations. These efforts have worked to decrease energy use, increase renewable energy generation, reduce solid waste generation, improve efficient use of water, modernize transportation systems, and improve agricultural practices.

Overall GHG emissions, from both government operations and community-wide sources, have decreased by approximately seven percent between 2006 and 2013. This decrease is almost entirely due to a reduction in community-wide emissions, and specifically a reduction from transportation and mobile sources. These sources, which represent the most significant contribution to overall emissions decreased largely because of a decrease in vehicle miles traveled in the county and an increase in U.S. Corporate Average Fuel Economy standards. It is important to note that community-wide transportation emissions data included in this update are derived from models from State agencies that include all vehicle miles traveled in and through the unincorporated county (not just those that have an origin or destination within unincorporated areas), and therefore significantly overstate the contribution of transportation emissions relative to other emission sources. Total GHG emissions from County government activities have increased by less than one percent. From 2006 to 2013, per capita GHG emissions from community-wide sources decreased by over ten percent while per capita GHG emissions from County operations increased by over six percent. Emissions from buildings and facilities and solid waste have increased by 20 and 36 percent, respectively. The increase from buildings and facilities is due to growth in county operations, specifically the Nacimiento Pipeline Project.

Several larger measures in the EWP have the potential to contribute substantially towards our reduction target. Of these measures some are already in progress, while others will first require further analysis and funding. Other measures will not directly reduce emissions, but will provide both a greater understanding of our emissions status, and an updated roadmap for implementing actionable and cost effective GHG reduction measures. These include, but are not limited to the following:

- Complete unfunded pre-engineered energy efficiency measures that were initially included in the Sustainable Solutions Turnkey (SST) project.
- Install solar energy systems on County-owned facilities and land, taking advantage of PG&E's RES-BCT program, Net Energy Metering, and the Federal Investment Tax Credit (recently extended until the end of 2021).
- Continue moving forward with Property Assessed Clean Energy (PACE).
- Continue to explore a regional Community Choice Aggregation (CCA) program.
- Create an energy revolving loan fund that is filled and replenished by capturing project savings and/or incentives and used exclusively for future energy-related projects.
- Conduct protocol compliant emissions inventories to determine progress toward our goals.
- Update the EnergyWise Plan and continue to identify and evaluate new opportunities to reduce GHG emissions.
- Collect and report EWP data bi-annually, particularly related to progress towards implementing measures.

Introduction

The EnergyWise Plan (EWP) was adopted by the County of San Luis Obispo Board of Supervisors in November 2011 in order to implement the goals established by the Conservation & Open Space Element (COSE) of the County's General Plan. These goals include reducing greenhouse gas (GHG) emissions from government and community operations by 15 percent and reducing energy use from County government operations by 20 percent from baseline levels (2006) by the year 2020. The EWP represents the County's contribution to the State's efforts to reduce GHG emissions as outlined in Assembly Bill 32, which calls for State agencies to reduce emissions to 1990 levels by 2020, and 40 percent below 1990 levels by 2030, respectively. The EWP identifies how the County, across multiple County departments, will achieve its energy use and GHG emissions reduction goals, in addition to water conservation and air quality goals.

The EWP 2016 Update summarizes the progress toward implementing measures in the EWP and outlines the overall trends in energy use and emissions since the baseline year of the EWP inventory (2006). Information regarding specific measures is included through 2015 and beyond as available. Emissions data is included through 2013, the most recent year for which complete and verified data from both PG&E and SoCal Gas have been received.

This EWP 2016 Update follows the structure of the EnergyWise Plan itself, which identifies one overarching goal – to reduce greenhouse gas emissions from community-wide and County operations sources by a minimum of 15 percent from 2006 baseline emissions by 2020. Implementation of this overarching goal is assigned to 12 more specific reduction goals, six for government operations and six for community-wide activity. These two categories, with six goals each, serve as the organizational structure of the following update.

THE GOALS OF THE ENERGYWISE PLAN

GOVERNMENT OPERATIONS

- **G1** Reduce energy use in existing County facilities 20% by 2020.
- **G2** Increase the use of renewable energy sources in County facilities to account for 10% of total energy used.
- **G3** Reduce the amount of waste generated at County facilities and increase the County's waste diversion rate to 80% by 2020.
- **G4** Reduce water use in County facilities 20% by 2020.
- **G5** Reduce emissions from the County's vehicle fleet by using alternative fuels and decreasing vehicle miles traveled.
- **G6** Provide additional opportunities for employees to utilize alternative transportation options and reduce commute lengths.

COMMUNITY-WIDE

C1 Address future energy needs through increased conservation and efficiency in all sectors.

C2 Increase the production of renewable energy from small-scale and commercial-scale renewable energy installations to account for 10% of total local energy use by 2020.

C3 Reduce methane emissions from disposed waste by achieving as close to zero waste as possible through increased diversion rates, methane capture and recovery, and other strategies.

C4 Reduce emissions from potable water use by 20% from per capita baseline levels by 2020 by prioritizing water conservation before development of new water resources.

C5 Reduce transportation emissions through improvements in vehicle fuel efficiency, expansion of non-auto modes of travel, and implementation of smart growth land use policies.

C6 Reduce emissions in agricultural practices through water conservation, upgrade of equipment technology, and use of best management practices.

IMPLEMENTATION

Consistent with climate action planning protocol, the EWP denotes a responsible party for implementation and tracking of various measures. The EWP also divides emissions sources into community-wide and government operations. The Planning & Building Department is responsible for the majority of measures specific to reducing community-wide GHG emissions – that is emissions from all sources and activities in the unincorporated county. On October 20, 2015, the County Board of Supervisors approved the transition of many functions to Public Works previously held by General Services. These include nearly all responsibilities related to the implementation, monitoring, and reporting of the progress toward implementing measures in the EWP specific to government operations.

IMPORTANT TO REMEMBER:

- In the context of this update: energy use = electricity and natural gas use
- The EWP relates only to the unincorporated county including Community Service Districts (CSDs), and does not address individual cities.
- There were data limitations:
  - The progress report primarily focuses on energy use and emissions from energy use at buildings and infrastructure;
  - Transportation emissions data included in this update are reliant on models from State agencies that include all miles traveled in and through the unincorporated county (not just those that have an origin or destination within unincorporated areas) and therefore significantly overstate the relative contribution of transportation emissions.
  - Energy use and emissions data has not been collected or included for off-road agricultural equipment, aircraft, livestock, crops, or water and sewage.

DEFINITIONS:

- *kW & kWh* – A kilowatt hour (kWh) is a unit of energy equivalent to one kilowatt (kW) of power expended for one hour.
- *Mmbtu* – One million British Thermal Units (BTU) is a measure of the energy content in fuel.
- *VMT* - Vehicle Miles Traveled, often in a specified region over a specified time period.
- *GHG* - Greenhouse gas is a gas in the atmosphere that absorbs and emits radiation causing the greenhouse effect.
- *$MTCO_2e$* - Metric tonnes of CO_2 equivalent is a measure used to compare and summarize emissions from different GHGs (CO_2, CH_4, N_2O, etc.) based upon their global warming potential. This allows emissions from all GHGs to be reported as a single standardized number.

G1

Reduce energy use in existing County facilities 20% by 2020.

WHAT'S HAPPENED?

A variety of projects have been completed, or are soon to be completed at County facilities. While some projects upgrade existing facilities with more efficient equipment or building materials, other projects will result in new facilities. The savings associated with new facilities are based on project designs that are more energy efficient than existing standards.

An example of a retrofit project at County facilities is the conversion of less efficient lighting to LED light fixtures at the Montoro Building, the Airport Terminal, and the County Jail. This completed project is expected to result in annual savings of 41,316 kWh, demand reduction of 5.3 kW, and $6,516 in utility incentives.

As part of the expansion of the Juvenile Services Center, exterior LED lights, interior LED lights in the gymnasium, and water saving plumbing fixtures are being installed. Skylights are also being incorporated into the facility, along with lighting controls that dim electrical lighting when natural light is sufficient. Additionally, the facility is being set up to accommodate solar arrays in the future.

It is County policy to design all new, and significantly remodeled or expanded facilities to LEED standards, although official certification is not sought due to the cost. Every effort was made to design work at the Women's Jail to a LEED Silver level – a challenge for a 24/7 secure facility. Elements include a "cool roof," water saving plumbing fixtures, all LED lighting, new lighting controls, and high efficiency HVAC.

The new Cambria Library – a buildout of an existing building shell – was also designed to include LED light fixtures, automatic dimmers and control system, and 12 skylights to limit the need for electric lighting. The result has been a 35 percent increase in energy use despite a 150 percent increase in floor area from the previously occupied library building. Low flow water fixtures, 100 percent recyclable carpeting, and repurposing of library furniture from the old library and other businesses are also highlights of the design.

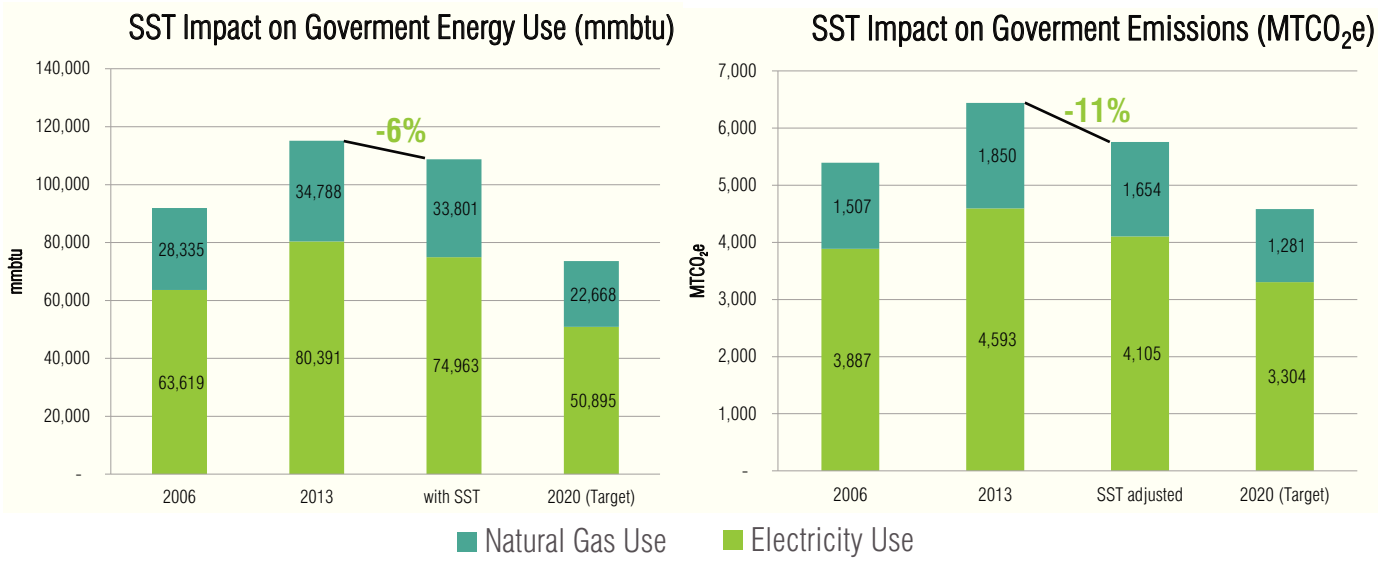
An example of new construction that has been designed to be more energy efficient than required is the new Los Osos Waste Water Treatment Plant. The new facility results in a net increase in County facilities, but because of energy efficient design, there will be savings of 1,626,000 kWh and 164 kW of load reduced from conventional plants. The project received about $162,800 in incentives. Lift station upgrades associated with the project are expected to save an additional 36,523 kWh and 4.5 kW, while earning $3,600 in incentives.

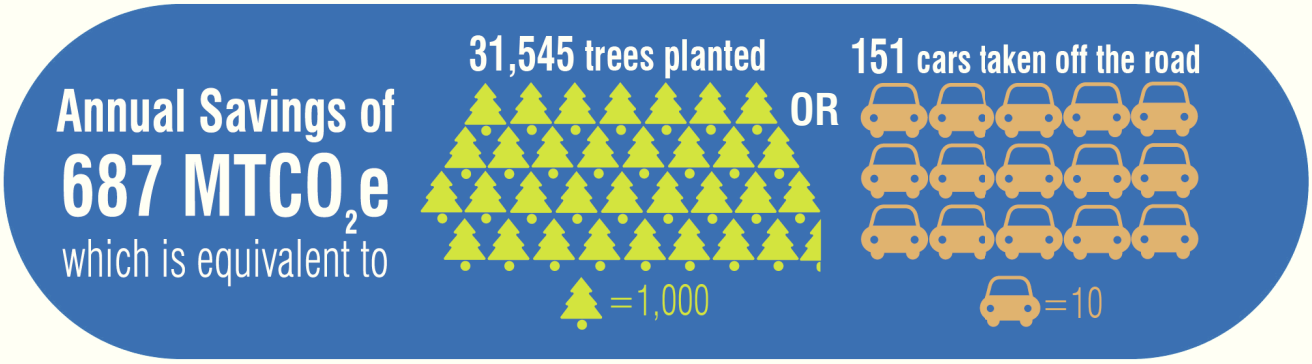
From 2006 to 2014, County facilities completed 74 energy efficiency projects, resulting in annual savings of more than 500,000 kilowatt hours (kWh), a demand reduction of 64 kilowatts (kW), and approximately $44,000 in utility incentives.

As a result of all energy efficiency efforts completed and underway at County facilities, government operations energy use has been reduced by almost 7 percent from a business-as-usual scenario, saving almost $400,000 per year and capturing nearly $217,000 in incentives.

WHAT'S IN THE WORKS?

On November 3, 2015, the County of San Luis Obispo Board of Supervisors unanimously approved Sustainable Solutions Turnkey (SST), the largest energy efficiency retrofit project in the County's history. SST is a design-build project that leverages public-private partnerships to streamline implementation of energy efficiency projects using money saved from energy and operational efficiency. Following multiple detailed assessments, eight different energy conservation measures will be implemented at multiple County facilities. Implementation began in February 2016 and is expected to result in savings of 201 kW; 1,592,024 kWh; 9,862 therms; 686.8 million metric tons of carbon dioxide equivalent (MTCO2e); and $334,473 of annual energy and operational savings. The total project cost of $4,527,159 will be repaid with energy cost savings in 13.3 years.





G2

Increase the use of renewable energy sources in County facilities to account for 10% of total energy used.

WHAT'S HAPPENED?

A solar thermal hot water system at the Honor Farm laundry facility has very recently been completed and is expected to receive over $20,000 in rebates.

WHAT'S IN THE WORKS?

A solar photovoltaic (PV) solar installation at Creston Fire Station, owned by the County, will result in a ground mounted array of 50 PV modules. The system, which is estimated to cost $65,000 to construct, is expected to produce 27,853 kWh of energy annually - offsetting approximately 50 percent of peak energy usage.

G3

Reduce the amount of waste generated at County facilities & G3-increase the County's waste diversion rate to 80% by 2020.

WHAT'S HAPPENED?

The County has introduced software platforms, like Agenda.net and NeoGov to help the County reduce paper consumption and waste generation.

The Parks and Recreation Department have worked to make Dairy Creek Golf Course and the adjacent El Chorro Creek Regional Park zero waste, diverting all waste from going to the landfill.

WHAT'S IN THE WORKS?

The Information Technology Department of the County of San Luis Obispo is continuing to implement the implementation of Integrated Document Management (IDM) program, reducing waste generation associated with printing and paper documentation. Customer billing, employee records, auditor invoices, and other County activities have transitioned to electronic notifications and document storages as a result of IDM.

G4

Reduce water use in County facilities 20% by 2020.

WHAT'S HAPPENED?

In 2014, the County recorded use of 116 acre feet of water, a nearly 16 percent reduction from 2006 when recorded use by County operations was about 137 acre feet.*

Efforts to continue progress towards meeting the 20 percent reduction goal include:

- The Utility Manager system is being used to collect and track water usage data for all facilities with billing from a vendor.
- In the past year alone, the County has retrofitted 44 County facilities with low-flow fixtures, saving an estimated 4,500 gallons per week. Staff continues to identify and repair leaks to minimize water losses.
- Staff are reviewing and updating County standards for plumbing fixtures to include more specific language for lower water usage fixtures in facility construction contracts and purchase orders.

Water conservation efforts are well underway across approximately 14,000 acres of parks, trails, and open space, where the Parks and Recreation Department has exceeded the 20 percent water reduction goal. Through turf reduction, upgrades to irrigation infrastructure, new irrigation control systems, expanded use of non-potable water, and re-landscaping with drought resistant and drought tolerant vegetation the County continues to provide residents with parks, open space, and safe sports fields despite using less water. All County operated golf courses – Dairy Creek, Chalk Mountain, and Morro Bay – use 100 percent recycled or comingled water for turf and landscaping, and computerized irrigation management systems with individual valve in head control are used at all golf courses to monitor water use and improve efficiency.

WHAT'S IN THE WORKS?

In late 2014, General Services awarded a contract to Water Systems Consulting (WSC) to provide energy and water utility management services to the County. At the same time, Energy Watch engaged WSC to assist staff with the development of a comprehensive and verified County facility inventory and database. Through the coordination of these two contracts with WSC, General Services and Planning & Building are advancing several initiatives that will better position the County to achieve its EWP goals. These initiatives include implementing the SST, replacing the County's outdated utility management software, and improving utility bill analysis capabilities.

*Based on available metered water data

G5

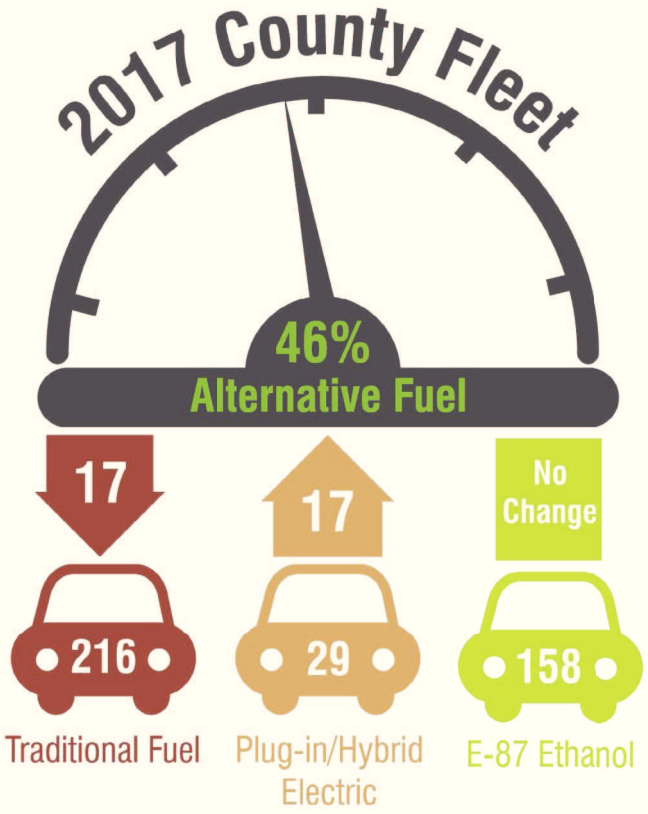
Reduce emissions from the County's vehicle fleet by using alternative fuels and decreasing vehicle miles traveled.

WHAT'S HAPPENED?

From 2006 to 2014, upgrades to the municipal fleet over time have resulted in over 42 percent of vehicles being hybrid, electric, or E-87 Ethanol fuel vehicles. The 170 alternative fuel vehicles in operation includes 12 plug-in electric or hybrid electric vehicles. Additionally, the County has tested an online vehicle sharing reservation program between General Services and the Parks & Recreation Department with the goal of reducing the number of vehicles in the County fleet.

WHAT'S IN THE WORKS?

Since 2014, the County has installed six electric vehicle charging stations and two more are planned to be installed in 2016. The percentage of alternative fuel vehicles in the County fleet is expected to reach 46 percent by 2017 as traditional fuel vehicles are replaced with plug-in or hybrid electric vehicles. The percentage of electric vehicles is anticipated to increase to over 7 percent of the fleet by 2017, from just 3 percent in 2014.

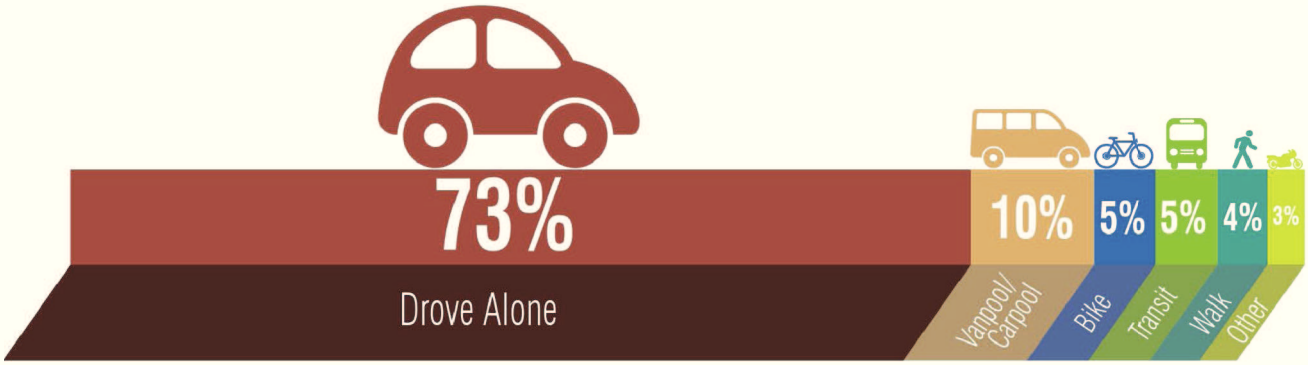


G6

Provide additional opportunities for employees to utilize alternative transportation options and reduce commute lengths.

WHAT'S HAPPENED?

To incentivize the use of alternative transportation, the County participates in Rideshare's Back'n'Forth Club. This program provides staff with carpool matching, incentives for making a smart commute, and emergency ride home benefits. Employees are eligible for these benefits if they track their smart commutes which include walking, biking, carpooling, vanpooling, and transit. In 2015, nine percent of all employee commute trips were by active transportation, biking or walking. These trips are up from over seven percent the previous year, and up from about six percent in 2006. County employees also completed 10 percent of commute trips by car- or van-pool in 2015 and almost five percent used transit (city or regional bus, or paratransit). Overall, more than 27 percent of all commute trips by County employees were completed by modes not including driving alone.



Each May is Bike Month throughout the country. This past year, the month-long event, sponsored by Rideshare (SLOCOG), featured dozens of bike-related events designed to encourage bicycling as a means of both recreation and commute. County of San Luis Obispo employees cumulatively biked almost 10,000 miles during nearly 3,000 trips, and avoided four $MTCO2_e$.

WHAT'S IN THE WORKS?

In 2015, County employees traveled over 16 miles from their homes to work on average. According to a 2013 Report published by the Economic Vitality Corporation (EVC), the region's employees and employers both indicate that housing is difficult to find and both desire to reside and work in the same city. In 2015, the County and the EVC have teamed up to develop and implement an economic strategy for the County through the creation of Workforce Housing Ordinances. County staff has been working closely with the Economic Vitality Corporation (EVC) to scope potential ordinance amendments. The scope has been focused on two programs: Workforce Housing Subdivisions – Relaxing the standard requirements for new subdivisions that involve development of workforce housing and Mixed-Use Developments – Allowing interim residential uses to occur in commercial mixed-use developments. When implemented these programs have the potential to reduce commute lengths and provide an avenue for employees to shift commute modes as result of decreasing trip length.

C1

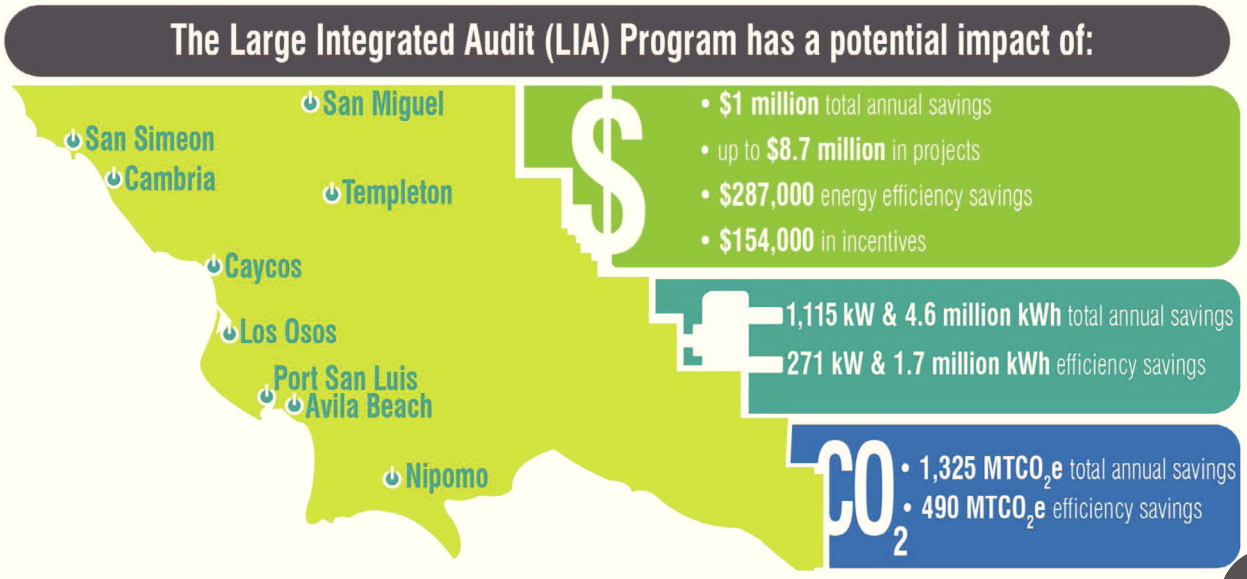
Address future energy needs through increased conservation and efficiency in all sectors.

WHAT'S HAPPENED?

From 2010 to 2014, Energy Watch's Commercial Direct Install program has served more than 550 customers, saving over 1,700 kW, almost 10 million kWh, and more than $2.5 million in energy costs. From 2010 to 2014, PG&E residential and commercial customers (excluding Direct Install) in the County have completed more than 10,000 retrofit projects, taking advantage of over $4 million in incentives, and saving more than 35.6 million kWh and 6,500 kW. These projects have avoided 178,000 MTCO2e being added to our atmosphere.

The emPower program, a tri-county effort with Santa Barbara and Ventura Counties, operated by the Planning and Building Department, launched in San Luis Obispo County in April 2014 and serves as the County's residential energy efficiency program. The emPower program offers all homeowners in the county incentives, unsecured loans with low interest rates and flexible terms through Coast Hills Federal Credit Union, a comprehensive listing of qualified contractors, and expert energy advice via the Energy Coach home assessment service. Since the launch of emPower, over 2,050 individuals have been reached at 58 emPower events, 192 energy coach home assessments have been conducted, 35 contractors have been recruited, and five loan applications and projects have been completed.

In 2014, Energy Watch engaged PG&E and KW Engineering to offer the Large Integrated Audit (LIA) program to nine special districts in the county. LIA is a free, comprehensive energy assessment service normally limited to very large industrial or commercial customers. The goal of LIA is to identify energy efficiency, generation, load management, and demand response opportunities that will save energy, reduce costs, and improve operations. On the facing page, the aggregated potential impact of the LIA initiative is depicted. In 2016, Energy Watch will continue working with participating special districts to select, finance, and implement projects.



WHAT'S IN THE WORKS?

On November 17, 2015, the County of San Luis Obispo Board of Supervisors unanimously approved Property Assessed Clean Energy (PACE), providing property owners in the unincorporated county with a financing mechanism to implement energy and water efficiency, and renewable energy projects, by adding the cost as an assessment to their property tax bill. Made possible by AB 811 and SB 555, this mechanism eliminates upfront costs and allows repayment of home improvements to be made over a long time frame. The PACE program, which will become available in 2016, is expected to help hundreds of county residents make efficiency and renewable energy improvements to their homes. In addition to stimulating economic activity and saving utility rate-payers money, PACE will help the County achieve its GHG target and comply with local, state, and federal mandates.

Energy Watch is continuing to offer its commercial Direct Install program to small-to-medium sized businesses throughout the county. The Direct Install program, which resulted in savings of almost 225 kW and 1.3 million kWh in 2015, is projected to result in similar savings in 2016 and beyond.

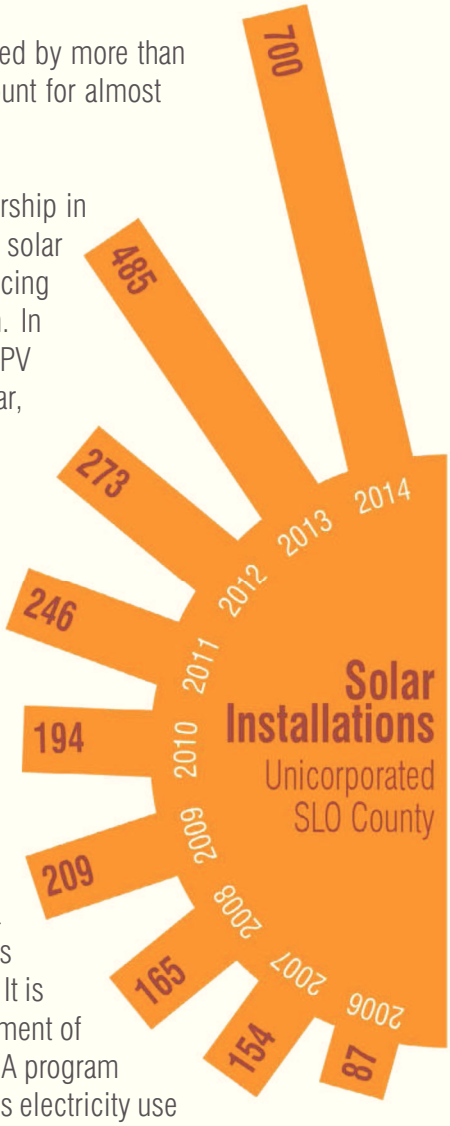
C2

Increase the production of renewable energy from small-scale and commercial-scale renewable energy installations to account for 10% of total local energy use by 2020.

WHAT'S HAPPENED?

From 2006 to 2014, installations of solar photovoltaic (PV) system have increased by more than 700 percent, with over 2,500 systems installed in the county. The systems account for almost nine megawatts, which equals enough power for about 1,500 homes.

In addition, many Community Service Districts (CSDs) have demonstrated leadership in renewable energy installation. The Los Osos CSD recently completed a 15 kW solar PV installation at CAL FIRE/San Luis Obispo County Station 15-South Bay producing approximately 21,370 kW annually, offsetting the energy use of the fire station. In 2015, the San Miguel CSD accepted a bid to construct a nearly 13 kW solar PV installation at the San Miguel Fire Station, which produces over 20,000 kW per year, almost entirely offsetting energy use at the station.



WHAT'S IN THE WORKS?

On November 17, 2015, the County of San Luis Obispo Board of Supervisors unanimously approved Property Assessed Clean Energy (PACE), providing property owners in the unincorporated county with a financing mechanism to implement energy and water efficiency, and renewable energy projects, by adding the cost as an assessment to their property tax bill.

On October 6, 2015, the Board of Supervisors authorized the County to invest $50,000 toward the cost of feasibility studies for regional Community Choice Aggregation (CCA) - one with the counties of Santa Barbara and Ventura, and one with the City of San Luis Obispo and other cities in the county. CCA is a government energy procurement program, made possible by AB 117, which allows local governments to purchase and sell electricity by aggregating customer loads. It is noteworthy that CCA is a recommended measure in the EWP and in the COSE element of the General Plan. The EWP directs the County to evaluate the development of a CCA program with the incorporated cities in the county to procure up to 50 percent of the region's electricity use from renewable resources by 2020. The General Plan directs the County to evaluate CCA as part of a policy to assert more local control of energy decisions and resources.

C3

Reduce methane emissions from disposed waste by achieving as close to zero waste as possible through increased diversion rates, methane capture and recovery, and other strategies.

WHAT'S HAPPENED?

The County adopted the Green Building Ordinance on August 28, 2012 equivalent to Cal Green Tier 1 requirements. Title 19 of the County Ordinance mandates a minimum of 70 percent of construction waste generated at the site be diverted to recycle or salvage. This standard applies to all structures over 500 square feet and projects over $3,000, with the exception of manufactured and metal buildings. When the 70 percent diversion threshold is not met, the contractor must provide proof of best effort.

North County Compost, in operation since 2001, began accepting food waste in late 2014 through a pilot program in Templeton. The facility has also reduced diesel fuel use, water use, and emissions by transitioning from aerated windrow composting to static aerated pile composting and modifying how composting is covered.

WHAT'S IN THE WORKS?

Waste Connections is expected to construct an anaerobic digester for composting biodegradable material in San Luis Obispo. The facility is expected to divert approximately 700 tons of waste weekly from the landfill while producing either compressed natural gas (CNG) or electricity.

Local agencies in partnership with San Luis Obispo Integrated Waste Management Authority (IWMA) will begin implementing a county-wide food waste collection program in 2016 to divert 20 to 30 tons of waste from the landfill daily. It is estimated that the program will divert over 1,000 nine-ton trucks yearly from the landfill.

Enough to Divert over 1,000 Nine-ton Trucks Yearly from the Landfill

C4

Reduce emissions from potable water use by 20% from per capita baseline levels by 2020 by prioritizing water conservation before development of new water resources.

WHAT'S HAPPENED?

County water conservation efforts in Los Osos have resulted in the replacement of 3,171 toilets, 2,339 shower heads, 3,193 faucet aerators, 91 clothes washers, and $886,323 in rebates issued.

In 2008, the Board of Supervisors adopted retrofit on sale programs in the Los Osos Groundwater Basin and the Nipomo Mesa Water Conservation Area. The programs require that any home sold in the Los Osos Groundwater Basin or in the Nipomo Mesa Water Conservation Area replace older fixtures with water efficient plumbing fixtures prior to transfer of title. It is estimated that 2.4 acre feet of water are saved annually in Nipomo, and 7.8 acre feet are annually saved in Los Osos.

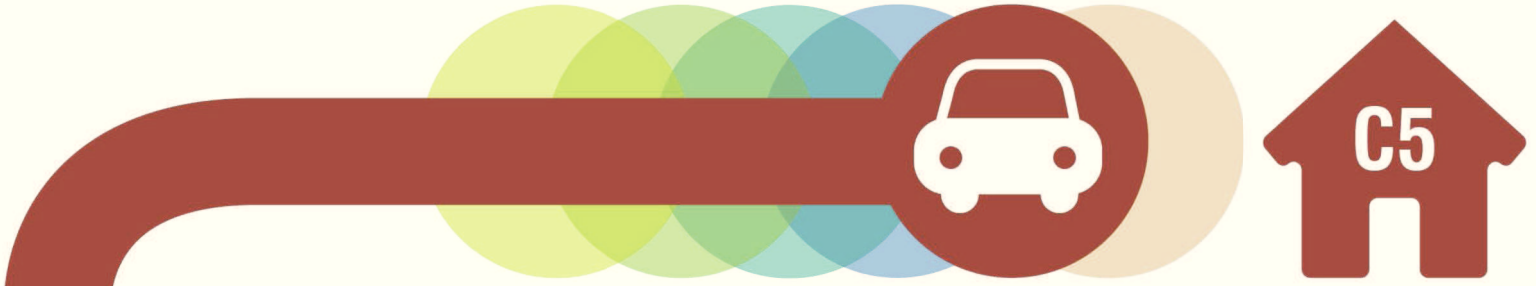
The Retrofit-to-Build program, also adopted in 2008, requires that any new construction retrofit with existing plumbing fixtures within the Los Osos Groundwater Basin to save twice the amount of water that the new development will use. To date, this program has resulted in annual water savings of approximately 28 acre feet to offset new demand.

The Paso Robles Groundwater Basin Plumbing Retrofit Program was adopted in 2014 as part of the implementation efforts of the Paso Robles Groundwater Basin Urgency Ordinance. The Urgency Ordinance required that all new development that overlies the Paso Robles Groundwater Basin be water neutral. The program was continued with the adoption of water neutral new development requirements in 2015. To facilitate this process for new development applicants, the County runs a plumbing retrofit program. Under the program, homes with older plumbing fixtures receive new water efficient fixtures. The resulting daily savings are tracked as credits and made available for purchase by new development applicants. Under the Urgency Ordinance, plumbing retrofits have saved an estimated 3,600 gallons of water per day (.01 acre feet per year) to offset new development. Retrofit work is ongoing.

The Paso Robles Groundwater Basin Agricultural Offset Program was adopted to implement the Paso Robles Groundwater Basin Urgency Ordinance. The program is ongoing and is now used to implement the Water Neutral New Agriculture requirements that were adopted in 2015. The program aims to limit increased demand on the groundwater basin by prohibiting new irrigated agriculture unless the projected water use is offset by removing existing irrigated agriculture in the basin. Under the Urgency Ordinance, 18 property owners completed the Agricultural Offset Clearance process to plant new irrigated agriculture without increasing water demand.

WHAT'S IN THE WORKS?

One of the programs that was adopted in late 2015, Cash for Grass, is available to property owners in the Paso Robles Groundwater Basin and in the Nipomo Mesa Water Conservation Area as a means of helping new development applicants meet water neutral requirements. The program offers monetary incentives to property owners who replace grass lawns with low water use landscaping. Two applications have been processed to date with a resulting savings of 378 gallons per day that will be used to offset new development.



Reduce transportation emissions through improvements in vehicle fuel efficiency, expansion of non-auto modes of travel, and implementation of smart growth land use policies.

WHAT'S HAPPENED?

Central Coast Clean Cities Coalition (C5) a local nonprofit coalition, and San Luis Obispo County Air Pollution Control District (APCD) are involved in local efforts to promote the use of cleaner alternative fuel technologies as a method of reducing fossil fuel use and GHG emissions. Additionally, the group provides education and information to residents, business owners, and fleet managers, and training on alternative fuel vehicle maintenance for technicians.

A Compressed Natural Gas (CNG) fuel station was developed by Paso Robles Country Disposal in late 2013, the only of its kind in North County. The CNG fuel station provides fuel for the Paso Robles Country Disposal fleet and other vehicles – reducing emissions in the county.

WHAT'S IN THE WORKS?

APCD has awarded approximately $19.2 million in funding for grant programs since 1997, including many for transportation emissions reduction efforts. In 2016 alone, APCD is expected to award approximately $1 million in grant funding across all programs.

C6

Reduce emissions in agricultural practices through water conservation, upgrade of equipment technology, and use of best management practices.

WHAT'S HAPPENED?

APCD has allocated over $415,000 in grant funding towards off-road, on-road, and agricultural projects, which offset the cost of projects that reduce heavy-duty diesel engine emissions prior to any regulatory requirement. Eligible projects include construction equipment, tractors, trucks, and irrigation engines.

San Luis Obispo County is served by two resource conservation districts (RCD), the Upper Salinas-Las Tablas (US-LTRCD) and the Coastal San Luis (CSLRCD), which offer programs for farmers, ranchers, and landowners in conserving water, improving water quality, building healthier soils, improving land productivity, and restoring wildlife habitat across the county's watersheds. The County has partnered with each RCD to offer an alternative, low-cost grading review process for certain agricultural projects, including drainage improvements, trails and recreation enhancements, and conservation projects.

The Center for Sustainability – part of the Cal Poly College of Agriculture, Food, and Environmental Sciences – provides numerous opportunities for local community members and agriculture businesses to learn about best practices and innovations in composting, pest management, and other sustainable agriculture practices.

WHAT'S IN THE WORKS?

CSLRCD is leading a demonstration project at a Morro Bay ranch to exhibit best management practices for rangeland management, reducing impacts from climate change, maintaining viability of agricultural operations, improving water quality, and sequestering carbon. CSLRCD also provides farmers, ranchers, and landowners with technical assistance and rebates for implementing best management practices.

The US-LTRCD is developing strategic plans to implement projects to improve water conservation within its district, including storm water management, low impact development (LID) projects, irrigation efficiency, and groundwater recharge projects. These programs are designed to passively conserve water and improve ecological health without the need for large infrastructure. In addition, the US-LTRCD sponsored the Salinas River Symposium to encourage collaboration at the watershed scale for natural resource management.

As part of the Los Osos Waste Water Treatment Plant project, approximately 100 acre feet of recycled water is annually expected to be provided for agricultural uses. It is estimated that an additional 100 acre feet of recycled water will go towards irrigation at area schools and golf courses.

Where Are We Now?

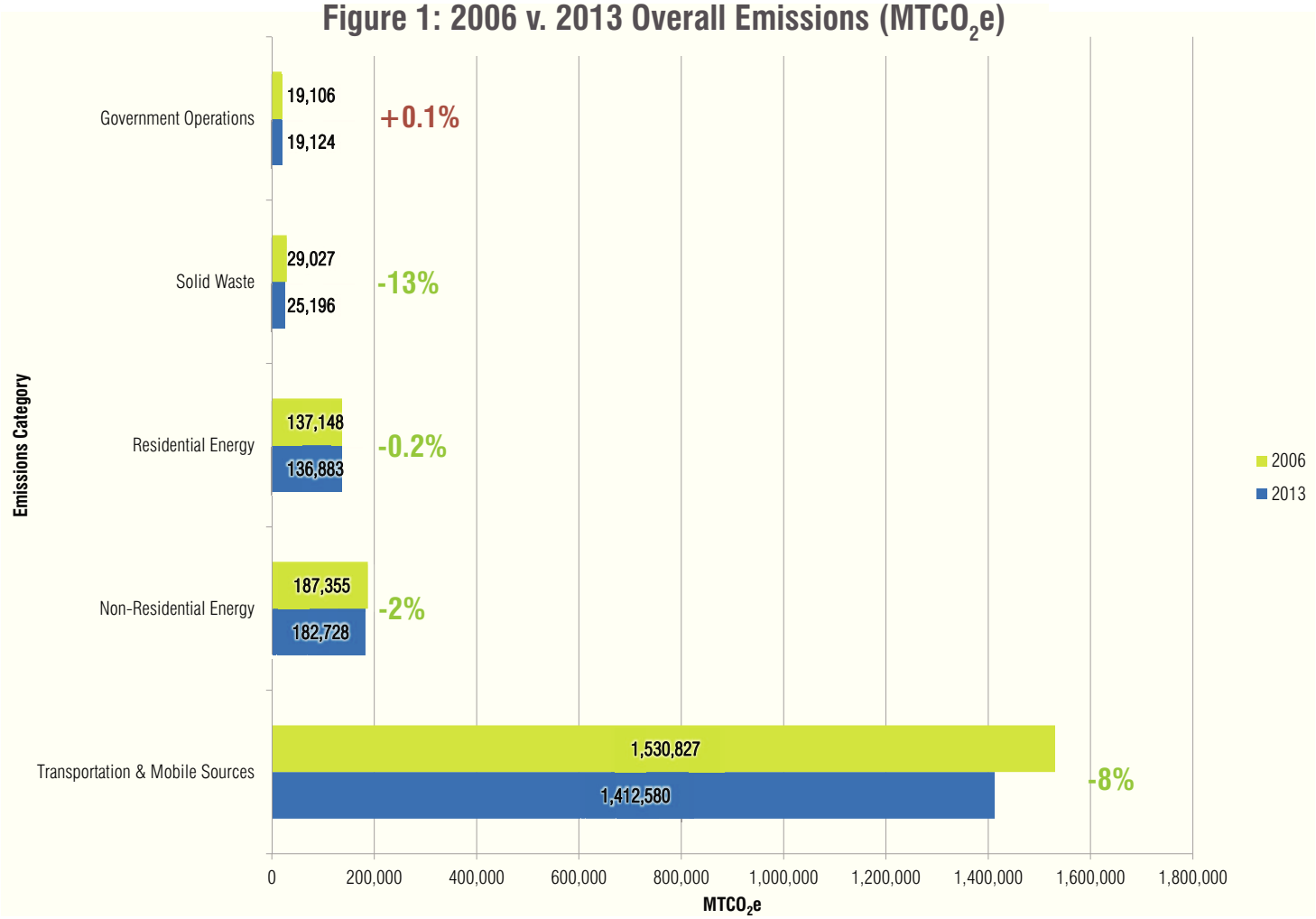


Figure 1 provides a breakdown of overall county-wide emissions between the baseline year 2006, and 2013. Overall GHG emissions, from both government operations and community-wide sources, have decreased by approximately seven percent. This decrease is almost entirely due to a reduction in community-wide emissions, and specifically a reduction from transportation and mobile sources. These sources, which represent the most significant contribution to overall emissions decreased largely because of a decrease in vehicle miles traveled in the county and an increase in U.S. Corporate Average Fuel Economy standards. It is important to note that community-wide transportation emissions data included in this update are derived from models from State agencies that include all vehicle miles traveled in and through the unincorporated county (not just those that have an origin or destination within unincorporated areas), and therefore significantly overstate the contribution of transportation emissions relative to other emission sources. Community-wide emissions from solid waste and energy use at buildings and facilities also decreased. Total GHG emissions from County government activities have increased by less than one percent.

Figure 2: 2006 v. 2013 Emissions produced by Government Operations ($MTCO_2e$)

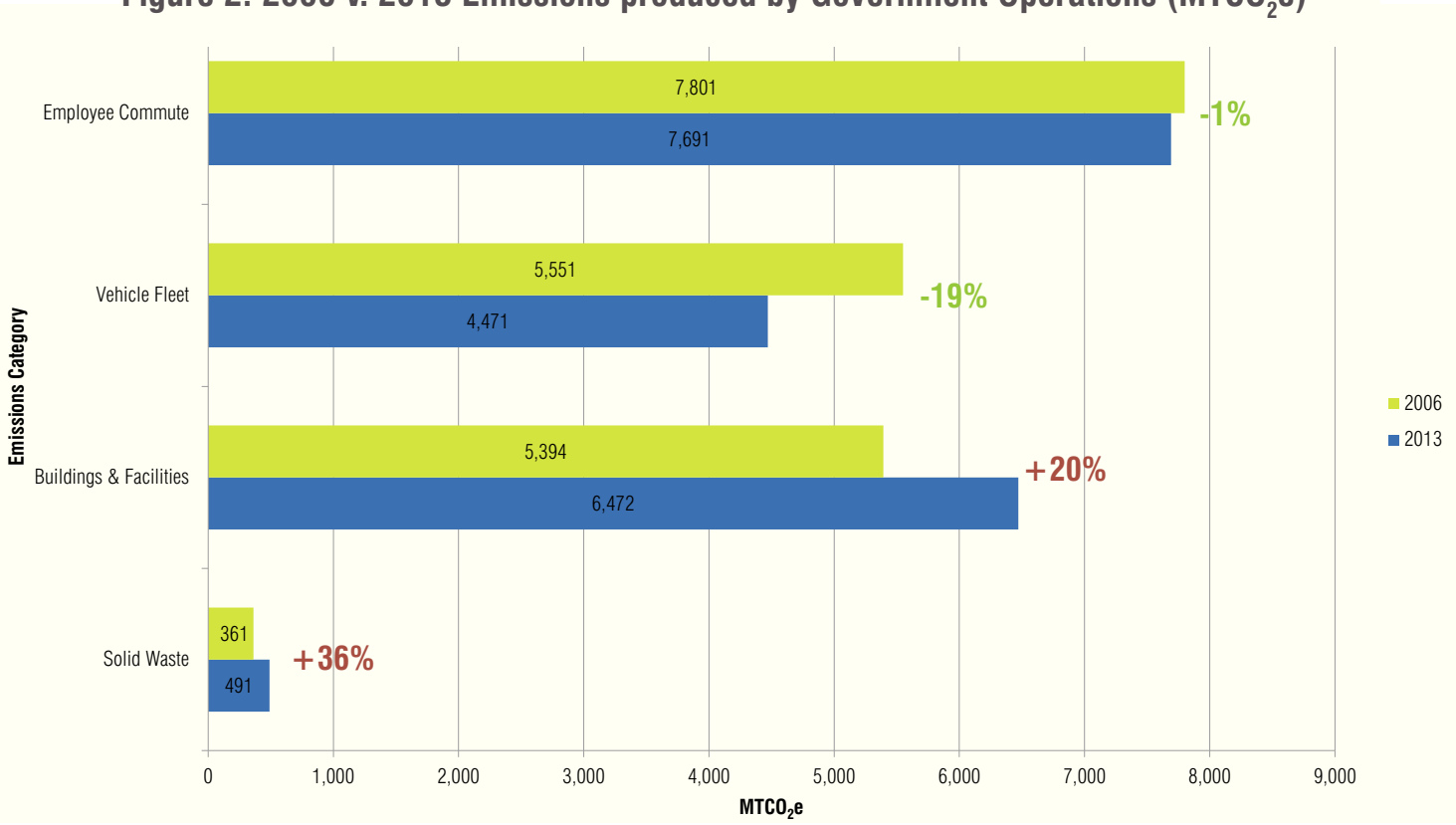


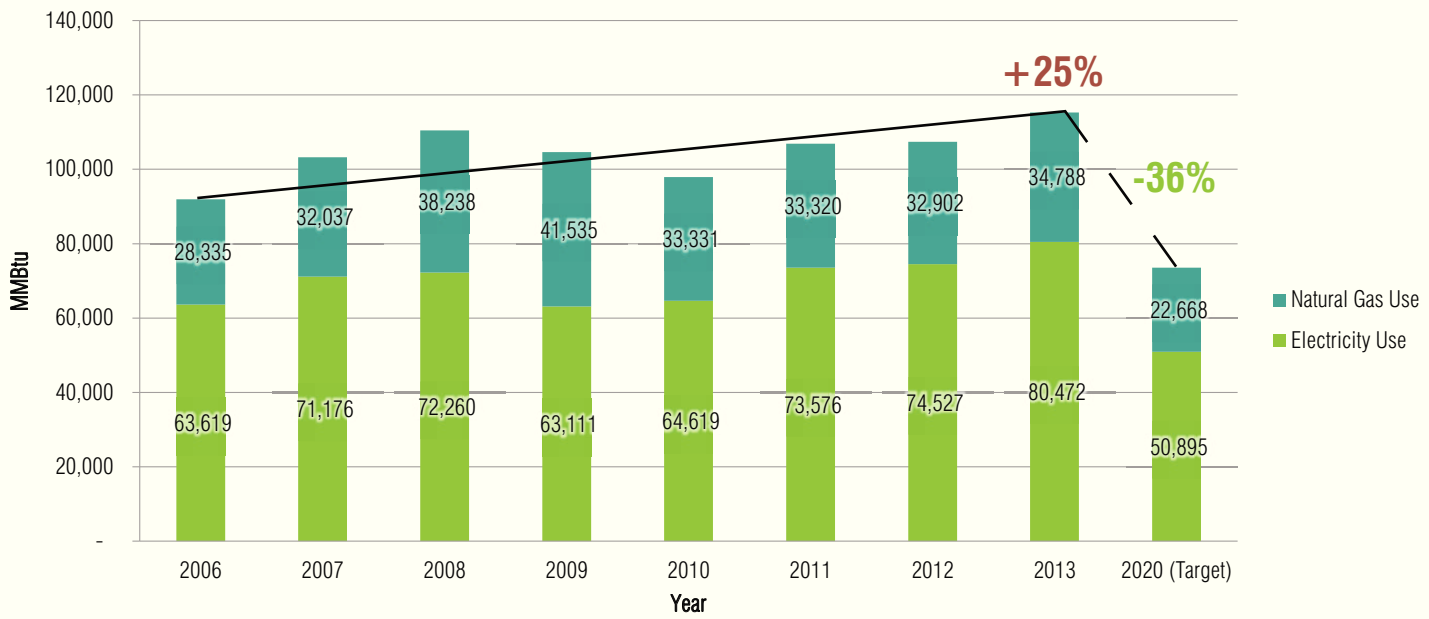
Figure 2 provides a comparison of emissions produced by government operations between 2006 and 2013. Similar to community-wide emissions, transportation sources (employee commute and vehicle fleet) comprise the majority of emissions. Emissions from all government transportation sources were reduced – with vehicle fleet emissions decreasing by 19 percent. Emissions from buildings and facilities and solid waste have increased by 20 and 36 percent, respectively. Emissions from buildings and facilities increased due to growth in county operations, specifically the Nacimiento Pipeline Project. A year-by-year look at energy use, and emissions from energy use at buildings and facilities, for County government operations and community-wide sources is detailed on the following pages, along with progress towards County COSE goals for energy use and emissions.

Figure 3: 2006 v. 2013 Emissions produced per Capita ($MTCO_2e$)

	Community-wide		Government	
Year	**2006**	**2013**	**2006**	**2013**
Emissions	1,884,358	1,757,387	19,106	19,124
Population	115,018	119,272	2,567	2,417
Per Capita Emissions ($MTCO_2e$)	16.4	14.7	7.44	7.91
Percent Change	-10.1%		+6.3%	

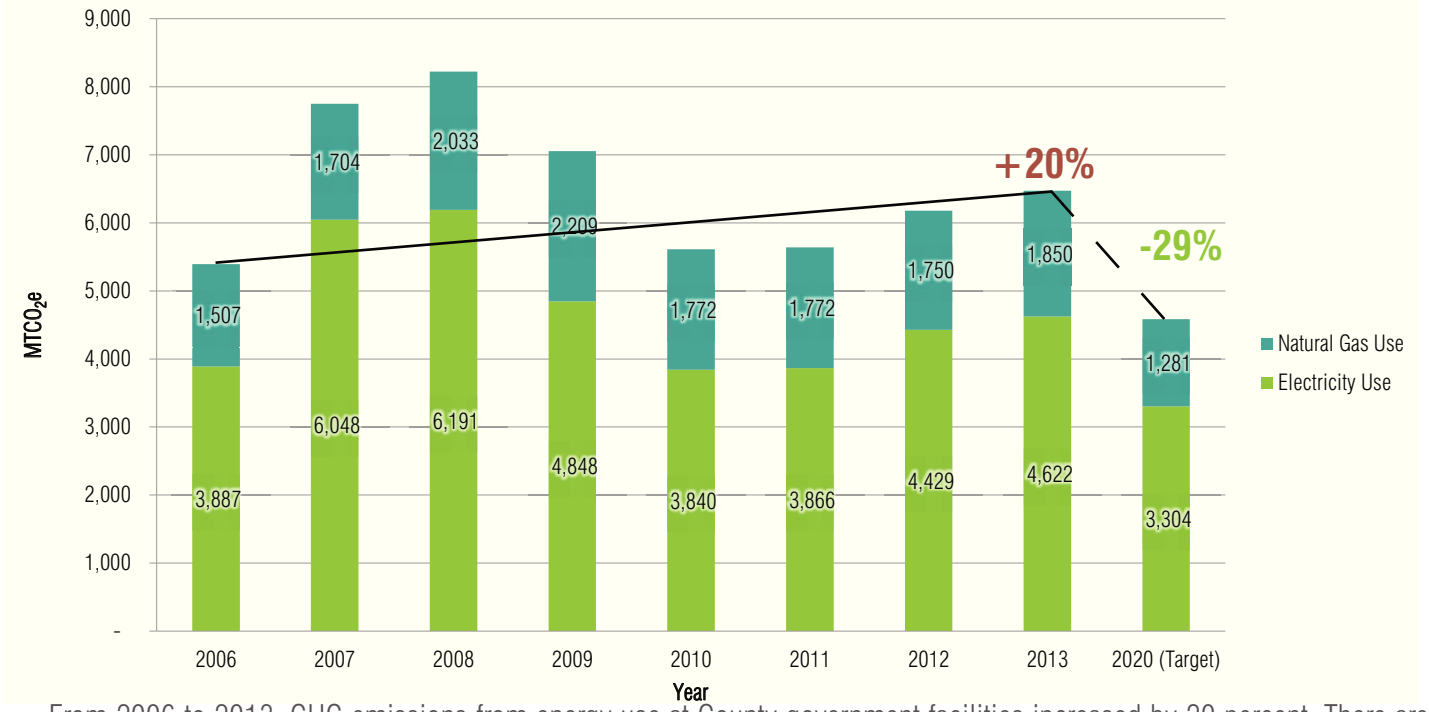
As shown in Figure 3, per capita GHG emissions from community-wide sources decreased by over 10 percent while per capita GHG emissions from County operations increased by over six percent between 2006 and 2013.

Figure 4: Annual Energy Use at County Buildings and Facilities (MMBtu)



From 2006 to 2013, energy use at County government facilities increased by 25 percent, largely the result of the Nacimiento Pipeline Project. In order to meet the EWP goal for a 20 percent reduction in energy use by 2020, a reduction of energy use by 36 percent from 2013 levels will be required.

Figure 5: Annual Emissions from Energy Use at County Buildings and Facilities ($MTCO_2e$)

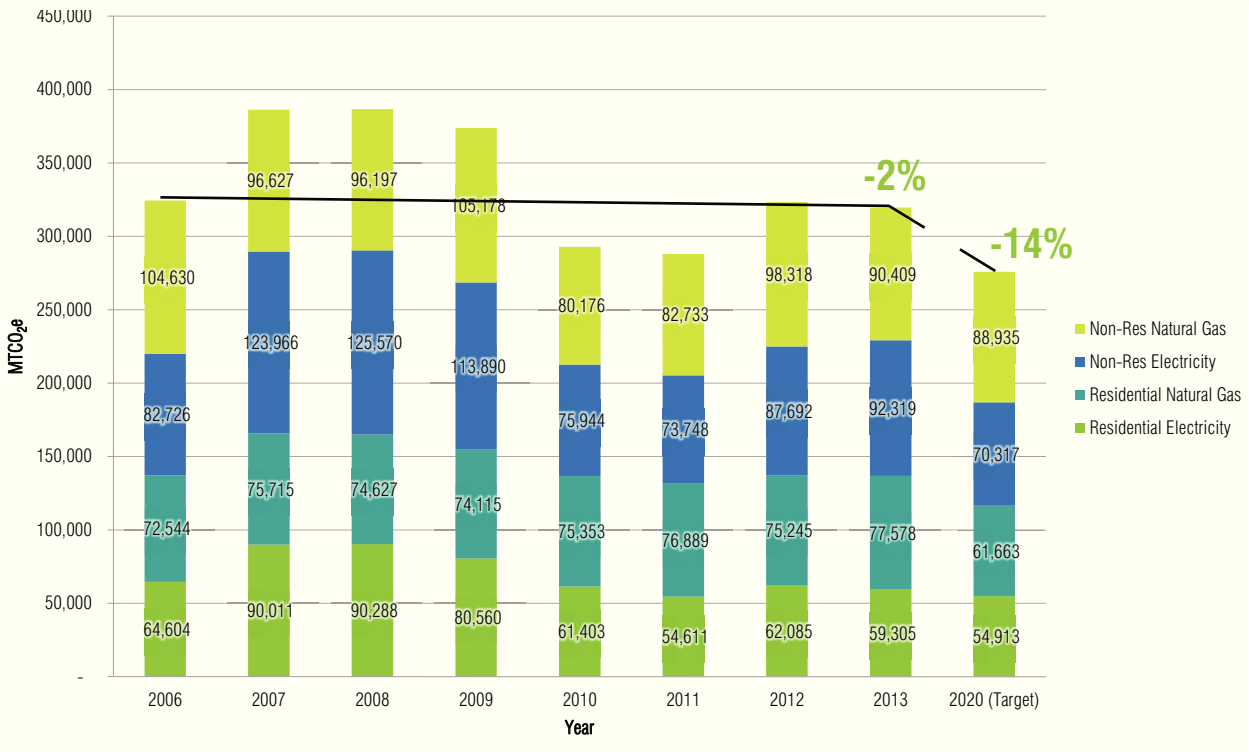


From 2006 to 2013, GHG emissions from energy use at County government facilities increased by 20 percent. There are no goals or targets specifically related to reducing GHG emissions from County facility energy use, but to achieve the overarching County government operations emissions target of a 15 percent reduction from 2006 baseline levels, the County will need to reduce emissions by 29 percent from 2013 levels by 2020.

Figure 6: Annual Energy Use at Community-wide Buildings and Facilities (MMBtu)

From 2006 to 2013, energy use in the unincorporated county increased by 1 percent, likely due to a variety of factors, including a population increase of almost 5 percent. There are no goals or targets specific to community-wide energy use, but to achieve a 15 percent energy use reduction from 2006 levels, the County will need to reduce energy use by 16 percent from 2013 levels by 2020.

Figure 7: Annual Emissions from Energy Use at County Buildings and Facilities ($MTCO_2e$)



From 2006 to 2013, GHG emissions from energy use in the unincorporated county decreased by 2 percent despite the increase in energy use because the electricity grid from PG&E has become significantly cleaner since 2006. In order to meet the community-wide emissions target of a 15 percent reduction from 2006 baseline levels, there will need to be a reduction of emissions from energy use by 14 percent from 2013 levels by 2020.

Potential EWP Measure Implementation

Several larger measures in the EWP have the potential to contribute substantially towards our reduction target. Of these measures some are already in progress, while others will first require further analysis and funding. Other measures will not directly reduce emissions, but will provide both a greater understanding of our emissions status, and an updated roadmap for implementing actionable and cost effective GHG reduction measures. These include, but are not limited to the following:

- Complete unfunded pre-engineered energy efficiency measures that were initially included in the Sustainable Solutions Turnkey (SST) project.
- Install solar energy systems on County-owned facilities and land, taking advantage of PG&E's RES-BCT program, Net Energy Metering, and the Federal Investment Tax Credit (recently extended until the end of 2021).
- Continue moving forward with Property Assessed Clean Energy (PACE)
- Continue to explore a regional Community Choice Aggregation (CCA) program.
- Create an energy revolving loan fund that is filled and replenished by capturing project savings and/or incentives and used exclusively for future energy-related projects.
- Conduct protocol compliant emissions inventories to determine progress toward our goals.
- Update the EnergyWise Plan and continue to identify and evaluate new opportunities to reduce GHG emissions.
- Collect and report EWP data bi-annually, particularly related to progress towards implementing measures.