
County of Santa Barbara

Energy and Climate
Action Plan
2017 Progress Report



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County of Santa Barbara

Energy and Climate Action Plan 2017 Progress Report

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December 2018



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Executive Summary

Background

In Santa Barbara County, as elsewhere in California and globally, climate change challenges our status quo and contributes to a growing number of economic, social, and environmental problems. In recognition of the negative impacts of climate change, the State of California has established incremental milestones for lowering the state’s greenhouse gas (GHG) emissions. Table ES-1 documents the State’s GHG reduction targets.

The Energy and Climate Action Plan (ECAP), adopted in 2015, aligns with AB 32 to reduce emissions to 15 percent below 2007 levels by 2020 and identifies 53 emissions reduction measures (ERMs) to achieve this goal. As noted in the ECAP, “Attainment and exceedance of the reduction target will require a continued commitment from the County to monitor progress and make plan updates when needed, continued implementation of federal and state mandates, and dedicated residents choosing to take individual actions to be a part of the solution.”

This 2017 ECAP Progress Report is the second report detailing the County’s progress towards reaching its 2020 emissions reduction goal. This report documents the progress of implementing the ECAP in two ways:

1. Changes in GHG emissions created by activities in the unincorporated parts of the county since the 2007 baseline year. **Current (2016) status: GHG emissions are 14 percent above 2007 levels.**
2. Changes in implementation of ERMs (e.g., number of bike lanes installed, number of homeowners who have completed energy efficiency upgrades) by the County and its community partners since 2007. **Current (2017) status: 50 percent of ERMs are on track (at least 50 percent to 2020 goal).**

This approach deviates from that used for the 2016 ECAP Progress Report due to conflicting emissions data using the ERM emissions estimates quantified in the 2016 report. This 2017 report provides greater accuracy and begins to address some of the data gaps identified in the 2016 report.

GHG Emissions Reduction Progress

In June 2018, Ascent Environmental, Inc. (“Ascent”) updated the unincorporated county’s emissions inventory for 2016 to provide a snapshot of how the County and the community are doing in lowering emissions towards the County’s 2020 emissions reduction target. As shown in Table ES-2, 2016 emissions have increased by 14 percent since 2007. This increase is largely attributed to increased driving and construction activity, increased natural gas use in non-residential buildings, and increased agricultural fertilizer use. **Because of the emissions increase, the County and community need to reduce emissions by 26 percent from 2016 levels to reach the ECAP’s 2020 target of 15 percent below 2007 levels.**

Table ES-1: State GHG Reduction Targets

Goal Year	GHG Reduction Target	Enabling Policy
2020	1990 levels (15% reduction from 2005-2008 levels)	EO S-3-05 (2005) AB 32 (2006)
2030	40% below 1990 levels (6 MTCO ₂ e per capita)	EO B-30-15 (2015) SB 32 (2016)
2045	Carbon neutral (net 0 MTCO ₂ e)	EO B-55-18 (2018)
2050	80% below 1990 levels (2 MTCO ₂ e per capita)	EO S-3-05 (2005)

Table ES-2: Normalized Comparison of 2007 and 2016 Unincorporated County GHG Emissions by Source

Source	GHG Emissions (MTCO ₂ e) ¹		Difference		Primary Reason for Change
	2007	2016	MTCO ₂ e	Percent	
Transportation	523,430	588,246	↑ 64,816	↑ 12%	Increased vehicle miles traveled, partially offset by decreased vehicle emissions factors
Building Energy	330,370	374,164	↑ 43,794	↑ 13%	Increased non-residential natural gas use
Off-Road	102,140	138,950	↑ 36,810	↑ 36%	Increased construction activity
Agriculture	90,348	119,360	↑ 29,012	↑ 32%	Increased fertilizer use, partially offset by decreased livestock population
Solid Waste	91,920	82,750	↓ 9,170	↓ 10%	Reduced landfill waste tonnage
Water and Wastewater	4,699	3,364	↓ 1,335	↓ 28%	2007 inventory double counted wastewater treatment electricity use and water pumping
TOTAL	1,142,907	1,306,833	↑ 163,926	↑ 14%	

¹ The GHG emissions reported for 2007 do not match the original 2007 GHG emissions inventory used in the ECAP. The numbers in this table are adjusted for comparability purposes to account for methodological differences between the original calculation of the 2007 GHG emissions inventory and most recent inventory update completed by Ascent in 2018. Values reported in this table should not be used for future goal setting and may not match values in tables elsewhere in this report.

Emissions Reduction Measure Progress

The ECAP’s 53 ERMs are grouped into like categories called “Core Strategies.” The Core Strategies—and each Core Strategy’s relative contribution to the 2020 GHG reduction goal—are listed in Table ES-3. The Core Strategies are the organizing framework for the ECAP and are used to discuss the County’s and community’s progress implementing each of the quantifiable ERMs through 2017.

The **Built Environment (BE) Core Strategy** includes 11 ERMs designed to help community members reduce their electricity and natural gas usage. Since 2016, the County has made incremental strides in implementing the BE ERMs, but the County remains behind in achieving all but two of the 2020 BE ERM implementation targets.

The **Waste Reduction (WR) Core Strategy** includes five ERMs that are designed to reduce GHG emissions from area landfills and waste collection trucks. The County is approximately a quarter of the way towards its 2020 waste diversion goal and has reached more than 90

percent of its goal to work with waste haulers to convert waste hauling trucks to compressed natural gas. Once the Tajiguas Resource Recovery Project is operational, waste diversion is expected to improve significantly.

Table ES-3. ECAP Core Strategies

Core Strategy	Percent of 2020 GHG Reduction Target
BE Built Environment	21%
WR Waste Reduction	21%
CCE Community Choice Energy	17%
SCS Sustainable Communities Strategy	13%
T Transportation	12%
RE Renewable Energy	6%
IEE Industrial Energy Efficiency	4%
AG Agriculture	3%
GO Government Operations	2%
LUD Land Use Design	1%
WE Water Efficiency	<1%

The **Community Choice Energy (CCE) Core Strategy** seeks to implement a Santa Barbara County CCE program to leverage the purchasing power of county residents, businesses, and governmental entities to purchase or generate low-carbon power locally. In October 2017, the Board of Supervisors directed staff to update the CCE financial feasibility assessment to evaluate the potential viability of a CCE program serving only Santa Barbara County rather than the initial tri-county regional effort. The Santa Barbara County CCE feasibility study results potentially offer a more viable path to CCE for the unincorporated parts of the county and interested cities, though challenges remain.

The **Sustainable Communities Strategy (SCS) Core Strategy** seeks to tie land use and transportation planning to reduce GHG emissions from passenger vehicles by shortening the distance between housing and commercial activity centers. Historically, job growth has occurred at a higher pace in the south county, while the development of new homes is more common in the north county. This trend creates a jobs-housing imbalance, forcing residents to commute from north to south. Recent data shows that north county is meeting housing demand based on future non-residential development, while south county non-residential development is slightly outpacing housing development.

The **Transportation (T) Core Strategy** identifies nine ERM targets that aim to lower GHG emissions from single-passenger vehicles. With the exceptions of T6 (Pedestrian Improvements for Schools) and T9 (Commuter Rail Connections), the County and its community partners are behind in implementing the T ERM targets.

The **Renewable Energy (RE) Core Strategy** consists of four ERM targets that promote increased production of renewable energy in the region. The County and its community partners have surpassed two of the four RE ERM targets. The majority of the progress for the RE Core Strategy is attributable to the large number of residential rooftop solar panels in the county and one large-scale solar project in the Cuyama Valley.

The **Industrial Energy Efficiency (IEE) Core Strategy** seeks to increase energy efficiency in the industrial sector through four ERM targets. The county's investor-owned utilities provide energy efficiency incentives for industrial customers. To date, 75 percent of industrial customers in Pacific Gas and Electric Company territory in north county have taken advantage of these programs. Comparable data is not available for Southern California Edison, and Southern California Gas does not have any completed industrial energy efficiency projects to report in Santa Barbara County.

The **Agriculture (AG) Core Strategy** seeks to reduce GHG emissions by helping farmers implement best practices in irrigation and efficient growing techniques across six ERM targets. While growers are exceeding the County's water-efficient irrigation goal (AG 4), a significant increase in agricultural equipment conversion is needed to meet AG 2. The other two AG ERM targets are not measurable.

The **Government Operations (GO) Core Strategy** showcases the County's leadership in meeting the community's and State's GHG reduction goals. The GO Core Strategy includes six ERM targets that demonstrate the County's commitment to sustainable energy (GO 1, GO 2) and water (GO 6) use, vehicle fuel efficiency and alternative-fueled vehicles (GO 3, GO 4), and responsible procurement (GO 5). Through 2017, the County has achieved more than 50 percent of the 2020 implementation target for each of the five measurable GO ERM targets. Most of this progress is achieved through reducing electricity and fuel use for County buildings and vehicle fleet.

The **Land Use Design (LUD) Core Strategy** includes three ERM targets that support infill (LUD 1) and transit-oriented (LUD 2) development and encourage the availability of more affordable housing near employment centers (LUD 3). The goal is to promote land use strategies that reduce GHG emissions by encouraging transit and active transportation, such as walking and biking, over driving. The County is on track to reach its 2020 implementation goals for LUD 1 (Infill Development) and LUD 3 (Affordable Housing); there is progress to be made in reaching the LUD 2 (Transit-Oriented Development) target.

The **Water Efficiency (WE) Core Strategy** includes three ERM targets that address water-related energy use through education, incentives, and building standards. Despite an increase in countywide water use from 2016 to 2017, the County is on track to meet its two measurable WE ERM targets (WE 1 and WE 3). WE 2 (Water-Efficient Building and Landscape Standards) is currently unmeasurable due to data availability.

Looking Forward

Despite some notable highlights, the County and community are behind in implementing many of the ECAP's ERMs, and the unincorporated county's GHG emissions are trending in the wrong direction (14 percent above 2007 levels as of 2016). Many ERMs need additional attention and funding from the County to help reach the 2020 reduction target of 15 percent below 2007 levels. Other ERMs rely on community members and organizations to realize their full GHG reduction potential, and some GHG-causing activities over which the County has limited control are likely to worsen as the climate changes further. For example, farmers may continue using larger amounts of fertilizer as a supplement to decreased soil moisture resulting from sustained drought, and electricity use may rise due to increased air conditioning use as temperatures continue to rise. In addition to the increased emissions from these climate-driven behaviors, these activities can also present health risks, negatively impact the economy, and impair air quality. The County and community need to anticipate and plan for these and other consequences of climate change.

To facilitate future goal adoption and GHG reduction strategy development, Section IV outlines future anticipated GHG emissions from the unincorporated county and identifies the additional emissions reductions that must be achieved to meet the current ECAP 2020 goal and align with future State targets. Without additional County action, GHG emissions are forecasted to be 2 percent above 2007 levels in 2020, 23 percent below 2007 levels in 2030, and 25 percent below 2007 levels in 2050. Figure ES-1 shows the remaining gap of GHG reductions that the County needs to attain to reach its 2020 goal, as well as 2030 and 2050 GHG reduction targets should the County adopt new goals to align with the State.

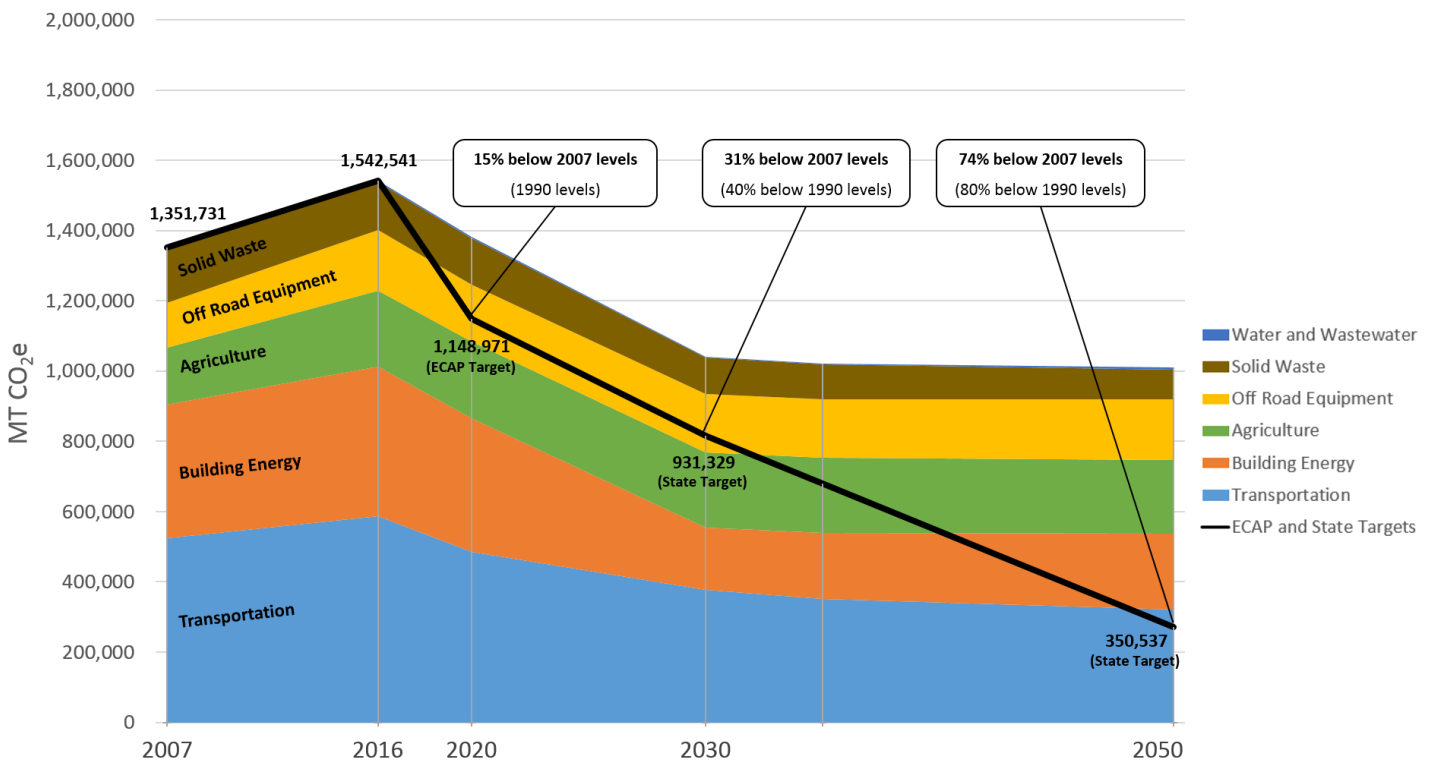


Figure ES-1: Unincorporated County GHG Emissions with ECAP and State Targets, 2007-2050

I. Introduction

I-1. Background

In Santa Barbara County, as elsewhere in California and globally, climate change challenges our status quo and contributes to a growing number of economic, social, and environmental problems. Climate change is altering local climatic conditions like increased temperatures and prolonged, more severe drought that impacts the productivity of agriculture in our county and imperils life and property through events such as the Thomas Fire that began in December 2017 and subsequent 1/9 Debris Flow. These two events claimed the lives of 23 residents, damaged or destroyed more than 600 properties, cost an estimated \$50 million in impacts to public infrastructure, reduced the assessed value of affected properties by \$1.2 billion, and resulted in \$2.9 million in lost tax revenues in 2018 and an estimated \$3.6 million in 2019.

Rising temperatures can induce heat-related illnesses and worsen air quality, which may already be diminished by more frequent and prolonged wildfires. Poor air quality, in turn, contributes to health concerns, especially for those with existing respiratory conditions like asthma and vulnerable populations like the elderly and children. This translates to reduced productivity and increased health care costs. Higher temperatures can also strain our electricity grid if more air conditioners are deployed to counter the rising heat. Increased power outages from higher demands on the grid and increasing natural disasters may mean that more businesses and residents turn to diesel or other fossil fuel-fired generators to provide backup power, further worsening air quality conditions and impacting human health.

Rising sea levels can lead to increased coastal erosion and flooding that threaten public and private property. Coastal erosion at Goleta Beach alone has cost \$12.5 million over the past 20 years to fortify and replenish the popular park. Energy and transportation infrastructure, including the U.S. Highway 101 and Union Pacific rail line, are also at risk.

In recognition of the negative impacts of climate change, the State of California has established incremental milestones for lowering the state's greenhouse gas (GHG) emissions that contribute to climate change in line with scientifically recognized values required to limit global warming below two degrees Celsius (3.6 degrees Fahrenheit). This temperature threshold is widely accepted as the maximum temperature increase allowable before the worst impacts of climate change are experienced. Table I-1 documents the State's GHG reduction targets.

The California Air Resources Board (CARB) released [California's 2017 Climate Change Scoping Plan](#), outlining strategies for meeting the 2030 goal and providing guidance to local governments on how to align local climate action work with the State. This Scoping Plan is the State's equivalent to the County of Santa Barbara's [Energy and Climate Action Plan \(ECAP\)](#), which is the focus of this report.

The ECAP, adopted in 2015, aligns with AB 32 to reduce emissions to 15 percent below 2007 levels by 2020 and identifies 53 emissions reduction measures (ERMs) to achieve this goal. As noted in the ECAP, "Attainment and exceedance of the reduction target will require a continued commitment from the County to monitor progress and make plan updates when needed, continued implementation of federal and state mandates, and dedicated residents choosing to take individual actions to be a part of the solution." The Sustainability Division of the Community Services Department and the County Sustainability Committee are tasked with monitoring ECAP implementation progress.

Table I-1: State GHG Reduction Targets

Goal Year	GHG Reduction Target	Enabling Policy
2020	1990 levels (15% reduction from 2005-2008 levels)	EO S-3-05 (2005) AB 32 (2006)
2030	40% below 1990 levels (6 MTCO ₂ e per capita)	EO B-30-15 (2015) SB 32 (2016)
2045	Carbon neutral (net 0 MTCO ₂ e)	EO B-55-18 (2018)
2050	80% below 1990 levels (2 MTCO ₂ e per capita)	EO S-3-05 (2005)

I-2. About this Report

This 2017 ECAP Progress Report is the second report detailing the County's progress towards reaching its 2020 emissions reduction goal. This report documents the progress of implementing the ECAP in two ways:

1. Changes in GHG emissions created by activities in the unincorporated parts of the county since the 2007 baseline year (see Section II. GHG Emissions Reduction Progress)
2. Changes in implementation of ERMs (e.g., number of bike lanes installed, number of homeowners who have completed energy efficiency upgrades) by the County and its community partners since 2007 (see Section III. ECAP Emissions Reduction Measure Progress)

This approach deviates from that used for the 2016 ECAP Progress Report due to conflicting emissions data using the ERM emissions estimates quantified in the 2016 report. This 2017 report provides greater accuracy and begins to address some of the data gaps identified in the 2016 report. All data throughout this report is measured on a calendar year basis, in line with third-party reporting protocols.

II. GHG Emissions Reduction Progress

II-1. 2007 GHG Emissions Baseline and 2020 GHG Emissions Target

The ECAP seeks to reduce GHG emissions from the unincorporated parts of the county by 15 percent below 2007 levels by 2020. In 2007, the unincorporated county contributed an estimated 1.35 million metric tons of carbon dioxide equivalent (MTCO_{2e}), and we are working towards a goal of 1.15 million MTCO₂ in 2020.¹

The GHG emissions covered by the ECAP are created from activities like driving, burning natural gas for heating and cooking, sending trash to the landfill, and applying fertilizer. The ECAP does not include emissions from large regulated sources of emissions like oil and gas operations or power plants. These "point sources" are regulated at the State and Federal level, as well as through permits that must be obtained from the County and the Santa Barbara County Air Pollution Control District. The ECAP also does not account for the large emissions contribution from wildfires, as there is not yet a standardized way for estimating these emissions.

II-2. GHG Emissions Comparison, 2007-2016

In June 2018, Ascent Environmental, Inc. ("Ascent") updated the unincorporated county's emissions inventory for 2016 to provide a snapshot of how the County and the community are doing in lowering emissions towards the County's 2020 emissions reduction target. 2016 is the most recent year for which complete emissions data is available.

As shown in Table II-1, 2016 emissions have increased by 14 percent since 2007. This increase is largely attributed to increased driving and construction activity, increased natural gas use in non-residential buildings, and increased agricultural fertilizer use. Because of the emissions increase, the County and community need to reduce emissions by 26 percent from 2016 levels to reach the ECAP's 2020 target of 15 percent below 2007 levels.

Despite the overall growth in GHG emissions, residential building energy use (a subset of Building Energy) and solid waste-related emissions decreased. Table II-1 also shows a decrease in water and wastewater-related GHG emissions. However, the decrease is due to an unresolvable calculation error in the original 2007 GHG emissions inventory. There was not an actual decline, leaving residential energy use and solid waste as the only emissions sources that saw a decrease in GHG emissions from 2007 to 2016. Although a direct correlation cannot be measured, the County offers robust residential energy efficiency and landfill waste diversion programming, which may contribute to the decreased emissions in these categories.

¹ The original 2007 GHG emissions baseline estimate and 2020 GHG reduction target have been adjusted to account for updated calculation methodologies and better data. Ascent's calculation of the 2007 baseline is roughly 13% higher than the original 2007 baseline estimate. Because the updated (higher) 2007 baseline uses the best available information, this higher baseline will be used for reporting and is recommended for future goal setting.

Table II-2 shows the relative contribution of each emissions source for 2007 and 2016. The relative contribution values remain proportionately unchanged from 2007 to 2016. Transportation (on-road and off-road) and building energy use are the primary sources of GHG emissions in the county and the state.

Table II-1: Normalized Comparison of 2007 and 2016 Unincorporated County GHG Emissions by Source

Source	GHG Emissions (MTCO ₂ e) ¹		Difference		Primary Reason for Change
	2007	2016	MTCO ₂ e	Percent	
Transportation	523,430	588,246	↑ 64,816	↑ 12%	Increased vehicle miles traveled, partially offset by decreased vehicle emissions factors
Building Energy	330,370	374,164	↑ 43,794	↑ 13%	Increased non-residential natural gas use
Off-Road	102,140	138,950	↑ 36,810	↑ 36%	Increased construction activity
Agriculture	90,348	119,360	↑ 29,012	↑ 32%	Increased fertilizer use, partially offset by decreased livestock population
Solid Waste	91,920	82,750	↓ 9,170	↓ 10%	Reduced landfill waste tonnage
Water and Wastewater	4,699	3,364	↓ 1,335	↓ 28%	2007 inventory double counted wastewater treatment electricity use and water pumping
TOTAL	1,142,907	1,306,833	↑ 163,926	↑ 14%	

¹ The GHG emissions reported for 2007 do not match the original 2007 GHG emissions inventory used in the ECAP. The numbers in this table are adjusted for comparability purposes to account for methodological differences between the original calculation of the 2007 GHG emissions inventory and most recent inventory update completed by Ascent in 2018. Values reported in this table should not be used for future goal setting and may not match values in tables elsewhere in this report.

Table II-2: Relative Contribution of GHG Emissions Sources, 2007 and 2016

Source	2007		2016	
	MTCO ₂ e ¹	Percent Contribution	MTCO ₂ e ¹	Percent Contribution
Transportation	523,430	46%	588,246	45%
Building Energy	330,370	29%	374,164	29%
Off-Road	102,140	9%	138,950	11%
Agriculture	90,348	8%	119,360	9%
Solid Waste	91,920	8%	82,750	6%
Water and Wastewater	4,699	0.4%	3,364	0.3%
TOTAL	1,142,907	100%	1,306,833	100%

¹ The GHG emissions reported for 2007 do not match the original 2007 GHG emissions inventory used in the ECAP. The numbers in this table are adjusted for comparability purposes to account for methodological differences between the original calculation of the 2007 GHG emissions inventory and most recent inventory update completed by Ascent in 2018. Values reported in this table should not be used for future goal setting and may not match values in tables elsewhere in this report.

III. ECAP Emissions Reduction Measure Progress

The ECAP’s 53 ERMs are grouped into like categories called “Core Strategies.” The Core Strategies, the number of ERMs per Core Strategy, and each Core Strategy’s relative contribution to the 2020 GHG reduction goal are listed in Table III-1. The Core Strategies are the organizing framework for the ECAP and are used to discuss the County’s and community’s progress implementing each of the quantifiable ERMs through 2017, which is the most recent year for which complete ERM data is available.

The rest of this section discusses the ERM implementation progress for each Core Strategy in order of relative contribution to the 2020 GHG emissions reduction target.

Table III-1. ECAP Core Strategies

Core Strategy		No. of ERMs	Percent of 2020 GHG Reduction Target
BE	Built Environment	11	21%
WR	Waste Reduction	5	21%
CCE	Community Choice Energy	1	17%
SCS	Sustainable Communities Strategy	1	13%
T	Transportation	9	12%
RE	Renewable Energy	4	6%
IEE	Industrial Energy Efficiency	4	4%
AG	Agriculture	6	3%
GO	Government Operations	6	2%
LUD	Land Use Design	3	1%
WE	Water Efficiency	3	<1%



III-1. Built Environment (BE)

Goal: To foster development and renovations that increase energy efficiency through location, design, construction, and systems.

Buildings are a significant source of GHG emissions in the unincorporated county, accounting for 29 percent of GHG emissions in 2016. The BE core strategy seeks to improve energy efficiency by reducing electricity and natural gas consumption in buildings and public infrastructure. Within the BE core strategy, there are 11 ERMS focused on educating businesses and homeowners about energy efficiency and providing them with resources to make improvements to their buildings.

BE Progress Reporting

ERM Progress to Date

The BE Core Strategy includes 11 ERMs designed to help community members reduce their electricity and natural gas usage. Since 2016, the County has made incremental strides in implementing the eleven BE ERMs, but the County remains behind in achieving all but two of the 2020 BE ERM implementation targets. [emPower Central Coast](#) and the [Green Business Program of Santa Barbara County](#) continue to educate homeowners and businesses on energy efficiency (BE1 and BE3). Fifteen percent of the unincorporated population has attended an energy efficiency workshop or received educational materials. Although education does not always translate to energy efficiency upgrades, the emPower and Green Business Program have seen some success. County permit records show that 135 residential homes received energy-efficient renovations in 2017, and a total of 27 businesses in the unincorporated county have achieved Green Business Program certification.

Table III-2: BE ERM Implementation Progress through 2017

Measure	Name	Performance Indicator		Percent Change From 2016	Percent of 2020 Target
		2020 Target	2017 Progress		
BE 1	Energy Efficiency Education and Outreach	20% of people participating in education programs 4,530 retrofitted homes, 120	15% of people participating in education programs	7%	75%
BE 2	Energy-efficient Renovations	retrofitted nonresidential parcels	1,072 retrofitted homes	14%	24%
BE 3	Green Business Participation	100 certified green businesses	27 certified green businesses	8%	27%
BE 4	Energy Efficiency for New Homeowners and Non-Residential	6,120 residential retrofits	105 residential retrofits	9%	2%
BE 5	Community Forestry	3,000 new street trees	630 new street trees	21%	21%
BE 6	Smart Grid Technology	85% of customers with Smart Meter Technology	95% of customers with Smart Meter Technology	0%	112%
BE 7	Lawn and Garden Equipment	2,690 lawn mowers replaced	0 lawn mowers replaced	0%	0%
BE 8	Energy Efficiency and Green Building Standards	420 new homes exceeding Title 24	130 new homes exceeding Title 24	51%	31%
BE 9	Efficient Building Design	Supportive			Not measured
BE 10	Construction Equipment Operations	90% of projects implementing BMPs			Not available
BE 11	Energy Code Training	Supportive			Not measured

WR Progress Reporting

ERM Progress to Date

The WR Core Strategy includes five ERMs that are designed to reduce GHG emissions from area landfills and waste collection trucks, with the majority of the reductions accomplished by keeping organic and recyclable materials out of the landfill. The County is approximately a quarter of the way towards its 2020 waste diversion goal (WR 1-WR 3) and has reached more than 90 percent of its goal to work with waste haulers to convert waste hauling trucks to compressed natural gas (CNG) (WR 4).

Once the [Tajiguas Resource Recovery Project](#) (TRRP) is operational, waste diversion is expected to improve significantly.

The project will also include an anaerobic digester that will generate and capture methane gas for electricity generation (WR 4). Overall, the enhanced waste diversion and renewable energy generation capabilities of the TRRP, net of operational GHG emissions at the landfill, is estimated to avoid 18,494 MTCO₂e per year.²

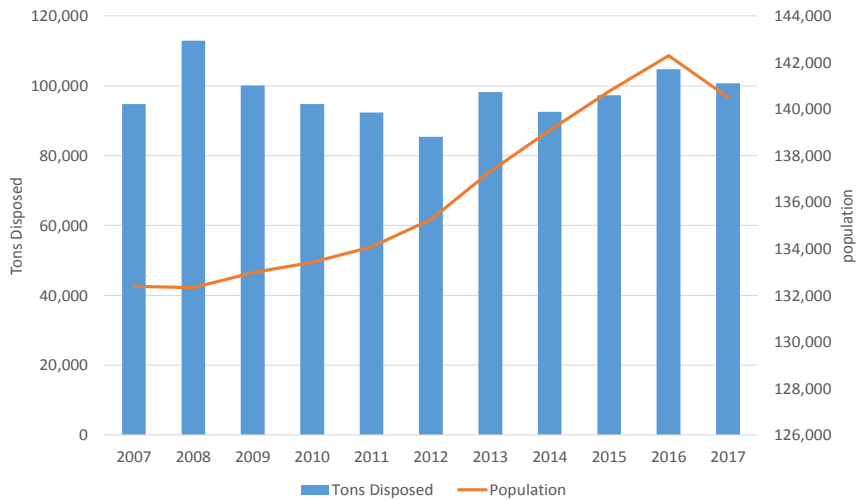


Figure III-2: Unincorporated Population and Annual Tons Disposed

Table III-3: WR ERM Implementation Progress through 2016

Measure	Name	Performance Indicator		Percent Change from 2016	Percent of 2020 Target
		2020 Target	2017 Progress		
WR 1	Waste Reduction	24,170 tons of organics diverted (85% Total Waste Diversion)	6,096 tons diverted	37%	25%
WR 2	Increased Recycling Opportunities	20,790 tons of recyclables diverted (85% Total Waste Diversion)	5,244 tons diverted	37%	25%
WR 3	Construction and Demolition Waste Recycling	13,130 tons of construction and demolition waste diverted (85% total waste diversion)	3,310 tons diverted	37%	25%
WR 4	Landfill Disposal Reductions	7.6 million kWh of renewable energy generation	0 kWh	0%	0%
WR 5	Clean Waste Collection Vehicles	44 vehicles converted to CNG by 2020	40 vehicles converted to CNG	0%	91%

² AECOM, 2017. Air Quality Technical Memorandum: Revised Tajiguas Landfill Resource Recovery Project, August. Available at: <http://sbcountyplanning.org/PDF/boards/CntyPC/08-30-2017/17GPA-00000-00002/Cover%20Page%20for%20Attachment%20B.pdf>

Key Accomplishments

- In October 2017, the Long Range Planning Division released an updated [SmartBuild Santa Barbara \(SB2\)](#) standard to align with the new Zero Net Energy state goals. The new SB2 application now incorporates the new Title 24 Building Energy Efficiency Standards and [Zero Net Energy goals](#).
- In October 2017, the County's emPower Central Coast program partnered with the [Community Home Retrofit Project \(CHERP\)](#) to launch the grassroots, community-centric 50 Home Challenge in Solvang.
- In 2017, the Sustainability Division and General Services Department partnered to hire an AmeriCorps [CivicSpark Fellow](#), who worked across departments to green County operations in line with the Green Business Program. The McDonald Human Resources Building is the first building seeking certification.

Challenges

Most of the BE ERMs are designed to encourage energy efficiency. However, the mild climate in this region reduces the desirability and cost-effectiveness of energy efficiency improvements. For this reason, the County must continue to identify other non-cost-related motivations for investing in energy efficiency.

emPower Central Coast, which has provided homeowner energy efficiency education and services since 2011, is mostly funded by fees charged to electricity and natural gas customers to fund energy efficiency programs. The utilities that distribute these funds to the County are discontinuing funding for emPower, which means the program will end after December 2018.

Cannabis operations can be energy-intensive and were not anticipated during the creation of the ECAP. The County is requiring cannabis operators seeking a business license to complete a Commercial Cannabis Energy Conservation Plan to partially offset the increased energy use and associated GHG emissions. However, significant growth in cannabis operations may result in an increase in energy use.

State and Federal Direction

- **State Renewable Portfolio Standard:** [SB 100](#) (2018) accelerates the transition to renewable energy resources between 2020 and 2030 and sets a new GHG-free electricity goal by 2045.
- **State Energy Savings Goal:** [SB 350](#) (2015) requires the state to double electricity and natural gas savings by 2030.

Looking Forward

Local energy efficiency programming has targeted single-family homes, leaving a service gap for multi-family and commercial buildings. The County Sustainability Division has secured State and Federal grant funding to develop energy efficiency services for commercial and multi-family properties in support of [AB 802](#). The California Public Utilities Commission has also approved a new regional energy network (REN) serving the Counties of Santa Barbara, San Luis Obispo, and Ventura. The REN will offer energy efficiency services to hard-to-reach customers, including multifamily property owners and tenants, and will provide training and education for energy efficiency professionals and code enforcement officials.

Featured Story



emPower has educated thousands of homeowners on the benefits of energy efficiency since 2011. The program does this by delivering incentives, financing, and qualified contractors directly to homeowners. However, in the past few years, encouraging homeowners to invest in energy efficiency has become challenging due to message fatigue and the county's generally mild climate and low energy bills.

In October 2017, emPower partnered with the non-profit Community Home Retrofit Project (CHERP) to launch the 50 Home Challenge in Solvang to re-energize the community to invest in energy efficiency. The 50 Home Challenge used bottom-up community engagement to empower local leaders and homeowners to save energy.

This approach united passionate community members who now serve as strong advocates of energy efficiency in and around Solvang. The 50 Home Challenge engaged 230 residents, hosted 14 events, and conducted 42 Energy Coach Assessments.



III-2. Waste Reduction (WR)

Goal: To exceed the state’s required diversion rate of 75 percent by 2020

Waste disposal emissions accounted for 6 percent of the unincorporated county’s GHG emissions in 2016. The WR core strategy includes five ERMs that collectively seek to keep waste out of the landfill, capture landfill gas (methane) for electricity production, and reduce emissions from waste collection vehicles. When organic waste, such as food or plant material, is sent to the landfill, it decomposes and emits methane, a potent GHG. Landfill GHG emissions can be reduced by keeping this organic waste out of the landfill (e.g., reducing food waste, encouraging composting) and capturing the emitted methane for electricity production. The increased conservation of resources through reduced consumption of material goods, reuse, and recycling results in less demand for raw materials and indirectly results in fewer GHG emissions generated from future production and transportation of new materials. Additionally, the impact of transporting waste from homes and businesses can be reduced through decreased consumption and cleaner vehicle fleets. These measures are being implemented through the Resource Recovery and Waste Management Division (RR&WMD) of the Public Works Department.

Key Accomplishments

- Resource Recovery and Waste Management Division (RR&WMD) staff conducted outreach to all commercial customers who must comply with the organics recycling provisions of [AB 1826](#) to ensure compliance.
- The [Business Food Scraps Collection program](#) saw increased participation, including one school in the unincorporated county and six in Goleta.
- The Board of Supervisors approved the relocation of the anaerobic digester, the revised construction and operational agreement with the vendor, and the corresponding Environmental Impact Report (EIR) Addendum for the TRRP.
- The Planning and Development Department updated the [CALGreen](#) building standards, which requires developers to recycle at least 65 percent of all construction waste.
- RR&WMD staff prepared and distributed guidelines for managing debris from the 1/9 Debris Flow and developed a [Materials Exchange website](#) to encourage the local reuse of materials and minimize extraction and transportation impacts.

Challenges

The global recyclables market has become volatile primarily due to the enactment of stricter recycling policies by China. In the short term, the County has been working with its materials recovery facilities (MRFs) to improve the quality of recyclables. In the long term, RR&WMD continues its effort to site a MRF at the Tajiguas Landfill to process mixed solid waste, as well as source-separated recyclables and an anaerobic digestion facility to handle both mixed and source-separated organics. This processing will result in the recovery and sale of additional recyclables, green energy, compost, and soil amendments.

The TRRP anaerobic digester is projected to generate a sizable portion of the needed emissions reductions to achieve the 2020 GHG reduction goal. With the project delays, the digester is not expected to be online until at least 2021, which makes it difficult to reach the ECAP goal without replacement ERMs.

State and Federal Direction

- **State Commercial Organics Recycling Requirement:** Beginning in April 2016, [AB 1826](#) (2014) required businesses that generate a specified amount of organic waste per week to arrange for the recycling of that material. The requirements will be fully phased in by January 2020.
- **State Organics Landfill Diversion Requirement:** [SB 1383](#) (2016) sets targets for organic waste diversion from landfills using 2014 as a baseline: 50 percent reduction by 2020 and 75 percent reduction by 2025.
- **State Plastic Bag Ban:** [Proposition 67](#) (2016) prohibits grocery and other stores from providing customers with single-use plastic bags, but permits the sale of recycled paper bags and reusable bags.

Looking Forward

With Board approval of the new plans and EIR, the County is moving forward with the construction of the TRRP. The TRRP is still one of the most effective solutions that provides the region with the necessary infrastructure to meet the processing regulations of AB 1826 and is critical to achieving the ECAP GHG reduction goal. RR&WMD staff also will continue to outreach to schools and businesses educating them on organic waste diversion.

Featured Story



The Solid Waste Association of North America (SWANA) awarded RR&WMD its [Silver Excellence Award](#) in Integrated Solid Waste Management Systems. The Excellence Awards recognize outstanding solid waste programs and facilities that advance the practice of economically and environmentally sound solid waste management through their commitment to utilizing useful technologies and processes in system design and operations, advancing worker and community health and safety, and implementing successful public education and outreach programs. Programs also must demonstrate that they are fiscally and environmentally responsible through their compliance with all applicable federal, state, and local regulations.



III-3. Community Choice Energy (CCE)

Community Choice Energy enables local governments to leverage the purchasing power of their residents, businesses, and governmental entities to purchase or generate power for their communities. The CCE model puts energy purchasing and pricing options into the hands of local decision-makers and allows the community to determine what type of energy mix serves its needs. In many cases, existing CCE programs around the state have been able to offer electricity with a higher renewable energy content at rates that are competitive with the existing utility's rates. Because a CCE program is operated by a local non-profit, CCE revenues can also be reinvested in the community in the form of clean energy projects and incentive programs, both of which can spur local economic opportunities.

CCE Program Implementation

ERM Progress to Date

The County continues to explore the development of a local CCE program. When a CCE program is formed, the CCE provider purchases the electricity—which typically includes a higher percentage of electricity from renewable resources like wind and solar—and sets the rates charged to customers. The existing investor-owned utility (IOU)—in Santa Barbara County, Pacific Gas and Electric Company and Southern California Edison—continues to deliver the electricity purchased by the CCE provider over the IOU’s power lines and provide metering, billing, and other customer service. Currently, there are nineteen CCE programs in operation throughout California with many more in formation.³

Key Accomplishments

- In October 2017, the Board of Supervisors directed staff to update the CCE financial feasibility assessment to evaluate the potential viability of a CCE program serving only Santa Barbara County rather than the initial tri-county regional effort. The Santa Barbara County CCE feasibility study results potentially offer a more viable path to CCE for the unincorporated parts of the county and interested cities.

Challenges

Despite the GHG reduction and local control benefits of CCE, being in the electricity business is a risky undertaking. The California energy system is at a critical inflection point with increasing price volatility driven by increased integration of distributed renewable energy resources on the grid, a changing electricity provider landscape as competition with the IOUs grows, and great policy uncertainty with ongoing action by the California Public Utilities Commission (CPUC) and State Legislature.

A countywide CCE program serving the unincorporated county and all seven eligible cities would provide the most economically attractive option. To date, only the three South Coast cities—Carpinteria, Goleta, and Santa Barbara—have expressed interested in participating.

State and Federal Direction

- **Power Cost Indifference Adjustment (PCIA) Changes:** The CPUC issued a decision in October 2018 that will increase the PCIA “exit fee” that CCE customers must pay. The increased PCIA charge will have the effect of raising CCE customer rates, making it harder for a CCE program to remain rate-competitive with the utilities.
- **Expansion of Direct Access Program:** [SB 237](#) (2018) raises the cap on the amount of electricity that can be provided by Direct Access providers. Direct Access providers are similar to CCE providers, except that Direct Access providers are private companies that serve only non-residential customers. Direct Access providers have the potential to compete with a local CCE program.

Looking Forward

The Sustainability Division continues to coordinate with the Cities of Carpinteria, Goleta, and Santa Barbara and CCE stakeholders throughout the state to monitor CCE policy and programmatic developments to gauge the best path forward for CCE.

³ For a list of operational and in-development CCE programs, visit: <https://cleanpowerexchange.org/california-community-choice/>.



III-4. Sustainable Communities Strategy (SCS)

On-road transportation is the biggest driver of the unincorporated county's GHG emissions, representing 45 percent of the county's 2016 emissions. SCS seeks to tie land use and transportation planning to reduce GHG emissions from passenger vehicles. The SCS does not consider reductions that might come from vehicle efficiency or fuel standards. The county's regional transportation planning body, the Santa Barbara County Association of Governments (SBCAG), incorporates SCS principles into its [Regional Transportation Plan](#) (RTP) that outlines county-wide transportation priorities over 20+ years. The current combined RTP-SCS planning document was adopted in 2013.

SCS Program Implementation

ERM Progress to Date

The primary goal of the SCS Core Strategy is to reduce vehicle miles traveled (VMT) through strategies such as shortening the distance between housing and commercial activity centers. Historically, job growth has occurred at a higher pace in the south county, while the development of new homes is more common in the north county. This trend creates a jobs-housing imbalance, forcing residents to commute from north to south. Recent data shows that north county is meeting housing demand based on future non-residential development, while south county non-residential development is slightly outpacing housing development. This may be a contributor to the increase in VMT in Santa Barbara County that outpaces changes in highway VMT at the state level.

Key Accomplishments

- SBCAG worked with LOSSAN Rail Corridor Agency and Amtrak to re-time the Pacific Surfliner to implement peak-hour commuter rail service between Ventura County and Carpinteria, Santa Barbara, and Goleta. The availability of the rail service allows more options for Ventura commuters, which may relieve pressure on U.S. Highway 101.

Challenges

The desired outcome of SCS is to reduce VMT and, thus, GHG emissions. However, it is not currently possible to isolate changes in VMT due to SCS implementation because multiple factors—such as housing affordability, transit access, job availability, and inter-county travel—affect VMT changes. This makes accurate progress reporting for SCS difficult.

State and Federal Direction

- **State Transportation Funding Increase:** Starting in November 2017, [SB 1](#) (2017) raised the gas tax from \$0.18 to \$0.30 per gallon, the diesel tax from \$0.16 to \$0.36 per gallon, and established various vehicle fees to increase funding available to the State and local governments for transportation projects.
- **State GHG Reduction Targets for SCS:** [The California Air Resources Board \(CARB\)](#) assigns per-capita GHG emissions reduction targets for passenger vehicles to each of the State’s metropolitan planning organizations (MPOs). In March 2018, CARB adopted new targets for the SBCAG region relative to 2005 levels: 13 percent reduction by 2020 and 17 percent reduction by 2035. See Table III-4 for comparison with neighboring MPOs.

Table III-4: SB 375 Per-Capita GHG Reduction Targets for Passenger Vehicles by Local MPO

Metropolitan Planning Organization	Targets Through September 2018 ¹		Targets Beginning October 2018 ¹	
	2020	2035	2020	2035
Santa Barbara County Association of Governments	0%	0%	-13%	-17%
San Luis Obispo Council of Governments	-8%	-8%	-3%	-11%
Association of Monterey Bay Area Governments	0%	-5%	-3%	-6%

¹ Targets are expressed as a percent change in per capita passenger vehicle GHG emissions relative to 2005.

Looking Forward

SBCAG is in the early stages of updating its RTP-SCS planning document. The next version is due in 2021 to plan through 2050. The updated SCS will most likely continue the basic strategy and policies of the current adopted SCS—encouraging residential development on the South Coast and growth in employment opportunities in the North County, as well as focusing development along key transit corridors. As changes to the built environment lag the SCS update cycle, keeping the underlying principles in place will allow the outlined strategy to influence the development of land use plans and land use decision making at the local level. The updated RTP-SCS will use an updated activity-based model, an updated Regional Growth Forecast (to be incorporated into the Regional Housing Needs Assessment), and con-



III-5. Transportation (T)

Goal: Decrease the overall use of combustion engine vehicles and the number of single-passenger vehicle trips

Similar to other local governments, on-road transportation is the largest contributor of GHG emissions in the county, accounting for 46 percent of the total emissions in 2016. Transportation emissions can be reduced through three main approaches: 1) encouraging the purchase of more fuel-efficient vehicles, 2) requiring stricter fuel economy standards, and 3) decreasing VMT. The T Core Strategy primarily focuses on the third approach of reducing VMT, which is also a key goal of the Land Use Design Core Strategy discussed in Section III-9 and the SCS core strategy discussed in Section III-3. The goal of these core strategies is to reduce the need for travel by passenger vehicle by developing a way that supports mixed-use and transit-oriented development.

T Progress Reporting

ERM Progress to Date

The T Core Strategy identifies nine ERMs that aim to lower GHG emissions from single-passenger vehicles. With the exceptions of T6 (Pedestrian Improvements for Schools) and T9 (Commuter Rail Connections), the County and its community partners are behind in implementation of the nine T ERMs.

While comprehensive, the voluntary nature of the ERMs makes implementation challenging. Thus, the County relies on outside programs like SBCAG’s [Traffic Solutions](#) for measures such as T1 (Car Sharing) and T2 (Commuter Incentives). T1 and T2 are conventionally beyond the scope of the County’s jurisdiction as they relate to individual transportation decisions and behaviors. Therefore, it is vital to partner with and support outside agencies that provide incentives and education.

The County’s permitting and land use decisions are the main levers for supporting ERMs relating to transportation. The County can proactively incentivize electric vehicle (EV) charging stations as called for by T3 (Alternative-Fuel Vehicles) by streamlining building permits. While the County has authority over public roads and infrastructure, efforts to add bike lanes and make the transportation network friendlier to bicyclists and pedestrians is limited by funding.

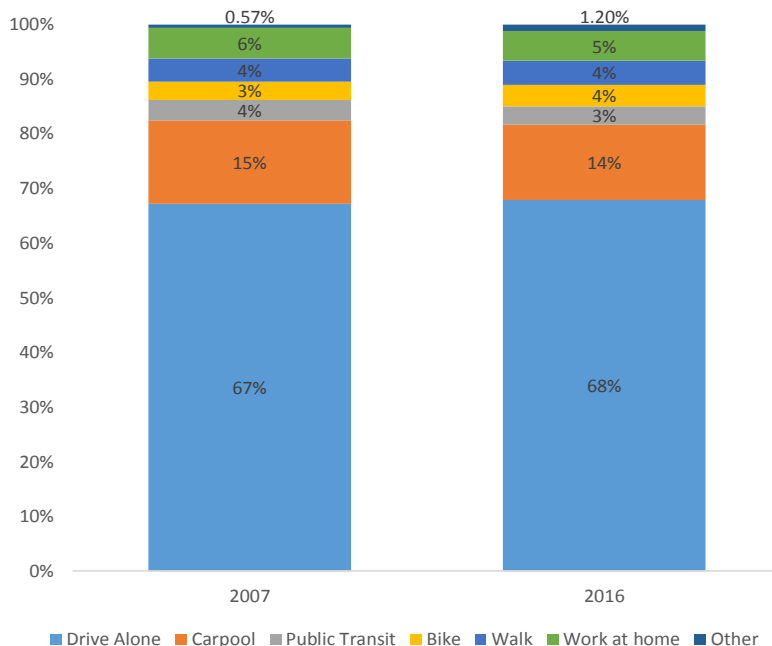


Figure III-3: Santa Barbara County Commute Type, 2007 vs 2016

Table III-5: T ERM Implementation Progress through 2017

Measure	Name	Performance Indicator		Percent Change from 2016	Percent of 2020 Target
		2020 Target	2017 Progress		
T 1	Car Sharing and Ride Sharing	25% carshare/vanpool participants	14% carshare/vanpool participants	0%	0%
T 2	Commuter Incentives	25% carshare/vanpool participants	14% carshare/vanpool participants	0%	0%
T 3	Alternative-Fuel Vehicles and Incentives	1,400 EV charging stations	55 EV charging stations	20%	4%
T 4	Alternative and Active Transportation	65% of residents within ¼ mile of transit	61% of residents within ¼ mile of transit	Not measurable	
T 5	Integrated Bikeway Systems	60 miles of bike lane installed	16.5 miles of bike lane installed	3%	28%
T 6	Pedestrian Improvements for Schools	30% of students using alternative modes	24% of students using alternative modes	-2%	78%
T 7	Vehicle idling	5% reduction in commercial vehicle idling		Not measurable	
T 8	Traffic Signal Efficiencies	Supportive		Not measurable	
T 9	Commuter Rail connections	2% of commutes taken by train	3.4% of commutes taken by train	0%	170%

Key Accomplishments

- The Public Works Department completed the San Jose Creek Bike Path Project. This Class I bike lane connects two distinct neighborhoods in the Eastern Goleta Valley and provides a connection for commuters from residential areas to commercial areas in the Calle Real corridor.
- The Public Works Department completed the Goleta Beach Bridge, which incorporates a separated bike and pedestrian path, improving safety and encouraging non-vehicular access to the recreational area.
- SBCAG completed its [Fast Forward 2040 Regional Transportation Plan \(RTP\)](#). The RTP is a long-range policy document which identifies existing conditions and forecasts land use and transportation needs. The Sustainable Communities Strategy discussed in the previous section, is a critical component of the RTP that promotes housing development near transit.
- The County and incorporated cities are receiving nearly \$20 million combined in new annual transportation revenue, with \$16 million for local streets and roads and \$3 million for transit.

Challenges

Large rain events in early 2017 brought significant damage to roads in north county. Alisal Road, Orcutt-Garey, and Lompoc-Casmalia suffered damage that caused complete road closures until repairs could be done. The Public Works Transportation Division spent significant amounts of time and money to repair damages from the storm, which caused delays to other capital maintenance projects to repair and build infill sidewalk and support active transportation.

State and Federal Direction

- **State Active Transportation Funding Increase:** Starting in November 2017, [SB 1](#) (2017) established a consistent funding source for local agencies to address deferred roadway maintenance needs and set aside additional funding for active transportation infrastructure projects through an existing competitive grant program, the Active Transportation Program (ATP). The County is pursuing funding through the ATP to build additional bike paths and facilities to encourage more cycling for transportation purposes.
- **State Clean Vehicle Rebate Project (CVRP):** The [CVRP](#) provides rebates of up to \$7,000 for the purchase or lease of new zero-emission vehicles, including electric, plug-in hybrid electric, and fuel cell vehicles. This state funding resource complements EV funding available from investor-owned utilities and EV charging station funding from the Santa Barbara County Air Pollution Control District.

Looking Forward

Staff is actively pursuing discretionary funding sources to expand pedestrian and bicycle networks throughout the county focusing on facilities that connect residents to work and school. In 2018, a project proposal to build a multi-use trail between Santa Maria and Guadalupe is currently being considered for the ATP grant.

Through the County Sustainability Committee, the Sustainability Division is working with Human Resources, Public Works, and General Services to find ways to encourage and incentivize County employees to get to and from work other than driving by themselves.

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The construction of the San Jose Creek Bike Path began in late 2017. The bike path is a 970-foot Class I bike path between Kellogg Avenue and Merida Drive that provides north-south connectivity. This project is an excellent example of interagency cooperation between the City of Goleta, SBCAG, and the County.



III-6. Renewable Energy (RE)

Goal: To promote the use of alternative energy for economic and environmental benefits, and facilitate opportunities for businesses that develop or market alternative energy technologies.

Building energy use accounted for 30 percent of the unincorporated county's GHG emissions in 2007. The RE Core Strategy consists of four ERMs that promote increased production of renewable energy in the region. The measures encourage community-wide investment in renewable energy (RE 1, RE 2, RE 3), such as through the Solarize Santa Barbara County program administered by the Community Environmental Council to buy down the cost of rooftop solar systems (RE 3), as well as County leadership in utility-scale renewable energy projects (RE 4), such as the Calle Real solar array at one of the County's main campuses.

RE Progress Reporting

ERM Progress to Date

Through 2017, the County and its community partners have surpassed two of the four RE ERM targets. More than 2,600 residential and 77 non-residential solar energy systems have been installed in the unincorporated county (Table III-6). However, the annual growth rate has been declining since 2014 (Figure III-3). The downward trend is reflective

of declining solar incentives offered through the [California Solar Initiative](#); incentives were designed to drop incrementally as the volume of installed solar capacity increased.

The completion of the 40-megawatt (MW) [Cuyama Solar Project](#) has allowed the County to surpass the RE 4 (Utility-Scale Renewable Energy) target by 10 MW, and an estimated 30,000 MTCO₂e of GHG emissions are avoided annually from the project. If the entire Cuyama Valley Rural Area were built out with solar as permitted under the Cuyama Solar Facility and Comprehensive Plan/Land Use Development Code Amendments Project, approximately 56,250 MTCO₂e could be avoided annually.⁴

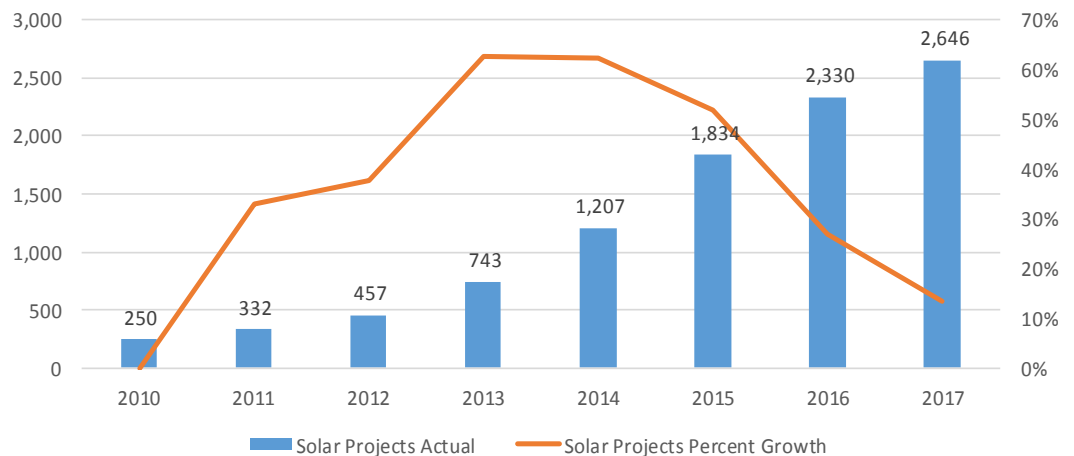


Figure III-4: Completed Residential Solar Projects vs. Rate of Adoption

Table III-6: RE ERM Implementation Progress through 2017

Measure	Name	Performance Indicator		Percent Change from 2016	Percent of 2020 Target
		2020 Target	2017 Progress		
RE 1	Alternative Energy Development	300 residential renewable energy systems installed, 200 non-residential renewable energy systems installed	2,646 residential and 77 non-residential renewable energy systems installed	14%	545%
RE 2	Water Heaters	60 solar water heaters installed	41 solar water heaters installed	17%	68%
RE 3	Alternative Energy Incentives	420 Solarize participants	84 Solarize participants	25%	20%
RE 4	Utility-Scale Renewable Energy Projects	30 MW of utility scale renewable energy projects	42 MW of utility scale renewable energy projects	2,000%	140%

⁴ AMEC Environment & Infrastructure, Inc., 2014. *Certified Final Environmental Impact Report: Cuyama Solar Facility and Comprehensive Plan/Land Use Development Code Amendments Project*, September. Available at: <http://www.sbcountyplanning.org/energy/projects/CuyamaSolarArrayCFEIR.asp>.

Key Accomplishments

- First Solar completed the Cuyama Solar Project in late 2017. Currently, the project is delivering power to Peninsula Clean Energy, the community choice energy provider for San Mateo County. Beginning in 2019, the project will deliver energy under a 25-year power purchase agreement to Pacific Gas and Electric Company, north county's electricity provider.

Challenges

The price of land can be high in Santa Barbara County, and development in the coastal zone or agricultural properties can be a financial and political barrier. Stakeholders often disagree over the best use of land and the impact that development of renewable energy can have on the aesthetic integrity of a community. The combination of these factors and others can impede the attractiveness of building large-scale renewable energy projects in the county.

State and Federal Direction

- **Acceleration of State GHG-free Electricity Goals:** [SB 100](#) (2018) accelerates the timeline for electricity providers to source their electricity from qualifying renewable resources under the State's Renewable Portfolio Standard and sets a new target for all electricity sold in California to be 100% GHG-free by 2045.
- **End of California Solar Initiative:** Incentives offered by the California Solar Initiative ended in 2016. The program met its goal and helped create 1,893 MW of solar energy throughout the state, including 14 MW in Santa Barbara County.⁵
- **Extension of State Self-Generation Incentive Program:** [SB 700](#) (2018) extended the [Self-Generation Incentive Program](#) that is implemented by the investor-owned utilities to provide incentives to customers for distributed energy resources like small-scale wind energy and battery storage systems. Eighty percent of program funding is directed towards energy storage and 20 percent to onsite generation. More than \$500 million is available statewide through 2019, and the program is authorized through 2025.
- **Federal Tariff on Solar Panel Imports:** In 2017, the Trump administration proposed a 30 percent tariff on solar panel imports to the United States. The tariff became effective in 2018 and remains at 30 percent for the next four years before falling 5 percent annually, dropping to a 15 percent tariff in 2021. It is uncertain how the solar tax may affect the construction of solar projects in the region; experts speculate that it may increase costs for consumers.

Looking Forward

Santa Barbara County's second utility-scale renewable energy project, the 102-MW [Strauss Wind Energy Project](#), is under environmental review. If approved and constructed, the wind farm could produce enough GHG-free electricity to annually power an estimated 44,700 homes.⁶

The Sustainability Division is currently working with the Cities of Carpinteria and Goleta to identify areas in the three jurisdictions where renewable energy and distributed energy resources—like battery storage and microgrids—are well suited for development. The Strategic Energy Planning project is expected to be completed in 2019 and will provide a step-by-step Clean Energy Roadmap for policy, programmatic, and financial options to incentivize clean energy development on public and private properties through the county.

⁵ California Public Utilities Commission, 2016. *California Solar Initiative 2016 Annual Program Assessment*, June. Available at: <http://www.cpuc.ca.gov/General.aspx?id=6442451072>.

⁶ Sapphos Environmental, Inc., 2018. *Strauss Wind Energy Project Conditional Use Application*, March. Available at: <http://www.sbcountyplanning.org/energy/projects/StraussWindApp.asp>.

Featured Story



In 2015, the Board of Supervisors approved the construction of the 40-MW Cuyama Solar Project located on 327 acres in the northeastern corner of the county. Construction was completed at the end of 2017, and the project is currently producing and delivering an estimated 67,240 megawatt-hours of GHG-free energy annually. That's enough to power more than 5,400 homes each year.



III-7. Industrial Energy Efficiency (IEE)

Goal: To improve the efficiency of industrial sector energy uses and processes.

In 2016, industrial energy use accounted for 1 percent of the total GHG emissions within the unincorporated county. Although this is a relatively small contributor to countywide emissions, industry is a large user of energy and, therefore, presents sizable opportunities for energy savings. Industrial facilities use natural gas and electricity for water heating, on-site fuel combustion that supports industrial and manufacturing processes, and to operate appliances and equipment. The energy use characteristics of industrial facilities is unique compared to the residential and commercial sectors; hence, why the four IEE ERMs are grouped separately from the BE ERMs.

IEE Progress Reporting

ERM Progress to Date

The county’s investor-owned utilities—Pacific Gas and Electric Company (PG&E), serving north county; Southern California Edison (SCE), serving south county; and Southern California Gas (SoCalGas), serving all of the county—provide energy efficiency incentives for industrial customers. To date, 75 percent of industrial customers in PG&E territory have taken advantage of these programs. It is not currently possible to breakout program participation for each of the four IEE ERMs, and the amount of energy savings is unclear without more granular datasets. Comparable data is not available for SCE, and SoCalGas does not have any completed industrial energy efficiency projects to report in Santa Barbara County.

Table III-7: IIE ERM Implementation Progress through 2017

Measure	Name	Performance Indicator		Percent Change from 2016	Percent of 2020 Target
		2020 Target	2017 Progress		
IEE 1	Efficient Equipment Incentives	25% of industrial facilities install energy-efficient equipment		Not available	
IEE 2	Energy Management Programs	25% participation rate in energy management programs	75% of industrial facilities in PG&E territory have participated in an industrial energy efficiency program	Not available	
IEE 3	Efficient Upgrade Incentives	50% of facilities audited to date, 90% of audited facilities completing renovations		Not available	
IEE 4	Efficient Equipment	10% of additional facilities to upgrade equipment		Not available	

Key Accomplishments

- The utilities offer two technical assistance programs for industrial customers—the Industrial Continuous Energy Improvement Program to develop strategic energy plans and the Energy Advisor Program to provide energy audits and custom scoping plans for industrial energy efficiency projects.
- The utilities offer two incentive programs—the Industrial Deemed Energy Efficiency Program (fixed incentives for specific energy efficiency upgrades) and the Industrial Calculated Efficiency Program (customizable incentives).

Challenges

Many industrial customers pursue energy efficiency projects due to the potential for cost savings. However, one large industrial customer type—municipal water and wastewater treatment facilities—have not realized greater energy efficiency improvements due to the 24/7 nature of their operations. Because the facilities can allow for only brief service interruptions, new energy efficiency upgrades are constrained by the time it takes to install more efficient equipment.

State and Federal Direction

- **State Energy Benchmarking Requirement:** Starting in 2017, utilities were required to provide customers with aggregated energy usage data to facilitate compliance with [AB 802](#) (2015), the State’s energy benchmarking and disclosure law that affects industrial customers. Benchmarking is intended to spur ongoing efficiency improvements.

Looking Forward

PG&E is developing a Strategic Energy Management program that uses advanced implementation, measurement, and verification services and tools to help industrial customers unlock energy savings on a multi-year basis. This new approach will focus on the food processing and manufacturing sectors and run from 2018 to 2020.



III-8. Agriculture (AG)

Goal: To promote science-based and economically sound strategies to lower greenhouse gas emissions from agricultural production.

Agricultural activity contributed roughly 9 percent of the unincorporated county's GHG emissions in 2016. Agriculture is an important resource and critical economic driver in the county; thus, it is important to help farmers mitigate and address the effects of climate change. The agriculture sector is seeing the effects of climate change through the increased frequency and duration of drought, increased number of "extreme heat" days, and more frequent and severe wildfires. These types of climactic changes affect worker health and productivity.

To help the agricultural community adapt to changing conditions and lessen their climate change impact, the AG Core Strategy seeks to reduce GHG emissions by helping farmers implement best practices in irrigation and efficient growing techniques across six ERMs. By promoting water and energy efficiency, the AG ERMs can help farmers sustain their crop outputs while using fewer resources.

AG Progress Reporting

ERM Progress to Date

Two of the six AG ERMs are measurable. Of the two, AG 3 (Agricultural Equipment) has the larger emissions reduction potential through replacing agricultural equipment such as tractors and balers. The Santa Barbara County Air Pollution Control District (SBCAPCD) administers rebates locally through the State’s Carl Moyer Program to help farmers replace their old equipment. The program has replaced 31 tractors to date, representing just 2 percent of the AG 3 implementation target.

AG 5 encourages efficient irrigation techniques to achieve water-related GHG savings. Through 2017, the Agricultural

Commissioner estimates 311 farms are using efficient irrigation techniques, which is roughly 38 percent of the estimated number of farms in the unincorporated county. Figure III-5 shows the different irrigation practices in the county; 75 percent of farmlands surveyed are using micro-sprinklers, permanent drip systems, or drip tape.⁷

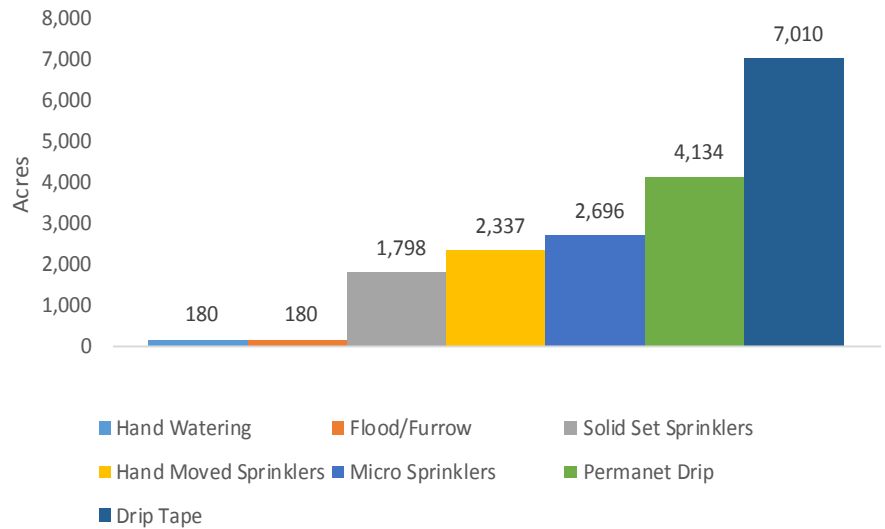


Figure III-5: Irrigated Acreage By Irrigation Practice

Table III-8: AG ERM Implementation Progress through 2017

Measure	Name	Performance Indicator		Percent Change from 2016	Percent of 2020 Target
		2020 Target	2017 Progress		
AG 1	Local Food Program	Supportive		Not measured	
AG 2	Agricultural Conservation Practices	Supportive		Not measured	
AG 3	Agriculture Equipment	35% (1,515) of equipment retrofitted/replaced through Carl Moyer Program	31 tractors replaced through Carl Moyer Program	19%	2%
AG 4	Energy-Efficient Agriculture Operations	Supportive		Not measured	
AG 5	Agriculture Irrigation Improvements	270 growers implementing water efficient techniques	311 farms implementing water efficient techniques	4%	115%
AG 6	Agriculture and Open Space Easements	Supportive		Not measured	

⁷ Cachuma Resource Conservation District, 2017. Strategic Actions for Enhancing Local Agricultural Water Efficiency, October. Available at: http://www.rcdsantabarbara.org/wp-content/uploads/strategic_actions_report_DIGITAL.pdf.

Key Accomplishments

- In October 2017, The Cachuma Resource Conservation District (CRCD) published the [Strategic Action for Enhancing Local Agricultural Water Efficiency](#) report. The report provides data on existing and potential agricultural water management practices in Santa Barbara County.
- In 2017, the SBCAPCD's Off-Road Equipment Replacement Program leveraged \$334,190 of [Carl Moyer Program](#) grant funding to replace six high-emitting old agricultural tractors with six low-emitting new tractors valued at \$932,225. Five of the tractors are located in Santa Maria and one in Los Alamos. In addition to reducing GHG emissions, the new tractors are estimated to reduce more than 34 tons of local air pollution. Since 2011, the program has provided partial funding for 31 tractor replacements.

Challenges

The guidelines for Carl Moyer Program grant funding are stringent, which can limit program participation. The grantees must provide proof of tractor ownership and 24 months of maintenance or service records. The old tractors must be fully functioning and have an operable hour meter. Over the life of the grant, the grantee must provide annual reports of usage to prove that the new tractors are operating in Santa Barbara County.

The CRCD identified compost application on agricultural land as an effective strategy to store and sequester carbon from the atmosphere in [a 2016 feasibility study](#). However, widespread compost application is challenged by identifying sufficient compost supply to scale the application across suitable areas.

State and Federal Direction

- **State Carl Moyer Program Funding:** The program distributes grant funds through the air pollution control districts to clean up air pollution from heavy-duty equipment like buses, tractors, and ships, as well as from passenger vehicles and lawn mowers. Program funding is expected to continue until at least January 2024. The California Air Resources Board determines the funding for this program based on the county's population and air quality.
- **State Cap and Trade Funding:** The State continues to fund the [Healthy Soils Program](#) and [State Water Efficiency and Enhancement Program](#) (SWEEP), both of which are potential funding sources for the AG Core Strategy. The State's [FY18-19 Cap and Trade Expenditure Plan](#) includes \$5 million (down from \$7.5 million in 2017) for the Healthy Soils Program to encourage carbon farming and restorative agricultural practices. Proposition 68 provides \$20 million to reduce on-farm water use and reduce GHG emissions from irrigation and water pumping.

Looking Forward

The SBCAPCD anticipates funding agricultural tractor replacements for at least the next six years and expects an increase in replacements in 2018 due to new funding from CARB's Funding Agricultural Replacement Measures for Emission Reductions (FARMER) program.

Featured Story



The Community Environmental Council, CRCD, and Ted Chamberlin Ranch held a Kick-Off Luncheon & Site Visit at the Ted Chamberlin Ranch near Los Olivos to showcase their ongoing research on storing carbon through the addition of compost to rangeland to help reduce agricultural GHG emissions.

The project is partially funded by a grant from the California Department of Food and Agriculture's [Healthy Soils Program](#). Funding is used to 1) apply compost at a working ranch, 2) garner support for wide-scale adoption of carbon farming on agricultural land, and 3) show the potential for the agricultural sector to become more resilient in the face of climate change and a leader in reducing emissions.

The event was attended by local farmers and ranchers, Third District Supervisor Joan Hartmann, State Senator Hannah-Beth Jackson, Agricultural Commissioner Cathy Fisher, and other stakeholders.



III-9. Government Operations (GO)

Goal: Provide for cost-effective and efficient use of energy in the facilities and operations owned by the County of Santa Barbara to reduce operating costs, mitigate adverse environmental impacts, and set a good example in the community.

While the GO Core Strategy contributes a relatively small portion (2 percent) of the ECAP's 2020 emissions reduction target, the GO activities showcase the County's leadership in meeting the community's and State's GHG reduction goals. The GO Core Strategy includes six ERMs that demonstrate the County's commitment to sustainable energy (GO 1, GO 2) and water (GO 6) use, vehicle fuel efficiency and alternative-fueled vehicles (GO 3, GO 4), and responsible procurement (GO 5).

GO Progress Reporting

ERM Progress to Date

Through 2017, the County has achieved more than 50 percent of the 2020 implementation target for each of the five measurable GO ERMs. Most of this progress is achieved through reducing electricity and fuel use for County buildings and vehicle fleet, respectively. Electricity consumption in County buildings (GO 1) has decreased by 13 percent since 2007. Vehicle fuel use (GO 4) has dropped 12 percent since 2007, surpassing the 2020 target by 2 percent. As the County continues to purchase fuel-efficient vehicles (GO 3), fuel usage will continue to fall.

In addition to purchasing fuel-efficient and alternative fuel vehicles, the County is expanding the infrastructure to support electric vehicles (EVs). The County has 17 EV chargers located at County facilities. As more chargers are installed and more EVs are integrated into the County fleet and community, more gasoline is displaced. Figure III-6 shows the increase in displaced gasoline use from 2016 to 2017. From 2016 to 2017, the County's EV chargers displaced an additional 2,320 gallons of gasoline.

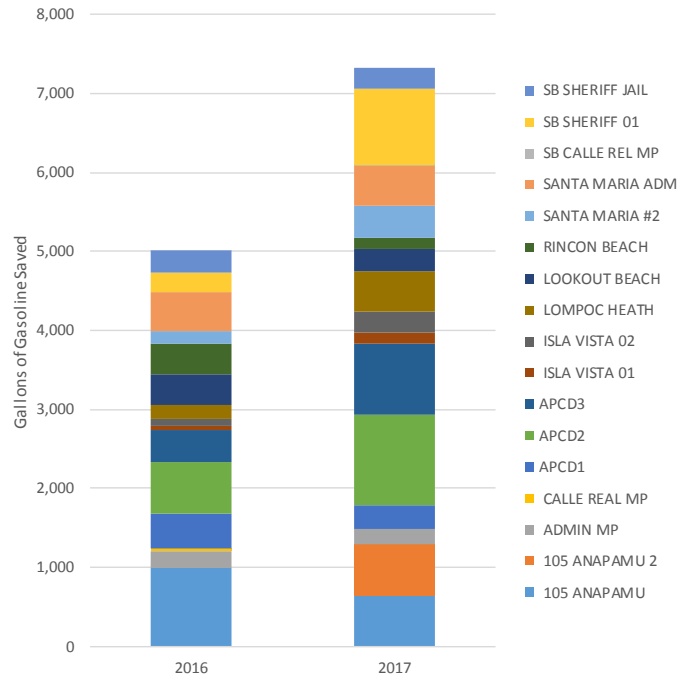


Figure III-6: Estimated Gallons of Fuel Saved From County Owned Charging Stations, 2016 vs. 2017

Table III-9: GO ERM Implementation Progress through 2017

Measure	Name	Performance Indicator		Percent Change From 2016	Percent of 2020 Target
		2020 Target	2017 Progress		
GO 1	Energy Efficiency and Retrofits, Education, and Financing	25% electricity reduction in government operations	13% electricity reduction in government operations	225%	52%
GO 2	Zero Net Energy	4,080,310 kWh produced from solar	3,619,091 kWh produced from solar	87%	89%
GO 3	Fuel-Efficient and Alternative Fuel Vehicle Fleet	5% of all new vehicles to be fuel efficient	4.8% of all new vehicles to be fuel efficient	66%	96%
GO 4	Commute Trip and Fuel Use Reductions	10% reduction in fuel use from 2007 baseline	9.6% reduction in fuel use from 2007	<1%	96%
GO 5	Environmentally Preferable Procurement	Supportive	Not measurable		
GO 6	Water Efficiency & Conservation	20% reduction in indoor water use	27% percent reduction in indoor water use	- 13%	135%

Key Accomplishments

- The Main Jail Water Savings Project retrofits toilets, faucets, and showers at the Santa Barbara County Jail. The project is projected to reduce annual water consumption by approximately 20 percent.
- The County continues to reduce fossil fuel use by County vehicles through “right-sizing” vehicle replacements and ensuring department needs are met utilizing the most fuel-efficient equipment class possible. In 2017, six compact hybrids and several equipment class vehicles replaced older models in the fleet.
- Additional fuel reductions have been met through fleet maintenance best practices, including preventative maintenance such as tire pressure checks and updates to engine management software.

Challenges

Hybrid/EV technology continues to be costly to implement. On average, hybrid models are 15 to 20 percent more expensive compared to traditional models. Nonetheless, Fleet Services is meeting the County’s goal that each bulk vehicle order is comprised of 10 percent alternatively fueled vehicles.

EV charger usage may need to be optimized through pricing, time restrictions, etc. Currently, the average charging time at County EV charging stations is two hours, while the average plug-in time is ten hours. This means the charging space is acting like any other parking space for eight hours, when other EVs could be “fueling” up. There may also be an opportunity to re-assign one or more of the County motor pool EVs to a dedicated user to maximize fuel savings and accelerate the payback of EVs.

Adding all County meters to the Utility Management Data System remains a challenge. Over the past year, General Services has increased the number of centrally monitored meters from 70 percent to 90 percent and is working to add the remaining meters.

State and Federal Direction

- **Federal Fuel Economy Standards:** The U.S. Environmental Protection Agency and U.S. Department of Transportation have proposed freezing the U.S Corporate Average Fuel Economy (CAFE) standard in 2020 and leaving the standard at 41.7 miles per gallon (mpg) until 2026, rather than the 54.4 mpg target currently required by 2025. California and other states are litigating this policy change.
- **State Fleet Zero Emission Vehicle (ZEV) Standard:** The State has adopted a ZEV standard for the State fleet . [SB 498](#) (2017) requires the California Department of General Services (DGS) to purchase ZEVs for at least 50 percent of light-duty vehicle (LDV) purchases in FY 2024-25. [AB 739](#) (2017) requires 15 percent of heavy-duty vehicle purchases be ZEVs in 2025 and 30 percent in 2030. The State has achieved 30 percent ZEVs in FY 2017-18, in part because DGS defaults all LDV purchases to ZEV and restricts new internal combustion engine sedans.

Looking Forward

Fleet Services continues to engage client departments to ensure replacement vehicles are right-sized and fuel efficient while meeting their intended mission.

The Sustainability Division and County Sustainability Committee are updating the County’s green commute options for employees.

Featured Story



In 2014, the County Board of Supervisors adopted a [Zero Net Energy \(ZNE\) Facilities Resolution](#). The resolution sets a target for 50 percent of new County-owned facilities to be ZNE after 2020 and all new facilities or those undergoing major renovations to be ZNE after 2025.

The adoption of the resolution provided direction for County staff to explore opportunities for improving energy efficiency and renewable energy development. In July 2017, the General Services Department presented the [Future Renewable Energy Report](#), outlining its plan for deploying renewable energy projects at and ensuring the energy-efficient operation of County facilities. General Services is in the process of deploying the renewable energy and energy efficiency plans through phased projects at the Betteravia and Foster Road Campuses in Santa Maria and the County Administration and Calle Real Campuses in Santa Barbara.



III-10. Land Use Design (LUD)

Goal: Maximize the efficient use of local land resources through the implementation of policies and programs that promote mixed-use and infill development and reduce dependency on automobiles.

The distribution of land uses throughout the county influences transportation choices for county residents, employees, and visitors. Where housing, business centers, shopping centers, medical offices, and schools are placed has an impact on transportation choices. Designing communities with well-planned land use patterns can dramatically decrease driving and therefore have a direct effect on travel-related GHG emissions, which accounted for 45 percent of the unincorporated county's GHG emissions in 2016.

The goal of the LUD Core Strategy is to promote land use strategies that support transit and active transportation such as walking and biking. The LUD Core Strategy includes three ERMs that support infill (LUD 1) and transit-oriented (LUD 2) development and encourage the availability of more affordable housing near employment centers (LUD 3).

LUD Progress Reporting

ERM Progress to Date

The County is on track to reach its implementation goals for LUD 1 (Infill Development) and LUD 3 (Affordable Housing); there is progress to be made in reaching the LUD 3 (Transit-Oriented Development) target.

Infill development (LUD 1) uses vacant or under-used land within an existing urban area and ideally near transit options (LUD 2). Through 2017, 389 new infill units have been built in the unincorporated county. The majority of infill projects are modular homes that have supplied the demand for housing near urban centers. New ordinances to streamline the permitting and development of accessory dwelling units (ADUs) will also encourage infill development.

Transit-oriented or mixed-used development (LUD2) contributes 50 percent of the overall emissions reduction target for this core strategy. Since 2007, 192,967 square feet of mixed-use development has occurred within the unincorporated county. The majority of construction has been student housing projects in Isla Vista. Zoning amendments and density incentives, such as the Board of Supervisors’ adoption of the Mixed-use Zone in 2015, support LUD 2.

Through 2017, the County has supported the development of 574 new affordable housing units (LUD 3). As shown in Figure III-7, housing production has increased by 157 units from 2016. However, only 4 percent of new units meet the income threshold for a low-income designation.

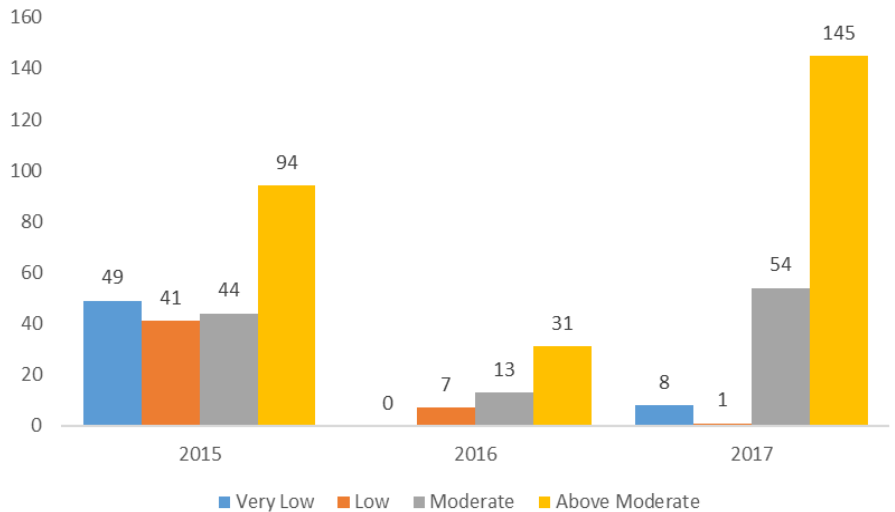


Figure III-7: LUD 3 New Residential Units by Income Category, 2015-2017

Table III-10: LUD ERM Implementation Progress through 2017

Measure	Name	Performance Indicator		Percent Change From 2016	Percent of 2020 Target
		2020 Target	2017 Progress		
LUD 1	Infill Development	420 infill units	389 infill units built	2%	93%
LUD 2	Transit-Oriented Development	508,510 sq. ft. of mixed-use buildings	192,967 sq. ft. mixed-use buildings	0%	38%
LUD 3	Affordable Housing	850 affordable housing units	574 affordable housing units	2%	68%

Key Accomplishments

- Planning and Development Department staff began updating zoning ordinances related to density bonuses for eligible affordable housing projects. New updates comply with the State's Density Bonus Law (AB 2442, 2556, 2501, and 1934).
- In September 2017, the Board of Supervisors approved County staff to begin amending the ADU ordinance, which was adopted in 2018.

Challenges

After the County adopted the countywide Mixed-Use Zone in 2015, 56 parcels within the Eastern Goleta Valley Community Plan became designated as mixed-use. To meet the goals of LUD 2, the County needs to expand and apply mixed-use zoning to other areas within the unincorporated county.

State and Federal Direction

- **State ADU Streamlining Requirements:** [AB 2299](#) (2016) and [SB 1069](#) (2016) seek to promote the development of additional housing opportunities in California by streamlining the process for property owners to add a second dwelling unit on residentially zoned property. Many local governments, including the County, made local amendments in 2017 to align with the new State requirements.
- **New State Affordable Housing Funding:** [SB 2](#) (2017) enacts a new fee on real estate transactions and is expected to generate \$250 million per year to address homelessness and affordable housing.

Looking Forward

The County is considering streamlining the permit process for agricultural employee dwellings. The Planning and Development Department is also working on aligning its zoning ordinances with the State's Density Bonus Law.

Featured Story



Like many parts of the State, Santa Barbara County faces a complex housing crisis. As a result of high housing prices in urban centers, homebuyers are pushed further out—resulting in inefficient low-density development. One solution to this problem is to encourage and ease requirements for infill development, which is the aim of [Assembly Bill 2299](#) (2016) and [SB 1069](#) (2016) that are designed to reduce parking requirements and streamline the permitting process for ADUs.

In 2017, the County began amending the [ADU ordinance](#) in response to AB 2299 and SB 1069. The Board of Supervisors voted unanimously to adopt the amendments in August 2018.

The Planning and Development Department has seen an increase in permit applications since the State passed AB 2299 and SB 1069. A total of 99 ADU permits were filed, and 32 permits were issued at the end of 2017.



III-11. Water Efficiency (WE)

Goal: To maximize the reliability of local water resources and supplies through water use efficiency.

Treating and conveying potable drinking water to the community requires energy. This energy-water nexus and the water and wastewater treatment processes create GHG emissions. Although water and wastewater use accounted for less than 1 percent of the unincorporated county's GHG emissions in 2016, saving water is critical for our drought-prone region. The WE Core Strategy includes three ERMs that address water-related energy use through education, incentives, and building standards. Implementing water conservation in existing and new development through high-efficiency fixtures, native and drought-tolerant landscaping, and smart irrigation technologies will ensure a reliable potable water supply for the community.

Reporting

ERM Progress to Date

Despite an increase in countywide water use from 2016 to 2017, the County is on track to meet its two measurable WE ERMs (WE 1 and WE 3). WE 2 (Water-Efficient Building and Landscape Standards) is currently unmeasurable due to data availability. The majority of the countywide water savings are attributable to a decline in per capita water usage, which has dropped 16% since 2010, as illustrated in Figure III-8.

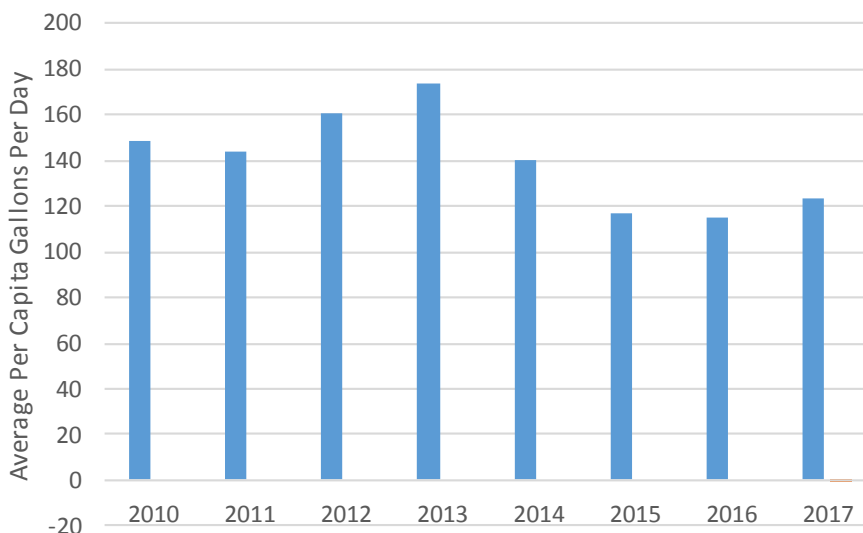


Figure III-8: Unincorporated County Estimated Average per Capita Water Use

Table III-11: WE ERM Implementation Progress through 2017

Measure	Name	Performance Indicator		Percent Change from 2016	Percent of 2020 Target
		2020 Target	2017 Progress		
WE 1	Water Conservation Programs	20% reduction in water usage	17% reduction in water usage	-19%	85%
WE 2	Water-Efficient Building and Landscape Standards	20% indoor water reduction in new development		Not available	
WE 3	Water-Efficient Landscape Programs	20% water reduction for landscaping uses	17% percent water reduction for landscaping uses	-19%	89%

Key Accomplishments

- The Water Agency distributed 500 high-efficiency aerators in 2017. According to the U.S. Environmental Protection Agency, high efficiency aerators can reduce water flow from a standard faucet by 30 percent.
- The County [exempted simple greywater systems from permitting](#) in 2016. Subsequently, the Water Agency published the [Santa Barbara County Greywater Handbook](#) as an educational resource for the public.
- The Water Agency emphasized greywater system and rainwater harvesting through the Watershed Wise Landscape Professional Certification Program, Green Gardener Program, and homeowner workshops.
- Since the start of the landscape professional training course in 2015, there have been 62 landscape professional trainings, 440 homeowner workshop attendees, and more than 1,500 Green Gardener graduates from Santa Barbara City College and Allan Hancock College.
- The Water Agency provided educational resources on drought-tolerant landscaping and treatment of stormwater runoff through its WaterWiseSB and Project Clean Water websites and social media pages.

Challenges

Maintaining focus and consistent messaging regarding the importance of water conservation efforts in light of the State lifting drought regulations in many parts of the state has been challenging. Santa Barbara County remains in a severe drought, leading the Water Agency to focus education and outreach on local water needs. This local messaging sometimes runs counter to messaging used in regions no longer in drought conditions.

State and Federal Direction

- **State Sustainable Groundwater Management Act (SGMA):** Enacted in 2014, SGMA provides a framework for the sustainable management of groundwater supplies by local agencies and provides tools, authority, and a 20-year implementation timeline. SGMA requires sustainable management of groundwater basins that have been designated as medium and high priority by the California Department of Water Resources. The proper management of groundwater makes the region more resilient and less dependent on imported water.

Looking Forward

In 2018, the Water Agency is collaborating with the General Services Department to renovate the Santa Maria Valley Sustainable Garden. The County established the garden in 1997 to provide the community with a demonstration of efficient landscaping. Activities are underway to update the plant pallet, irrigation, and signage.

Plans are also underway for developing a demonstration rain garden in the County Engineering Building Courtyard in Santa Barbara.

Featured Story



In 2014, California voters approved [Proposition 1](#), a water bond measure authorizing \$200 million for the Storm Water Grant Program. The program aims to fund multi-benefit stormwater management projects. The Legislature subsequently adopted [SB 985](#) (2014) that requires public agencies to develop a Storm Water Resource Plan (SWRP) to qualify for the Storm Water Grant Program funding.

In 2016, the County Water Agency was awarded a grant to prepare and implement a Santa Barbara County Integrated SWRP in collaboration with six cities (Buellton, Carpinteria, Goleta, Guadalupe, Lompoc, and Solvang); two water districts (Carpinteria Valley and Montecito); and the University of California, Santa Barbara. The SWRP will establish a collaborative process for identifying and prioritizing stormwater runoff projects that improve regional water system resiliency.

IV. Looking Forward

Despite some notable highlights, the County and community are behind in implementing many of the ECAP's ERMs, and the unincorporated county's GHG emissions are trending in the wrong direction (14 percent above 2007 levels as of 2016). Some of the emissions increase is attributed to activities outside of the County's direct control (e.g., driving tends to increase as gasoline prices decrease). However, other drivers of emissions—such as land use planning, building code enforcement, and the operations and maintenance of County buildings and fleet—are within the purview of the County. Some County-led projects, most notably the Tajiguas Resource Recovery Project (TRRP), are behind schedule and will not realize their significant GHG reduction benefits in time to meet the County's 2020 GHG reduction goal (though TRRP will drastically reduce emissions once implemented). Many ERMs need additional attention and funding from the County to help reach the 2020 reduction target of 15 percent below 2007 levels.

Other ERMs rely on community members and organizations to realize their full GHG reduction potential. The County has a role to play educating the community about the benefits of taking action to lower emissions. For example, the County will continue to provide residents and businesses with information and tools to lower energy and water use, provide alternatives to driving, and find beneficial uses for products that do not belong in the landfill.

Some GHG-causing activities over which the County has limited control are likely to worsen as the climate changes further, causing a cyclical effect. For example, wildfires—which emit large amounts of GHGs through the combustion of vegetation and fuels used to power fire-fighting equipment—are expected to continue increasing in frequency and intensity. Farmers may continue using larger amounts of fertilizer as a supplement to decreased soil moisture resulting from sustained drought, and drought-induced erosion may release carbon held in the soil to the atmosphere. Electricity use may rise due to increased air conditioning use as temperatures continue to rise. In addition to the increased emissions from these climate-driven behaviors, these activities can also present health risks, negatively impact the economy, and impair air quality. The County and community need to anticipate and plan for these and other consequences of climate change.

IV-1. Setting Future GHG Reduction Targets

Since the ECAP was adopted in 2015, the State has committed to more aggressive GHG reduction targets for 2030 (40 percent below 1990 levels, equivalent to 6 MTCO_{2e} per person), 2045 (carbon neutral, i.e., net 0 MTCO_{2e}), and 2050 (80 percent below 1990 levels, equivalent to 2 MTCO_{2e} per person). The Board of Supervisors may wish to adopt local GHG reduction goals past 2020 to align with the State targets.

To facilitate future goal adoption and GHG reduction strategy development, the ECAP estimated future GHG emissions. As part of its 2016 GHG inventory update, Ascent updated the projections of future GHG emissions, in light of how 2007 to 2016 emissions trends may affect future GHG emissions for the unincorporated county. The original ECAP's forecasted emissions and Ascent's updated forecasts account for GHG reduction policies and programs being implemented at the federal, state, and local level. These forecasts are referred to as "Adjusted Business-As-Usual" (ABAU) emissions.

Table IV-1 shows Ascent's calculations of the unincorporated county's historical GHG emissions (adjusted based on the latest data and methodologies) and projections of how unincorporated county GHG emissions are expected to change over time by emissions source. As Table IV-1 illustrates, existing policies and programs are expected to most notably lower GHG emissions from transportation and building energy use, despite projected population growth. Without additional County action, ABAU emissions are forecasted to be 2 percent above 2007 levels in 2020, 23 percent below 2007 levels in 2030, and 25 percent below 2007 levels in 2050. Table IV-1 and Figure IV-1 also show the remaining gap of GHG reductions that the County needs to attain to reach its 2020 goal, as well as 2030 and 2050 GHG reduction goals should the County align with the State targets.

Table IV-1: Historical and Forecasted Adjusted Business-As-Usual GHG Emissions by Source, 2007-2050

Source	Historical MTCO ₂ e ¹			ABAU Forecast MTCO ₂ e	
	2007 ²	2016	2020	2030	2050
Transportation	523,159	587,941	485,146	377,192	320,894
Building Energy	381,074	425,741	381,627	176,892	216,062
Off-Road Equipment	126,416	171,974	162,038	164,893	171,237
Agriculture	163,577	216,103	217,250	215,045	210,704
Solid Waste	152,024	136,857	131,449	103,663	86,186
Water and Wastewater	5,482	3,924	3,981	3,953	4,469
TOTAL	1,351,731	1,542,541	1,381,492	1,041,637	1,009,552
Combined Targets			1,148,971 (ECAP Target)	931,329 (State Target)	350,537 (State Target)
Reduction Needed from Projected ABAU to Align With State Target			17%	11%	65%

¹ The values reported in this table differ from the values in Table II-1 because Table II-1 normalizes the emissions reported for 2007 and 2016 to provide a relatively apples-to-apples comparison so that percent changes could be calculated. The values in this table should be used for future goal setting.

² The original 2007 emissions inventory estimate has been adjusted to account for updated methodologies and data. Ascent’s calculation of the 2007 baseline is roughly 13% higher than the original 2007 baseline estimate. Because the updated (higher) 2007 baseline uses the best available information, this higher baseline will be used for future reporting and is recommended for future goal-setting.

³ Governor Brown issued EO B-55-18 in September 2018. It had not been introduced at the time Ascent completed its 2016 GHG inventory report, and the State has not yet provided guidance to local governments on how to align with this target. Therefore, the 2045 carbon neutrality goal adopted in EO B-55-18 is not included in this table or Figure IV-1.

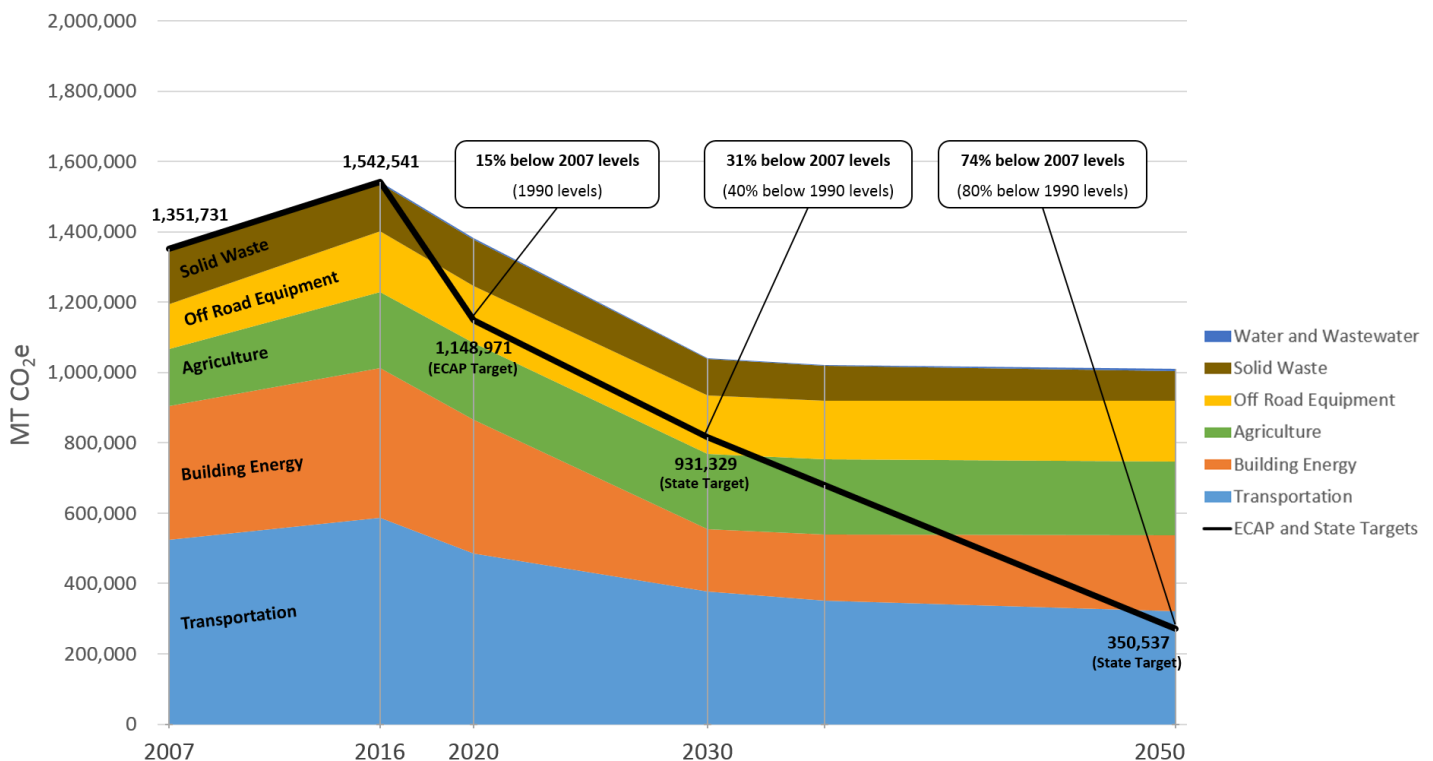


Figure IV-1: Unincorporated County GHG Emissions with ECAP and State Targets, 2007-2050

**Appendix A. 2016 Greenhouse Gas Emissions Inventory
Update and Forecast**