

# Greenhouse Gas Pre-Screening Measures for Sutter County

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# Greenhouse Gas Pre-Screening Measures for Sutter County

## Background

Sutter County's Climate Action Plan (CAP) includes a greenhouse gas (GHG) inventory, an emission reduction target, and reduction measures to reach the target. The CAP also includes screening tables used to assign points for GHG mitigation measures.<sup>1</sup> Projects that achieve 100 points or more do not need to quantify GHG emissions and are assumed to have a less than significant impact.

Sutter County's screening tables apply to all project sizes. Small projects with minor levels of GHG emissions typically cannot achieve the 100-point threshold and therefore must quantify GHG emission impacts, an approach that consumes time and resources with no substantive contribution to achieving the CAP reduction target.

## Approach

To counter this problem, Sutter County has developed a two-tier pre-screening procedure. This approach enables Sutter County to minimize time spent on small projects, allowing staff to focus their efforts on larger projects where meaningful reductions in GHG emissions can be achieved.

The two-tiered pre-screening procedure uses a threshold of 3,000 metric tons of CO<sub>2</sub>e per year.<sup>2</sup> This threshold is based on a study conducted for San Bernardino County that used a statewide list of projects compiled by the Governor's Office of Planning and Research (OPR).<sup>3-4</sup> In that study, emissions were estimated for each project within OPR's database. The analysis found that 90% of CO<sub>2</sub>e emissions are from CEQA projects that exceed 3,000 metric tons CO<sub>2</sub>e per year. Both cumulatively and individually, projects that generate less than 3,000 metric tons CO<sub>2</sub>e per year have a negligible contribution to overall emissions. Based on this analysis, San Bernardino

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<sup>1</sup> Atkins, 2011. Greenhouse Gas Emissions Screening Tables - Sutter County, California. April.

<sup>2</sup> The primary GHGs of concern for land use projects are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O). Each of these pollutants has a different capacity to cause global warming. The global warming potential (GWP) has been set to one for carbon dioxide, to 21 for methane, and to 310 for nitrous oxide. CO<sub>2</sub>e, or carbon dioxide equivalence, uses each pollutant's GWP to represent total emissions as one number.

<sup>3</sup> Atkins, 2011. Greenhouse Gas Emissions Development Review Processes County of San Bernardino, California. August.

<sup>4</sup> The study used OPR's CEQAnet database, which is available at [www.ceqanet.ca.gov](http://www.ceqanet.ca.gov).

County concluded that projects below 3,000 metric tons did not need to be evaluated using its point system, a system similar to Sutter County's point system. This allows resources to be focused on reducing emissions for those projects that can most substantively contribute to achieving identified GHG reduction targets.

Since the analysis for San Bernardino County was based on a statewide database, the resulting value of 3,000 metric tons CO<sub>2</sub>e is also applicable to Sutter County. Sutter County has concluded that projects generating less than 3,000 metric tons of CO<sub>2</sub>e would not have to be evaluated using Sutter County's screening tables. Such projects require no further GHG emissions analysis and are assumed to have a less than significant impact.

To determine whether a project has the potential to exceed 3,000 metric tons CO<sub>2</sub>e per year, Sutter County has developed the following two-tiered pre-screening approach. Under Tier 1, projects are pre-screened out based on project type. Certain types of projects produce limited emissions and will inherently not exceed 3,000 metric tons CO<sub>2</sub>e per year. If a project cannot be pre-screened out based on project type, then a Tier 2 evaluation is needed. Tier 2 pre-screens out projects based on size. The maximum sizes of various types of projects are identified under which CO<sub>2</sub>e emissions would be less than 3,000 metric tons per year. Each tier is discussed separately below.

### ***Tier 1 Projects***

Table 1 shows Tier 1 project types. These include projects consisting primarily of construction activities with little to no operational emissions. Many of these Tier 1 project types are linear projects, such as water, sewer, and natural gas pipeline construction, electricity transmission and distribution line construction, levee construction, and bridge and road improvements. These projects typically have moderate levels of construction-related GHG emissions, but almost no operational emissions aside from occasional maintenance activities. Except in unusual circumstances, emissions do not exceed 3,000 metric tons of CO<sub>2</sub>e/year for these project types. Other project types such as cell tower construction, water transfer projects, and dredging operations would have a minor level of construction and operational emissions with GHG emissions substantially less than 3,000 metric tons CO<sub>2</sub>e/year.

The project types listed in Table 1 are pre-screened out. They do not need to be evaluated using Sutter County's Tier 2 GHG screening tables. Table 1 is meant to be as comprehensive as possible but is not all-inclusive. The Development Services Director may determine that a project type not specifically listed on Table 1 can be screened out as a Tier 1 project. Such determination will be based on findings that the proposed project type is similar in nature and operation to those listed on Table 1, and will inherently generate limited emissions below 3,000 metric tons of CO<sub>2</sub>e/year. For questions about whether a project fits within the Tier 1 list of pre-screened project types, contact the Sutter County Planning Division.

**Table 1. Tier 1 Pre-Screened Project Types**

Types of Projects Automatically Pre-Screened Out	Types of Projects
Projects consisting primarily of construction emissions with no or negligible operational emissions	<ol style="list-style-type: none"> <li>1) Pipelines (water, sewer, drainage, gas pipelines)</li> <li>2) Electric transmission or distribution lines</li> <li>3) Electric substations</li> <li>4) New levees or levee enhancements</li> <li>5) Bridge or road replacement or repairs (with no increase in traffic capacity)</li> <li>6) Cell towers</li> <li>7) Fiber optic regenerator stations</li> <li>8) Water transfer projects</li> <li>9) Dredging operations</li> <li>10) Habitat restoration</li> <li>11) Rip-rap installation</li> <li>12) Installation of fish screens and barriers</li> <li>13) Drainage improvements</li> </ol>

**Tier 2 Projects**

Tier 2 applies to typical land development projects that generate both construction and operational emissions. Sutter County’s Article 3: Use Classifications was used as the starting point to identify land use projects that would not exceed 3,000 metric tons CO<sub>2</sub>e per year. When feasible, a land use air emissions model was used to estimate the land use size at which CO<sub>2</sub>e emissions would exceed 3,000 metric tons.<sup>5</sup> For example, 132 single-family residential development could be constructed and operated without exceeding 3,000 metric tons CO<sub>2</sub>e per year. Similarly, a 134,000 square foot office park could be constructed and operated without exceeding 3,000 metric tons CO<sub>2</sub>e per year.

Table 2 shows the land uses for which the maximum size limits have been calculated beyond which emissions would exceed 3,000 metric tons CO<sub>2</sub>e per year. The user should note that Table 2 is arranged to be consistent with Sutter County’s Article 3: Use Classifications. For each land use type, an entry is included in the third column that shows one of three options: “Pre Screened Out”, “Analyze Using CAP”, or a number (indicating the land use’s maximum allowable size limit to remain below 3,000 metric tons CO<sub>2</sub>e per year). As shown in Table 2, many of the agricultural use types fall into the Pre-Screened Out and Analyze Using CAP categories. Many of the use types, such as agricultural education and entertainment, are either temporary or intermittent. These use types are considered Pre-Screened Out because they would not come close to exceeding 3,000 metric tons CO<sub>2</sub>e per year. Other uses, such as agricultural manufacturing, have the potential to include stationary sources. These

<sup>5</sup> The CalEEMod2013.2.2 model was used to estimate emissions. CalEEMod was developed by the California Air Pollution Control Officers Association and is recommended for use by the Feather River Air Quality Management District.

uses have potentially large annual CO<sub>2</sub>e emissions and should be analyzed using Sutter County's CAP.

**Table 1. Tier 2 Single Land Use Project Pre-Screening Table**

Land Use Category	Land Use Type	Maximum Number of Units (and square feet) that Can be Built without Exceeding 3,000 MT CO <sub>2</sub> e/year
<b>1500-03-040 Agricultural Use Types</b>		
A. Agricultural Education and Entertainment	<ol style="list-style-type: none"> <li>1. Agricultural Education and Entertainment, Small</li> <li>2. Agricultural Education and Entertainment, Large</li> </ol>	<b>Pre-Screened Out (both small and large)</b>
B. Agricultural Homestays		<b>Pre-Screened Out</b>
C. Agricultural Manufacturing		<b>Analyze Using CAP</b>
D. Agricultural Processing		<b>Analyze Using CAP</b>
E. Agricultural Product Sales	<ol style="list-style-type: none"> <li>1. Wayside Stand</li> <li>2. Agricultural Store</li> </ol>	<b>Pre-Screened Out (both land use types)</b>
F. Agricultural Supplies and Services	<ol style="list-style-type: none"> <li>1. Agricultural Supplies and Services, Light</li> <li>2. Agricultural Supplies and Services, Heavy</li> </ol>	<b>Pre-Screened Out (both land use types)</b>
G. Agricultural Truck Yards	<ol style="list-style-type: none"> <li>1. Agricultural Truck Yards, Small</li> <li>2. Agricultural Truck Yards, Large</li> </ol>	<b>Pre-Screened Out (Small)</b>

Land Use Category	Land Use Type	Maximum Number of Units (and square feet) that Can be Built without Exceeding 3,000 MT CO <sub>2</sub> e/year
		For large truck yards, Pre-Screened Out when 67 trucks or less. Use CAP when 68 trucks or more.
H. Agriculture	<ol style="list-style-type: none"> <li>1. Agriculture, Animal Husbandry</li> <li>2. Agriculture, Crops and Tree Farms</li> </ol>	Pre-Screened Out (Both land use types)
I. Animal Processing		Analyze Using CAP
J. Intensive Animal Operations		Analyze Using CAP
K. Commercial Stables	<ol style="list-style-type: none"> <li>1. Commercial Stables, Small</li> <li>2. Commercial Stables, Large</li> </ol>	Pre-Screened Out (Small or Large)
L. Wineries, Breweries and Mills	<ol style="list-style-type: none"> <li>1. Wineries, Breweries, and Mills, Small</li> <li>2. Wineries, Breweries, and Mills, Large</li> </ol>	Pre-Screened Out (Small or Large)
<b>1500-03-050 Open Space and Recreational Use Types</b>		
A. Community Garden		Pre-Screened Out
B. Campgrounds and Recreational Vehicle Parks		Pre-Screened Out

Land Use Category	Land Use Type	Maximum Number of Units (and square feet) that Can be Built without Exceeding 3,000 MT CO <sub>2</sub> e/year
C. Camps and Retreats		Pre-Screened Out
D. Golf Courses and Country Clubs		60 holes
E. Marinas and Boat Launching	1. Boat Launching 2. Marinas	Pre-Screened Out (Boat Launching) Analyze Using CAP(Marinas)
F. Parks and Recreation		902 Acres
G. Residential Recreation Facilities		Pre-Screened Out
H. Resource Protection and Restoration		Pre-Screened Out
I. Resource Related Recreation		Pre-Screened Out
J. Shooting Ranges, Indoor		Pre-Screened Out
K. Sports Clubs and Shooting Ranges, Outdoor		902 acres
<b>1500-03-060 Assembly and Educational Uses</b>		
A. Community Assembly and Cultural Facilities		70,000 sf
B. Religious Institutions		137,000 sf
C. Schools and Educational Services	1. Elementary and Secondary Schools, Public	Elementary – 62,000 sf or 1,081 students



Land Use Category	Land Use Type	Maximum Number of Units (and square feet) that Can be Built without Exceeding 3,000 MT CO <sub>2</sub> e/year
	<ol style="list-style-type: none"> <li>2. Elementary and Secondary Schools, Private</li> <li>3. Colleges and Universities</li> <li>4. Specialized Education and Training</li> </ol>	<p><b>Junior H.S. – 167,000 sf or 1,099 students</b></p> <p><b>High School – 146,000 sf or 1,099 student</b></p> <p><b>Jr. College – 77,000 sf or 1,737 students</b></p> <p><b>University/College – 771 students</b></p> <p><b>Specialized Education and Training – 77,000 sf or 1,737 students</b></p>
D. Special Event Facilities		<b>70,000 sf</b>
<b>1500-03-070 Residential Use Types</b>		
A. Agricultural Employee Housing	<ol style="list-style-type: none"> <li>1. Agricultural Employee Housing, Dwelling Unit</li> <li>2. Agricultural Employee Housing, Complex</li> <li>3. Agricultural Employee Housing, Labor Camp</li> </ol>	<b>All Pre-Screened Out except permanent housing of more than 132 units</b>
B. Caretaker Housing	<ol style="list-style-type: none"> <li>1. Caretaker Housing, Agricultural</li> </ol>	<b>Pre-Screened Out (All 3 land use types)</b>

Land Use Category	Land Use Type	Maximum Number of Units (and square feet) that Can be Built without Exceeding 3,000 MT CO <sub>2</sub> e/year
	2. Caretaker Housing, Residential 3. Caretaker Housing, Commercial/Industrial	
C. Dwelling Units	1. Dwelling Unit, Single Family 2. Dwelling Unit, Second Unit 3. Dwelling Unit, Two Family 4. Dwelling Unit, Multi Family	<b>132 Dwelling Units</b> <b>132 Dwelling Units</b> <b>196 Dwelling Units</b> <b>196 Dwelling Units</b>
D. Group Quarters		<b>328 Dwelling Units</b>
E. Guest Cottage		<b>Pre-Screened Out</b>
F. Live-Work Residential		<b>132 Live/Work Units</b>
G. Mobile Home Park		<b>234 Dwelling Units</b>
<b>1500-03-080 Community Care and Assistance Use Types</b>		
A. Cold Weather Shelter		<b>Pre-Screened Out</b>
B. Day Care	1. Day Care Center 2. Family Day Care, Small 3. Family Day Care, Large	<b>62,000 sf (all three land use types)</b>
C. Emergency Shelter		<b>Pre-Screened Out</b>

Land Use Category	Land Use Type	Maximum Number of Units (and square feet) that Can be Built without Exceeding 3,000 MT CO <sub>2</sub> e/year
D. Extended Care Facility		<b>357 Units</b>
E. Residential Care Facility	<ol style="list-style-type: none"> <li>1. Residential Care Facility, Small</li> <li>2. Residential Care Facility, Large</li> </ol>	<b>Pre-Screened Out (small)</b>  <b>357 Units (large)</b>
F. Social Services Facility		<b>Pre-Screened Out</b>
G. Supportive Housing		<b>Pre-Screened Out</b>
H. Transitional Housing		<b>357 Units</b>
<b>1500-03-090 Commercial Use Types</b>		
A. Adult Oriented Businesses		<b>Analyze Using CAP</b>
B. Animal Sales and Services	<ol style="list-style-type: none"> <li>1. Kennels (a. Indoor &amp; b. Outdoor)</li> <li>2. Veterinary Clinic (Small Animal)</li> <li>3. Veterinary Clinic (Large Animal)</li> </ol>	<b>Pre-Screened Out (all three land use types)</b>
C. Banks and Credit Unions		<b>38,000 sf</b>
D. Business Support Services		<b>70,000 sf</b>
E. Commercial Entertainment and Recreation	<ol style="list-style-type: none"> <li>1. Commercial Entertainment and Recreation, Indoor</li> </ol>	<b>Analyze Using CAP(both land use types)</b>

Land Use Category	Land Use Type	Maximum Number of Units (and square feet) that Can be Built without Exceeding 3,000 MT CO <sub>2</sub> e/year
	2. Commercial Entertainment and Recreation, Outdoor	
F. Communication Services		Pre-Screened Out
G. Eating and Drinking Establishments	<ol style="list-style-type: none"> <li>1. Bars and Drinking Places</li> <li>2. Restaurant, Fast Food</li> <li>3. Restaurant, Full Service</li> <li>4. Restaurant, Mobile Food Truck</li> </ol>	<b>24,000 sf (bars and Drinking places)</b> <b>4,000 sf (Fast Food)</b> <b>24,000 sf (Full Service)</b> <b>Pre-Screened Out (Mobile Food Truck)</b>
H. Funeral and Internment Services		Pre-Screened Out
I. Hospitals		89,000 sf or 134 beds
J. Lodging	<ol style="list-style-type: none"> <li>1. Bed and Breakfast Inn</li> <li>2. Hotels and Motels</li> </ol>	<b>Pre-Screened Out (Bed and Breakfast Inns)</b> <b>194 rooms (Hotels and Motels)</b>
K. Maintenance, Repair and Rental Services		Pre-Screened Out
L. Manufactured Home Sales and Rentals		Pre-Screened Out
M. Medical Marijuana Dispensary		Analyze Using CAP
N. Medical Offices and Clinics		71,000 sf
O. Nightclubs		70,000 dg
P. Nursery	<ol style="list-style-type: none"> <li>1. Nursery, Wholesale</li> <li>2. Nursery, Retail</li> </ol>	Pre-Screened Out (both land use types)

Land Use Category	Land Use Type	Maximum Number of Units (and square feet) that Can be Built without Exceeding 3,000 MT CO <sub>2</sub> e/year
Q. Personal Services		70,000 sf
R. Personal Storage		Pre-Screened Out
S. Professional Offices		178,000 sf
T. Recreational Vehicle Storage		Pre-Screened Out
U. Recycling Collection Facilities	<ol style="list-style-type: none"> <li>1. Recycling Collection Facility, Small</li> <li>2. Recycling Collection Facility, Large</li> </ol>	<p>Pre-Screened Out (Small)</p> <p>Analyze Using CAP</p>
V. Retail Sales	<ol style="list-style-type: none"> <li>1. Retail Sales, General</li> <li>2. Retail Sales, Outdoor</li> <li>3. Retail Sales, Superstore</li> </ol>	<p>70,000 sf (General)</p> <p>70,000 sf (Outdoor)</p> <p>Analyze Using CAP(Superstore)</p>
W. Vehicle and Equipment Sales and Service	<ol style="list-style-type: none"> <li>1. Fuel Stations</li> <li>2. Vehicle Rentals, Sales and Leasing, Light</li> <li>3. Vehicle Rentals, Sales and Leasing, Heavy</li> <li>4. Vehicle Repairs, Light</li> <li>5. Vehicle Repairs, Heavy</li> <li>6. Vehicle Washing</li> </ol>	<p>18 gas pumps (Fuel Stations)</p> <p>Analyze Using CAP (Vehicle Rentals, Light and Heavy)</p> <p>65,000 sf (Vehicle Repairs, Light and Heavy)</p> <p>Pre-Screened Out (Vehicle Washing)</p>

Land Use Category	Land Use Type	Maximum Number of Units (and square feet) that Can be Built without Exceeding 3,000 MT CO <sub>2</sub> e/year
<b>1500-03-100 Industrial Use Types</b>		
A. Equipment and Material Storage Yards		Pre-Screened Out
B. Impounding and Towing Yards		Pre-Screened Out
C. Manufacturing	<ol style="list-style-type: none"> <li>1. Manufacturing, Light</li> <li>2. Manufacturing, General</li> <li>3. Manufacturing, Heavy</li> </ol>	<b>207,000 square feet</b> <b>285,000 square feet</b> <b>382,000 square feet</b>
D. Research and Development		202,000 square feet
E. Warehousing, Wholesaling, and Distribution		229,000 square feet
<b>1500-03-110 Transportation, Communication, and Utilities Use Types</b>		
A. Aerial Services	<ol style="list-style-type: none"> <li>1. Airports and Landing Strips</li> <li>2. Heliports</li> </ol>	Pre-Screened Out
B. Community Facilities and Services	<ol style="list-style-type: none"> <li>1. Community Facilities and Services, Major</li> <li>2. Community Facilities and Services, Intensive</li> </ol>	Analyze Using CAP(Both Land Use Types)
C. Intermodal Transportation Services		Analyze Using CAP
D. Parking Facilities		Pre-Screened Out

Land Use Category	Land Use Type	Maximum Number of Units (and square feet) that Can be Built without Exceeding 3,000 MT CO <sub>2</sub> e/year
E. Solar Energy Facilities, Commercial		Pre-Screened Out
F. General Truck Yards		Analyze Using CAP
G. Wireless Telecommunications Facilities	<ol style="list-style-type: none"> <li>1. Wireless Telecommunications Facilities, Co-Located</li> <li>2. Wireless Telecommunications Facilities, Integrated</li> <li>3. Wireless Telecommunications Facilities, Freestanding</li> </ol>	Pre-Screened Out (all three land use types)
<b>1500-03-120 Resource Extraction Use Types</b>		
A. Mining Operations		<p>Pre-Screened Out – Borrow sites with up to a maximum of 1.1 million cubic yards of material mined annually</p> <p>Analyze Using CAP – Borrow sites exceeding 1.1 million cubic yards of material mined annually</p> <p>Analyze Using CAP - Sand and Gravel Mining with Concrete Batch Plants (and other types of mining</p>

Land Use Category	Land Use Type	Maximum Number of Units (and square feet) that Can be Built without Exceeding 3,000 MT CO <sub>2</sub> e/year
		that include stationary emission sources)
B. Oil and Gas Extraction		Analyze Using CAP



Although Table 2 works well for individual land use projects, it cannot easily be used to evaluate projects consisting of more than one land use. To address mixed or multiple use-use projects, Sutter County has developed an enhanced version of Table 2, formatted as an Excel spreadsheet. Table 3 shows an example from the Excel spreadsheet. For mixed-use projects, Sutter County (or the project applicant) would simply enter the number of “units” for each land use in column D of the spreadsheet. The spreadsheet calculates total emissions and shows whether the project would exceed 3,000 metric tons CO<sub>2</sub>e per year. As shown in the Table 3 example, a project consisting of 50 single-family residential units, a 50-room motel, and 25,000 square-feet of general retail sale would not exceed the CO<sub>2</sub>e threshold of 3,000 metric tons per year. Therefore, the project would pass the Tier 2 pre-screen and would be Pre-Screened Out from Sutter County’s GHG screening table point system.

**Table 3. Tier 2 Mixed Use Project Pre-Screening Table**

A	B	C	D	E	F
	<b>Sutter County Article 3 Use Classifications</b>	<b>Land Use Type</b>	<b>Enter Project Land Use Size</b>	<b>Units</b>	<b>Total Emissions (MT CO<sub>2</sub>e)</b>
	1500-03-070 Residential Uses	Single Family	50	Dwelling Units	1,128.4
	1500-03-090 Commercial Uses	Lodging, Motel/Hotel	50	Rooms	742.8
	1500-03-090 Commercial Uses	Retail Sales, General and Outdoor	25	1,000 sf	1,069.8
	Total Emissions				2,941
	Exceed 3,000?				<b>No</b>

The land use types included in Table 2 do not include every single land use type. Consequently, one additional pre-screening threshold has been developed for land uses not included in Table 2 or the Excel spreadsheet. If the land use type(s) are not shown in Table 2 (or in the Excel spreadsheet), the land use can be evaluated by answering the following two questions:

- 1) Does the land use(s) generate 100 or fewer operational vehicle trips per day?
- and**
- 2) Does the land use(s) include 50,000 square feet of occupied building space or less?

To pass the pre-screening threshold, the answer to both questions must be yes. For example, a land use of 10,000 square feet and generating 50 trips per day would be

pre-screened out because the trips per day **and** square footage values are less than the pre-screening criteria.

This pre-screening criterion can also be applied to mixed-use projects with the operational trips per day and square footages representing the totals for all land uses. For example, assume a project consists of a retail land use (10,000 square feet and 50 trips per day) and an educational land use (20,000 square feet and 60 trips per day). Although the total square footage for these two land uses is less than 50,000 square feet, the project still fails this pre-screening threshold because the combined trips per day of 110 exceed the threshold of 100. Consequently, the project would not pre-screen out and should be evaluated using Sutter County's GHG Screening methodology.