California Air Resources Board

Quantification Methodology

**Strategic Growth Council
Transformative Climate Communities Program**

California Climate Investments

November 1, 2019

Contents

List of Acronyms and Abbreviations

Acronym	Term
AB	Assembly Bill
AC	alternating current
AHSC	Affordable Housing and Sustainable Communities
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CNG	compressed natural gas
CNRA	California Natural Resources Agency
CSD	California Department of Community Services and Development
DC	direct current
Diesel PM_{10}	diesel particulate matter with a diameter less than 10 micrometers
DME	dimethyl ether
DWR	California Department of Water Resources
ft^2	square feet
ft^3	cubic feet
GGRF	Greenhouse Gas Reduction Fund
GHG	greenhouse gas
kW	kilowatt
kWh	kilowatt hours
lbs	pounds
LCT	Low Carbon Transportation
LCTOP	Low Carbon Transit Operations Program
LIWP	Low-Income Weatherization Program
LNG	liquid natural gas
$MTCO_2e$	metric tons of carbon dioxide equivalent
NO_x	nitrous oxide
$PM_{2.5}$	particulate matter with a diameter less than 2.5 micrometers
PV	photovoltaic
RNG	renewable natural gas
ROG	reactive organic gas
SGC	Strategic Growth Council
TCC	Transformative Climate Communities
VMT	vehicle miles traveled

Preface

The TCC Program, administered by SGC, was established by AB 2722 (Burke, Chapter 371, Statutes of 2016) to "fund the development and implementation of neighborhood-level transformative climate community plans that include multiple, coordinated GHG emissions reduction projects that provide local economic, environmental, and health benefits to disadvantaged communities as described in Section 39711 of the Health and Safety Code"(Pub. Resources Code § 75240).

Based on the TCC Round 3 Final Program Guidelines,[1] the TCC Program requires applicants to identify a project area that will be the focus of the TCC Proposal and deploy integrated climate strategies that combine GHG reduction activities to achieve multiple community benefits and drive innovation. TCC Proposals consist of five inter-related components: Program Objectives, Vision Statement, Strategies, Projects, and Transformative Elements. The Program Objectives reflect the TCC Program provisions outlined in AB 2722. Applicants must develop a Vision Statement that describes how the TCC Proposal will achieve all three Program Objectives. Applicants must select Strategies and develop Projects that address the TCC Program Objectives. In addition to selecting Strategies and developing Projects, Applicants must include Transformative Elements as part of a TCC Proposal. Transformative Elements are critical to furthering the TCC Program Objectives and supporting the implementation of Strategies and Projects.

TCC Program Objectives and Vision

Applicants must develop a Vision Statement that articulates how the proposed Strategies, Projects, and Transformative Elements will be coordinated and integrated to achieve the vision for neighborhood transformation and TCC Program Objectives:
1. Achieve Significant Reductions in GHG Emissions
2. Improve Public Health and Environmental Benefits
3. Expand Economic Opportunity and Shared Prosperity

TCC Strategies

SGC developed a list of eight GHG emission reduction, public health, environmental, and economic benefit strategies for applicants to integrate into TCC proposals in order to achieve the TCC Program Objectives and applicant-defined Vision:
1. Equitable Housing and Neighborhood Development
2. Affordable Housing Land Acquisition
3. Transit Access and Mobility
4. Solar Installation and Energy Efficiency

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[1] Strategic Growth Council. Transformative Climate Communities Program Round 3 Final Program Guidelines. November 2019. sgc.ca.gov/programs/tcc/resources/application.html.

5. Water Efficiency
6. Recycling and Waste Management
7. Urban Greening and Green Infrastructure
8. Health and Well-Being

TCC Projects

TCC Strategies include multiple, coordinated projects that reduce GHG emissions and achieve other community benefits. For the TCC Program, projects fall into two categories:

1. Quantifiable Projects: These are projects for which there are CARB quantification methodologies to estimate GHG emission reductions. Per the TCC Program Guidelines, each TCC Plan must include at least three quantifiable projects representing a minimum of 50% of the total funds requested, which will meet all corresponding readiness requirements at the time of application submittal.
2. Non-quantifiable Projects: These are projects that either do not have associated CARB quantification methodologies or do not directly contribute to the reduction of GHGs. Such projects can account for a maximum of 50% of the total TCC funds requested.

TCC Transformative Elements

In addition to selecting Strategies and developing Projects, Applicants must include six Transformative Elements as part of a TCC Proposal. Transformative Elements are critical to furthering the TCC Program Objectives and supporting the implementation of Strategies and Projects:

1. Data Collection and Indicator Tracking
2. Community Engagement
3. Workforce Development and Economic Opportunities
4. Displacement Avoidance
5. Climate Adaptation and Resiliency
6. Leverage Funding

TCC Quantification Methodology

CARB staff developed this TCC Quantification Methodology and accompanying TCC Benefits Calculator Tool to provide direction to TCC applicants and SGC-contracted technical assistance providers for estimating GHG emission reductions from quantifiable projects. A list of quantifiable projects is provided in Table 1 of this Quantification Methodology.

Due to the multitude of projects integrated under the TCC Program, this TCC Quantification Methodology directs users to the existing CARB quantification methodologies applicable to individual projects. All of the corresponding CARB quantification methodologies are available on the CARB California Climate Investments Quantification, Benefits, and Reporting Materials webpage at: www.arb.ca.gov/cci-resources.

Quantification methodologies estimate the GHG emission reductions and selected co-benefits based on applicant-supplied data. Applicants will need to determine and submit the necessary data inputs and supporting documentation. Tables 2 through 15 identify the required data inputs for each project. Technical assistance providers will then use the TCC Benefits Calculator Tool and other applicable quantification methodologies and tools to estimate the total emission reductions and co-benefits from quantifiable projects.

Section A. Introduction

California Climate Investments is a statewide initiative that puts billions of Cap-and-Trade dollars to work facilitating GHG emission reductions; strengthening the economy; improving public health and the environment; and providing benefits to residents of disadvantaged communities, low-income communities, and low-income households, collectively referred to as "priority populations." Where applicable and to the extent feasible, California Climate Investments must maximize economic, environmental, and public health co-benefits to the State.

CARB is responsible for providing guidance on estimating the GHG emission reductions and co-benefits from projects receiving monies from the GGRF. This guidance includes quantification methodologies, co-benefit assessment methodologies, and benefits calculator tools. CARB develops these methodologies and tools based on the project types eligible for funding by each administering agency, as reflected in the program expenditure records available at: www.arb.ca.gov/cci-expenditurerecords.

For the SGC TCC Program, CARB staff developed this TCC Quantification Methodology to provide a method to aggregate estimated GHG emission reductions and selected co-benefits of each proposed quantifiable project. This TCC Quantification Methodology uses the latest CARB quantification methodologies developed for existing California Climate Investments programs and posted through November 1, 2019 at: www.arb.ca.gov/cci-resources. These existing quantification methodologies are used to estimate carbon sequestration, GHG emission reductions, avoided GHG emissions, and GHG emissions associated with the implementation of TCC projects.

At the time of the application, applicants will submit data inputs necessary for SGC-contracted technical assistance providers to quantify emission reductions and co-benefits associated with: 1) the top three projects with the highest GHG emission reduction potential and 2) all quantifiable projects. Technical assistance providers will quantify the GHG estimates, co-benefits, and the combined total GHG emission reductions per dollar of GGRF funds requested after the proposal submission.

Subsequently, applicants will work with an SGC-contracted technical assistance provider to estimate and report the combined total GHG emission reductions and selected co-benefits estimated using the applicable CARB quantification methodologies as well as the combined total GHG emission reductions per dollar of GGRF funds requested.

Using largely the same inputs required to estimate GHG emission reductions, the TCC Benefits Calculator Tool estimates the following co-benefits and key variables from TCC projects:
- Total, local, and remote ROG emission reductions (lbs);

- Total, local, and remote NO_x emission reductions (lbs);
- Total, local, and remote $PM_{2.5}$ emission reductions (lbs);
- Total, local, and remote diesel PM_{10} emission reductions (lbs);
- Net density (dwelling units/acre);
- Passenger VMT reductions (miles);
- Fossil fuel use reductions (gallons and/or ft^3 of CNG and/or LNG);
- Fossil fuel based energy use reductions (kWh and/or therms);
- Renewable energy generated (kWh);
- Renewable fuel generated (gallons and/or scf);
- Water savings (gallons);
- Material diverted from landfill (short tons);
- Food waste prevented (short tons);
- Edible food rescued and donated (short tons);
- Compost production (dry tons);
- Trees planted (trees);
- Soil benefit (acres);
- Travel cost savings ($); and
- Energy and fuel cost savings ($).

Additional co-benefits for which CARB assessment methodologies were not incorporated into the TCC Benefits Calculator Tool may also be applicable to the project. Applicants should consult the TCC Program Guidelines,[2] solicitation materials, and agreements to ensure they meet TCC requirements. All CARB co-benefit assessment methodologies are available at: www.arb.ca.gov/cci-cobenefits.

Methodology Development

CARB developed this TCC Quantification Methodology consistent with the guiding principles of California Climate Investments, including ensuring transparency and accountability.[3] CARB developed this TCC Quantification Methodology to be used to estimate the outcomes of proposed projects, inform project selection, and track results of funded projects. The implementing principles ensure that the methodology would:

- Apply at the project level;
- Provide uniform methods to be applied statewide, and be accessible by all applicants;
- Use existing and proven tools and methods;
- Use project-level data, where available and appropriate; and

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[2] Strategic Growth Council. Transformative Climate Communities Program Round 3 Final Program Guidelines. November 2019. sgc.ca.gov/programs/tcc/resources/application.html.

[3] California Air Resources Board. Funding Guidelines for Agencies that Administer California Climate Investments. August 2018. www.arb.ca.gov/cci-fundingguidelines.

- Result in GHG emission reduction estimates that are conservative and supported by empirical literature.

CARB used existing California Climate Investment quantification methodologies that have been developed using peer-reviewed literature and tools and consultation with experts, as needed, to determine methods appropriate for the quantifiable projects. CARB also consulted with SGC to determine the availability of inputs at the project level. The methods were developed to provide estimates that are as accurate as possible with data readily available at the project level.

CARB released the Draft TCC Quantification Methodology and Draft TCC Benefits Calculator Tool for public comment in September 2019. This Final TCC Quantification Methodology and accompanying TCC Benefits Calculator Tool have been updated to address public comments, where appropriate, and for consistency with updates to the TCC Guidelines.

Tools

Applicants must use the TCC Benefits Calculator Tool and other applicable CARB quantification methodologies and tools to estimate the GHG emission reductions and co-benefits of the proposed project. The TCC Benefits Calculator Tool and other CARB quantification methodologies and tools can be downloaded from: www.arb.ca.gov/cci-resources.

Benefits calculator tools rely on CARB-developed emission factors. CARB has established a single repository for emission factors used in CARB benefits calculator tools, referred to as the California Climate Investments Quantification Methodology Emission Factor Database, available at: www.arb.ca.gov/cci-resources. The Emission Factor Database Documentation explains how emission factors used in CARB's benefits calculator tools are developed and updated.

Updates

CARB Staff periodically review each quantification methodology to evaluate its effectiveness and update methodologies to make them more robust, user-friendly, and appropriate to the projects being quantified. CARB updated the TCC Quantification Methodology from the previous version[4] to enhance the analysis and provide additional clarity. The changes made include the following:

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[4] California Air Resources Board. Quantification Methodology for the Strategic Growth Council Transformative Climate Communities Program. August 2, 2018. www.arb.ca.gov/cc/capandtrade/auctionproceeds/sgc_tcc_finalqm_16-17.pdf.

- Update of applicable CARB quantification methodologies to the most recent versions available;
- Addition of new methods for quantifying the benefits of community solar PV systems and electric bicycle share programs;
- Change in methods for quantifying active transportation infrastructure, tree planting, and car sharing and mobility enhancement projects;
- Removal of agricultural land conservation as a quantifiable project category; and
- Inclusion of additional co-benefits and key variables.

Program Assistance

Applicants will be required to work with SGC-contracted technical assistance providers to estimate GHG emission reductions and selected co-benefits for quantifiable projects. Technical assistance providers will use the final TCC Quantification Methodology and accompanying Benefits Calculator Tool to estimate the GHG emission reductions associated with quantifiable projects. SGC staff will review the GHG emission reduction estimates to ensure that the methods described in this document were properly applied to estimate the total GHG emission reductions for the quantifiable projects. Applicants should use the following resources for additional questions and comments:

- Questions on this document should be sent to: GGRFProgram@arb.ca.gov.
- For more information on CARB's efforts to support implementation of California Climate Investments, see: www.arb.ca.gov/auctionproceeds.
- Questions pertaining to the TCC Program should be sent to: tccpubliccomments@sgc.ca.gov.

Section B. Methods

Overview

The following section provides details on the methods supporting emission reductions estimates in the CARB benefits calculator tools. Applicants will follow the steps in this section to estimate the emission reductions from quantifiable projects.

Step 1: Identify Quantifiable Projects that Reduce GHG Emissions

For GHG quantification purposes, SGC identified nine quantifiable project categories. Per the TCC Program Guidelines, applicants must propose a minimum of three quantifiable projects that represent at least 50% of the total TCC funds requested. Other projects may be included in TCC Plans for up to 50% of the total funds requested. A complete list of quantifiable projects and the applicable CARB quantification methodologies is provided in Table 1.

Table 1. Quantifiable Projects

Quantifiable Project Category	Quantifiable Projects	Quantification Methodology and Approach
Affordable Housing and Transportation	• Construction or substantial rehabilitation of affordable housing or mixed-use developments served by qualifying transit, which can include solar PV installation. *Plus one or more of the following:[5]* • New or expanded transit service (bus, cable car, heavy rail, light rail, streetcar, trolley bus, ferry, shuttle, or vanpool) • Capital improvements resulting in increased transit ridership • New pedestrian facilities • New bike paths or lanes (Class I, II, or IV) • New or expanded bike share	• Use: CARB Quantification Methodology and Benefits Calculator Tool for the SGC AHSC Program (November 1, 2019) • Quantifies: Land use, housing, and transportation strategies to support infill, compact and affordable housing development projects to reduce passenger auto VMT. Solar PV on housing projects to reduced fossil fuel-generated energy consumption.
Transit	• New expanded/enhanced transit service (bus, train, ferry, shuttle, or vanpool) • Increased ridership • Fuel/energy reductions • Technology conversion	• Use: CARB Quantification Methodology and Benefits Calculator Tool for Caltrans LCTOP (January 10, 2019) • Quantifies: Acquisition of cleaner transit vehicles to reduce fossil fuel consumption. Increased transit service and/or ridership to reduce passenger auto VMT.

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[5] If there is no housing development, these projects will instead be quantified under the Transit or Urban Greening project categories.

Quantifiable Project Category	Quantifiable Projects	Quantification Methodology and Approach
Car Sharing and Mobility Enhancement	• Advanced technology vehicles for new car share, vanpool or other mobility service or replacement of existing fleet • New bike share service • Charging infrastructure (to support new service vehicles or replacement vehicles not proposed for GGRF funding) • Shared mobility service subsidies	• Use: CARB Quantification Methodology and Benefits Calculator Tool for the CARB LCT Clean Mobility in Schools Pilot Project (August 26, 2019) • Quantifies: Acquisition of cleaner vehicles to reduce fossil fuel consumption. Increased mobility service and/or ridership to reduce passenger auto VMT.
Urban Greening (Active Transportation and/or Tree Planting)	• New pedestrian facilities • New bike paths or lanes (Class I, II, or IV) • Planting trees that shade buildings • Planting trees that do not shade buildings	• Use: CARB Quantification Methodology and Benefits Calculator Tool (Version 2) for the CNRA Urban Greening Program (January 10, 2019) • Quantifies: Replacement of auto trips with walking or bicycle trips to reduce passenger auto VMT. Carbon sequestration in planted trees and reduced energy use in shaded buildings.
Residential Energy Efficiency and PV	• Upgrades, retrofits, and repairs to improve overall building energy efficiency • Rooftop solar PV	• Use: CARB Quantification Methodology and Benefits Calculator Tool for CSD LIWP (January 22, 2019) • Quantifies: Reduced fossil fuel-generated energy consumption.
Community Solar PV	• Grid-connected solar PV system shared across multiple households or buildings	• Use: CARB Quantification Methodology and Benefits Calculator Tool for the CSD Community Solar Pilot Program (August 1, 2018) • Quantifies: Reduced fossil fuel-generated energy consumption.

Quantifiable Project Category	Quantifiable Projects	Quantification Methodology and Approach
Water-Energy Efficiency	• Commercial and institutional water-energy efficiency measures: replacement of conventional dishwashers, clothes washers, ice machines, steam cookers, combination ovens, pre-rinse spray valves, faucets, and showerheads with energy-efficient equipment • Residential water-energy efficiency measures: replacement of conventional dishwashers, clothes washers, faucets, and showerheads with energy efficient equipment	• Use: CARB Quantification Methodology and Benefits Calculator Tool for the DWR Water-Energy Grant Program (September 28, 2016 and October 16, 2017, respectively) • Quantifies: Reduced fossil fuel-based energy and water use from commercial, institutional, and residential efficiency measures.
Organic Waste Diversion and Food Waste Prevention	• Construction, renovation, or expansion of facilities for composting newly diverted organic waste material • Construction, renovation, or expansion of facilities for anaerobic digestion or co-digestion of newly diverted organic waste material • Food waste reduction via food rescue • Food waste prevention via source reduction	• Use: CARB Quantification Methodology and Benefits Calculator Tool for the CalRecycle Organics Grant Program (September 5, 2019) • Quantifies: Reduced GHG emissions from landfills and upstream production. Reduced fossil fuel-based energy use.
Waste Diversion of Recycled Fiber, Plastic, and Glass	• Construction, renovation, or expansion of facilities for manufacturing value-added finished products using recycled fiber, plastic, and glass	• Use: CARB Quantification Methodology and Benefits Calculator Tool for the CalRecycle Recycled Fiber, Plastic, and Glass Grant Program (March 6, 2019) • Quantifies: Reduced GHG emissions in upstream resource management and manufacturing processes.

NOTE: Some of the projects listed in Table 1 are quantifiable in more than one CARB Quantification Methodology. To avoid double-counting of GHG emission reduction

estimates, applicants must not quantify estimates for projects multiple times when using separate CARB quantification methodologies. SGC will review the quantified projects and verify that no double-counting of GHG emission reduction estimates occurred.

Applicants should not include projects that have previously been awarded GGRF dollars unless the applicant can demonstrate that the project will achieve additional GHG emission reductions.

Step 2: Determine and Submit Data Inputs and Documentation to Estimate GHG Emission Reductions

Data inputs required from the applicant to quantify GHG emission reductions vary based on the quantifiable projects identified in Step 1. The tables in this section list and describe the applicant-supplied information necessary to quantify the GHG emission reductions for each project category. Additional inputs determined by the technical assistance providers are described in Appendix A.

The required inputs listed are from the latest version of existing CARB quantification methodologies available at: www.arb.ca.gov/cci-resources.

NOTE: Applicants are required to provide electronic documentation that is complete and sufficient to allow the calculations to be reviewed and replicated, as described in Section C of this Quantification Methodology.

Affordable Housing and Transportation

The required inputs listed in the Tables 2 through 5 below are from the CARB Quantification Methodology for the SGC AHSC Program. Full documentation of the approach for estimating the GHG emission reductions and air pollutant emission co-benefits can be found within the AHSC Quantification Methodology.

Table 2. Applicant-supplied Inputs for Affordable Housing Developments within the AHSC Quantification Methodology

Input Fields	Affordable Housing Developments
First Year Operational	✓
Dwelling Type	✓
Stories	✓
Total Dwelling Units	✓
Affordable Dwelling Units	✓
Mixed-use Development	✓
Total Residential Space	✓
Total Mixed-use Space	✓
Traffic Calming Measures	✓
Residential Parking Spaces	✓
Unbundled Monthly Parking Cost	✓
On-street Parking Price Increase	✓
Dwelling Units Receiving Transit Passes	✓
Annual Transit Pass Value	✓
Duration of Funding for Transit Passes	✓

- **First Year Operational:** First year proposed housing will be open to residents.

- **Dwelling Type:** Select from apartments, condos or townhouses, or age-restricted housing.

- **Stories:** Total number of stories of the proposed development.

- **Total Dwelling Units:** Total number of all affordable, market rate, and manager's dwelling units to be constructed or rehabilitated.

- **Affordable Dwelling Units:** Number of affordable dwelling units, as defined in the AHSC Guidelines, to be constructed or rehabilitated.

- **Mixed-use Development:** Indication of whether the project combines affordable housing with publically accessible space for commercial or social services use.

- **Total Residential Space (ft²):** Area for residential uses in mixed-use development, if applicable.

- **Total Mixed-use Space (ft²):** Publically accessible area for commercial or social service uses in mixed-use development, if applicable.

- **Traffic Calming Measures:** Indication of presence or absence of traffic calming measures within ½ mile of the affordable housing development (e.g., curb extensions, roundabouts, marked crosswalks, planter strips with street trees).

- **Residential Parking Spaces:** Number of on-site parking spaces for residences.
- **Unbundled Monthly Parking Cost ($):** Monthly cost of on-site parking for residents, if separate from rent.
- **On-street Parking Price Increase (%):** Percentage increase in on-street parking price above baseline within ½ mile, if applicable.
- **Dwelling Units Receiving Transit Passes:** Number of dwelling units receiving transit passes.
- **Annual Transit Pass Value ($):** Annual value of transit pass to each resident.
- **Duration of Funding for Transit Passes:** Number of years transit passes are funded.

Table 3. Applicant-supplied Inputs for Active Transportation Infrastructure within the AHSC Quantification Methodology

Input Fields	Pedestrian Infrastructure	Bike Infrastructure	Bike Share
New Facility or Program Type	✓	✓	✓
Name or Location	✓	✓	✓
First Year Operational	✓	✓	✓
Bike Share Energy Consumption			✓
Average Cost of Bike Share Trip			✓
Bike Share Trips in Year 1			✓

- **New Facility or Program Type:** The type of active transportation infrastructure proposed (i.e., Bike Share, Class I Bike Path, Class II Bike Lane, Class IV Separated Bikeway, Walkway).
- **Name or Location:** Unique identifier for each proposed active transportation infrastructure.
- **First Year Operational:** First year facility or program will be open to users.
- **Bike Share Energy Consumption (kWh):** Bicycle electricity consumption per mile.
- **Average Cost of Bike Share Trip ($):** Price of average one-way trip using bike share.
- **Bike Share Trips in Year 1:** Expected number of bike trips using bike share in first year.

Table 4. Applicant-supplied Inputs for Transit within the AHSC Quantification Methodology

Input Fields	Bus/Shuttle/ Vanpool	Rail/Trolley/ Street Car/ Cable Car	Ferry	Capital Improvement
New Transit Service or Infrastructure Type	✓	✓	✓	✓
Name or Location	✓	✓	✓	✓
First Year Operational	✓	✓	✓	✓
Annual Days of Operation	✓	✓	✓	✓
Year 1 Daily Ridership Increase	✓	✓	✓	✓
Year F Daily Ridership Increase	✓	✓	✓	✓
Fuel Type of Transit Vehicle	✓	✓	✓	
Hybrid Vehicle	✓	✓	✓	
Engine Model Year of Transit Vehicle	✓		✓	
Avoid Toll Bridge or Road	✓	✓	✓	✓
Paid Parking at Transit Facility	✓	✓	✓	✓

- **New Transit Service or Infrastructure Type:** The transit or connectivity method proposed by the applicant (e.g., capital improvement, ferry, local bus).
- **Name or Location:** Unique identifier for each proposed active transportation infrastructure.
- **First Year of Operation:** First year service or infrastructure will be open to users.
- **Annual Days of Operation:** Days of transit service operation per year or, for capital improvement projects, number of days of transit service operation per year for transit service which uses capital improvement.
- **Year 1 Daily Ridership Increase:** Increase in daily ridership as a result of new or expanded transit service or capital improvements, excluding baseline ridership, as determined by transit agency partner.
- **Year F Daily Ridership Increase:** Increase in daily ridership as a result of new or expanded transit service or capital improvements, excluding baseline ridership, as determined by transit agency partner.

- **Fuel Type of Transit Vehicle:** Fuel type (e.g., electric, renewable diesel) of transit vehicle to operate service.
- **Hybrid Vehicle:** Indication of whether transit vehicle to operate service is a hybrid.
- **Model Year:** Engine model year of the vehicle to operate service.

Table 5. Applicant-supplied Inputs for Solar PV within the AHSC Quantification Methodology

Input Fields	Solar PV
Zip Code	✓
DC System Size	✓
Module Type	✓
Array Type	✓
Primary Use of Electricity Generated	✓

- **Zip Code:** The zip code in which project will be located.
- **DC System Size (kW):** Number of panels multiplied by the panel power output, less any solar PV system required by code.
- **Module Type:** Select from standard, premium, or thin film.
- **Array Type:** Select from fixed open rack, fixed roof mount, 1-axis tracking, 1-axis backtracking, or 2-axis tracking.
- **Primary Use of Electricity Generated:** Select sector (commercial, residential, or transportation) that will consume the majority of the electricity generated.

Applicants must identify the TCC Funds Requested and Additional GGRF Funds Requested for all Affordable Housing and Transportation projects.

- **TCC Funds Requested ($):** Total amount of TCC funds requested from this solicitation to implement the affordable housing and transportation project.
- **Additional GGRF Funds Requested ($):** Total amount of additional GGRF funds requested to implement the affordable housing and transportation project. Include GGRF funds previously awarded to the project by SGC or another California Climate Investments program, GGRF funds currently being requested from another California Climate Investments program, and GGRF funds the project plans to request in the future TCC or another California Climate Investments program. Identify California Climate Investments program(s) from which the project has been awarded GGRF funds (include award date), is currently requesting GGRF funds, or plans to request GGRF funds. For a list of GGRF funded programs, go to: www.caclimateinvestments.ca.gov/about-cci.

Transit

The required inputs listed in Table 6 below are from the CARB Quantification Methodology for Caltrans LCTOP. Full documentation of the approach for estimating the GHG emission reductions and air pollutant emission co-benefits can be found within the LCTOP Quantification Methodology.

Table 6. Applicant-supplied Inputs for Transit Projects

Input Fields	New/ Expanded Service	Cleaner Vehicles/ Technology/ Fuels	Fuel Reductions	System and Efficiency Improvements
Project Type	✓	✓	✓	✓
Service Type	✓	✓	✓	✓
Vehicle Type	✓	✓	✓	✓
Year 1	✓	✓	✓	✓
Yr1 Ridership	✓			✓
YrF Ridership	✓			✓
Engine Tier	✓	✓		
Hybrid Vehicle	✓	✓		
Fuel/Energy Type	✓	✓	✓	
Model Year	✓	✓		
TCC Funds Requested	✓	✓	✓	✓
Additional GGRF Funds Requested	✓	✓	✓	✓

- **Project Type:** The transit project element proposed by the applicant (i.e., new/expanded service, cleaner vehicles/technology/fuels, fuel reductions, or system and efficiency improvements).

- **Service Type:** The transit service or connectivity method (e.g., Intercity/Express Bus, Light Rail, Vanpool) directly associated with the proposed project. For projects that support multiple services, use "Multi-modal."

- **Vehicle Type:** The vehicle type (e.g., transit bus, streetcar, ferry) that will operate the new service or be supported by the capital expenditure. If the project proposes to replace an existing vehicle, provide both existing and new vehicle types.

- **Year 1:** The first year of service or the first year the facility or rolling stock will be in use.

- **Project Year 1 Ridership:** Increase in annual unlinked passenger trips directly associated with the proposed project in the first year.

- **Project Year F Ridership:** Increase in annual unlinked passenger trips directly associated with the proposed project in the final year. If the ridership is not expected to change, the same ridership value should be input for Year 1 and Year F.

- **Engine Tier:** The engine tier for new heavy rail service or technology.

- **Hybrid Vehicle:** Indication of whether the vehicle is a hybrid.

- **Fuel/Energy Type:** Fuel or energy type (e.g., electric, renewable diesel) of the vehicle for the new/expanded service or the new vehicle(s) to be procured. If the project proposes to replace an existing vehicle, provide both existing and new vehicle types.

- **Model Year:** Engine model year of the vehicle to be acquired, operate the new service or be supported by the capital expenditure. If the project proposes to replace an existing vehicle, provide both existing and new vehicle types.

- **TCC Funds Requested:** Total amount of TCC funds requested from this solicitation to implement the transit project.

- **Additional GGRF Funds Requested:** Total amount of additional GGRF funds requested to implement the transit project. Include GGRF funds previously awarded to the project by SGC or another California Climate Investments program, GGRF funds currently being requested from another California Climate Investments program, and GGRF funds the project plans to request in the future from TCC or another California Climate Investments program. Identify California Climate Investments program(s) from which the project has been awarded GGRF funds (include award date), is currently requesting GGRF funds, or plans to request GGRF funds. For a list of GGRF funded programs, go to: www.caclimateinvestments.ca.gov/about-cci.

Car Sharing and Mobility Enhancement

The required inputs listed in Table 7 below are from the CARB Quantification Methodology for the CARB LCT Clean Mobility in Schools Pilot Project. Full documentation of the approach for estimating the GHG emission reductions can be found within the LCT Quantification Methodology.

Table 7. Applicant-supplied Inputs for Car Sharing and Mobility Enhancement Projects

Input Fields	New Vehicle Service	New Bike Service	Vehicle Replacement	Vehicle or Bike Share Vouchers
Vehicle Type	✓	✓	✓	✓
Year 1	✓	✓	✓	✓
Baseline Vehicle Model Year			✓	
Baseline Vehicle Fuel Type			✓	
New/Replacement Vehicle Model Year	✓	✓	✓	✓
New/Replacement Vehicle Fuel Type	✓		✓	✓
Number of Riders per Vehicle in Year 1	✓	✓		✓
Number of Riders per Vehicle in Final Year	✓	✓		✓
Ridership in Year 1				
Ridership in Final Year				
Number of Vehicles in Year 1	✓	✓		✓
Number of Vehicles in Final Year	✓	✓		✓
Average Number of Annual Trips per Vehicle Expected in Year 1	✓	✓		✓
Average Number of Annual Trips per Vehicle Expected in Final Year	✓	✓		✓
Length of Average Trip	✓	✓		✓
Expected VMT in Year 1			✓	
Percent Renewable Electricity Purchased/Generated	Optional	Optional	Optional	Optional
Average Miles per Kilowatt hour in Year 1 (electric bikes)		✓		✓
Average Miles per Kilowatt hour in Final Year (electric bikes)		✓		✓
TCC Funds Requested	✓	✓	✓	✓
Additional GGRF Funds Requested	✓	✓	✓	✓

- **Vehicle Type:** Select from Passenger Auto (sedan), Passenger Auto (SUV), Light-Duty Van, Standard Bicycle, or Electric Bicycle (Note: bicycle replacement is not an eligible project type)

- **Year 1:** First year of operation or starting calendar year for the project element.

- **Baseline Vehicle Model Year:** Model year of the engine powering the applicable baseline vehicle. "Baseline vehicle" is the vehicle that will be replaced by a new, clean vehicle purchase. This could be a vehicle that is currently owned/in operation or a vehicle that would have been purchased if not for this project element (e.g., 2020 conventional vehicle).

- **Baseline Vehicle Fuel Type:** Fuel type of the baseline vehicle.

- **New/Replacement Vehicle Model Year:** Model year of the engine powering the new vehicle being purchased.

- **New/Replacement Vehicle Fuel Type:** Fuel type of the new vehicle being purchased.

- **Number of Riders per Vehicle in Year 1:** Expected number of riders per vehicle in the first year of operation.

- **Number of Riders per Vehicle in Final Year:** Expected number of riders per vehicle in the final year of operation (based on Year 1 and the stated quantification period). May be the same as Number of Riders per Vehicle in Year 1.

- **Ridership in Year 1:** Total expected increase in unlinked passenger trips in the project element's first year.

- **Ridership in Final Year:** Total expected increase in unlinked passenger trips in the project element's final year. May be the same as Ridership in Year 1.

- **Number of Vehicles in Year 1:** Number of vehicles of the same make and model included in this project element.

- **Number of Vehicles in Final Year:** Number of vehicles of the same make and model included in this project element that are expected to be in operation in the final year of the project element's quantification period. May be the same as Number of Vehicles in Year 1.

- **Average Number of Annual Trips per Vehicle Expected in Year 1:** Number of vehicle-trips expected in the project element's first year of operation. Provide a per-vehicle estimate if multiple vehicles will be funded via this project element.

- **Average Number of Annual Trips per Vehicle Expected in Final Year:** Number of vehicle-trips expected in the last year of the project's useful life (i.e., last year of operation). Provide a per-vehicle estimate if multiple vehicles will be funded via this project element. May be the same as Number of Annual Trips per Vehicle Expected in Year 1.

- **Length of Average Trip (miles):** Length (distance) of average vehicle/rider trip.

- **Expected VMT in Year 1:** Total expected vehicle miles traveled for all vehicles purchased in the first year of the project element's useful life (i.e., VMT in the vehicle's first year of operation). For New Service/Shared Mobility Service Subsidies project type: only enter if known.

- **Average Miles per kWh in Year 1 (for electric bikes):** Average miles/kWh in the first year of operation for the project element.

- **Average Miles per kWh in Final Year (for electric bikes):** Average miles/kWh in the final year of the project element's useful life (i.e., miles/kWh in the vehicle's final year of operation, which is calculated by the tool according to the input provided for "Year 1" and the "Quantification Period").

- **TCC Funds Requested ($):** Total amount of TCC funds requested from this solicitation to implement the car sharing and mobility enhancement project.

- **Additional GGRF Funds Requested ($):** Total amount of additional GGRF funds requested to implement the car sharing and mobility enhancement project. Include GGRF funds previously awarded to the project by SGC or another California Climate Investments program, GGRF funds currently being requested from another California Climate Investments program, and GGRF funds the project plans to request in the future from TCC or another California Climate Investments program. Identify California Climate Investments program(s) from which the project has been awarded GGRF funds (include award date), is currently requesting GGRF funds, or plans to request GGRF funds. For a list of GGRF funded programs, go to: www.caclimateinvestments.ca.gov/about-cci.

Urban Greening

The required inputs listed in Tables 8 through 9 below are from the CARB Quantification Methodology for the CNRA Urban Greening Program. Full documentation of the approach for estimating the GHG emission reductions can be found within the Urban Greening Quantification Methodology.

Table 8. Applicant-supplied Inputs for Active Transportation Infrastructure within the Urban Greening Quantification Methodology

Input Fields	Bike Infrastructure	Pedestrian Infrastructure
Pedestrian or Bicycle Facility Type	✓	✓
Year 1	✓	✓
TCC Funds Requested	✓	✓
Additional GGRF Funds Requested	✓	✓

- **Pedestrian or Bicycle Facility Type:** The type of active transportation infrastructure proposed (i.e., Class I Bike Path, Class II Bike Lane, Class IV Separated Bikeway, or Pedestrian Facility).

- **Year 1:** First year facility will be open to users.

- **TCC Funds Requested ($):** Total amount of TCC funds requested from this solicitation to implement the active transportation project.

- **Additional GGRF Funds Requested ($):** Total amount of additional GGRF funds requested to implement the active transportation project. Include GGRF funds previously awarded to the project by SGC or another California Climate Investments program, GGRF funds currently being requested from another California Climate Investments program, and GGRF funds the project plans to request in the future from TCC or another California Climate Investments program. Identify California Climate Investments program(s) from which the project has been awarded GGRF funds (include award date), is currently requesting GGRF funds, or plans to request GGRF funds. For a list of GGRF funded programs, go to: www.caclimateinvestments.ca.gov/about-cci.

Table 9. Applicant-supplied Inputs for Tree Planting within the Urban Greening Quantification Methodology

Input Fields	Trees Shading Buildings	Trees Not Shading Buildings
Tree Species	✓	✓
Distance to Nearest Building	✓	✓
Direction of the Tree from the Building	✓	
Number of Trees	✓	✓
Years of Establishment and Replacement Care	✓	✓
Irrigation Information (if additional water used)	✓	✓
TCC Funds Requested	✓	✓
Additional GGRF Funds Requested	✓	✓

- **Tree Species:** Species of tree(s) to be planted. Applicants can consult resources such as the free online tree selection software SelecTree available from the Urban Forest Ecosystems Institute at Cal Poly San Luis Obispo (https://selectree.calpoly.edu/) or CAL FIRE Regional Urban Foresters (https://www.fire.ca.gov/programs/resource-management/resource-protection-improvement/urban-community-forestry/) for guidance.

- **Distance to Nearest Building:** Distance to the nearest building in feet. Provide distance as one of the following ranges: 0-19 feet, 20-39 feet, 40-59 feet, or greater than 60 feet. Because it is unlikely that specific tree site locations will be identified at the time of application submission, applicants can extrapolate information from previous planting efforts and neighborhood characteristics.

- **Direction of the Tree from the Building:** Direction (e.g., North, West, Southeast) of the tree location from the building, if known by applicant. Because it is unlikely that specific tree site locations will be identified at the time of application submission, technical assistance providers can extrapolate information from the streets identified by the applicant for tree planting to shade buildings and enter an appropriate mix. For example, if a street runs east-west, the technical assistance provider would enter half of the trees as being north of a building and half being south. If a street runs north-south, the technical assistance provider would enter half of the trees as being east of a building and half being west.

- **Number of Trees:** The number of trees with the same configuration (i.e., this combination of species, size, distance and direction to nearest building).

- **Years of Establishment and Replacement Care:** Quantity of years of establishment and replacement care provided by project. Establishment and replacement care reduces the risk of mortality of trees planted by the project.

- **Irrigation Information (if additional water used):** If the project involves additional irrigation, identify whether the irrigation is overhead, drip, water truck, or special landscape (i.e., recreation areas, areas permanently and solely dedicated to edible plans such as orchards and vegetable gardens, and areas irrigated with recycled water) and the landscape area (ft^2) for each.
- **TCC Funds Requested ($):** Total amount of TCC funds requested from this solicitation to implement the tree planting project.
- **Additional GGRF Funds Requested ($):** Total amount of additional GGRF funds requested to implement the tree planting project. Include GGRF funds previously awarded to the project by SGC or another California Climate Investments program, GGRF funds currently being requested from another California Climate Investments program, and GGRF funds the project plans to request in the future from TCCor another California Climate Investments program). Identify California Climate Investments program(s) from which the project has been awarded GGRF funds (include award date), is currently requesting GGRF funds, or plans to request GGRF funds. For a list of GGRF funded programs, go to: www.caclimateinvestments.ca.gov/about-cci.

Residential Energy Efficiency and Solar PV

The required inputs listed in Table 10 below are from the CARB Quantification Methodology for the CSD LIWP. Full documentation of the approach for estimating the GHG emission reductions can be found within the LIWP Quantification Methodology.

Table 10. Applicant-supplied Inputs for Residential Energy Efficiency and Rooftop Solar PV Projects

Input Fields	Energy Efficiency	Rooftop Solar PV
Number of Single-family Dwellings	✓	
Number of Farmworker Single-family Dwellings	✓	
Number of Multi-family Dwellings	✓	
Zip Code		✓
DC System Size		✓
Module Type		✓
Array Type		✓
Primary Use of Electricity Generated		✓
TCC Funds Requested	✓	✓
Additional GGRF Funds Requested	✓	✓

- **Number of Single-family Dwellings:** Quantity of single-family residential dwellings anticipated to receive energy efficiency measures.
- **Number of Farmworker Single-family Dwellings:** Quantity of farmworker single-family residential dwellings anticipated to receive energy efficiency measures.
- **Number of Multi-family Dwellings:** Quantity of multi-family residential dwellings anticipated to receive energy efficiency measures.
- **Zip Code:** The zip code in which project will be located.
- **DC System Size (kW):** Determined as the quantity of panels multiplied by the panel power output less any solar PV system required by code.
- **Module Type:** Select from standard, premium, or thin film.
- **Array Type:** Select from fixed open rack, fixed roof mount, 1-axis tracking, 1-axis backtracking, or 2-axis tracking.
- **Primary Use of Electricity Generated:** Select sector (commercial, residential, transportation) that will consume the majority of the electricity generated.

- **TCC Funds Requested ($):** Total amount of TCC funds requested from this solicitation to implement the residential energy efficiency project.

- **Additional GGRF Funds Requested ($):** Total amount of additional GGRF funds requested to implement the residential energy efficiency project. Include GGRF funds previously awarded to the project by SGC or another California Climate Investments program, GGRF funds currently being requested from another California Climate Investments program, and GGRF funds the project plans to request in the future from TCC or another California Climate Investments program. Identify California Climate Investments program(s) from which the project has been awarded GGRF funds (include award date), is currently requesting GGRF funds, or plans to request GGRF funds. For a list of GGRF funded programs, go to: www.caclimateinvestments.ca.gov/about-cci.

Community Solar PV

The required inputs listed in Table 11 below are from the CARB Quantification Methodology for the CSD Community Solar Pilot Program. Full documentation of the approach for estimating the GHG emission reductions can be found within the Community Solar Pilot Program Quantification Methodology.

Table 11. Applicant-supplied Inputs for Community Solar PV Projects

Input Fields	Community Solar PV
Zip Code	✓
Number of Dwelling Expected to be Served	✓
DC System Size	✓
Module Type	✓
Array Type	✓
Agricultural or Natural Land Area Converted or Disturbed by Solar PV Installation	✓

- **Zip Code:** The zip code in which project will be located.
- **Number of Dwelling Expected to be Served:** Quantity of dwellings anticipated to be served by the community solar installation.
- **DC System Size (kW):** Direct current system size determined as the quantity of panels multiplied by the panel power output less any solar PV system required by code.
- **Module Type:** Select from standard, premium, or thin film.
- **Array Type:** Select from fixed open rack, fixed roof mount, 1-axis tracking, 1-axis backtracking, or 2-axis tracking.
- **Agricultural or Natural Land Area Converted or Disturbed by Solar PV Installation (acres):** If the installation will convert or disturb agricultural land (croplands, rangelands, or pasturelands) or natural land (trees, grasslands, shrublands, watersheds, or wetlands), indicate the size of the area converted or disturbed.

Water-Energy Efficiency

The required inputs listed in Table 12 below are from the CARB Quantification Methodology for the DWR Water-Energy Grant Program. Full documentation of the approach for estimating the GHG emission reductions can be found within the Water-Energy Grant Program Quantification Methodology.

Table 12. Applicant-supplied Inputs for Water-Energy Efficiency Projects

Measure	Data Required
Commercial Dishwasher	Number of units, by temperature and type.
Commercial Clothes Washer	Number of units.
Commercial Ice Machine	Number of units, by type and category.
Commercial Steam Cooker	Number of units, by energy source type.
Commercial Combination Oven	Number of units, by energy source type.
Commercial Pre-rinse Spray Valve	Number of units.
Commercial Bathroom Faucet	Number of units and number of employees/guests per day per device.
Commercial Showerhead	Number of units and number of employees/guests per day.
Residential Dishwasher	Number of units.
Residential Clothes Washer	Number of single-family units and number of multi-family units.
Residential Faucet	Number of units, by type.
Residential Showerhead	Number of units.

- **Commercial Dishwasher:** The number of commercial dishwashers anticipated to be installed, by temperature (low or high) and type (under counter, stationary single tank door, single tank conveyor, multi tank conveyor, and pot, pan, and utensil).
- **Commercial Clothes Washer:** The number of commercial clothes washers anticipated to be installed.
- **Commercial Ice Machine:** The number of commercial ice machines anticipated to be installed, by type (batch or continuous) and category (ice making head, remote condensing unit, and self-contained unit).
- **Commercial Steam Cooker:** The number of commercial steam cookers anticipated to be installed, by energy source (electric or natural gas).

- **Commercial Combination Oven:** The number of commercial combination ovens anticipated to be installed, by energy source (electric or natural gas).

- **Commercial Pre-rinse Spray Valve:** The number of commercial pre-rinse spray valves anticipated to be installed.

- **Commercial Bathroom Faucet:** The number of commercial bathroom faucets anticipated to be installed. The number of employees/guests per day per device refers to the average number of employees or guests anticipated to use faucets in one day (this is not necessarily the total number of employees/guests). Most facilities should assume 50% of guests will use bathroom faucets but default may not be appropriate for all facilities, such as for a hotel.

- **Commercial Showerhead:** The number of commercial showerheads anticipated to be installed, by energy source (electric or natural gas). The number of employees/guests per day per device refers to the average number of employees or guests anticipated to use faucets in one day (this is not necessarily the total number of employees/guests).

- **Residential Dishwasher:** The number of residential dishwashers anticipated to be installed.

- **Residential Clothes Washer:** The number of single family and multi-family residential clothes washers anticipated to be installed.

- **Residential Faucet:** The number of residential faucets anticipated to be installed, by type (bathroom or kitchen).

- **Residential Showerhead:** The number of residential showerheads anticipated to be installed.

- **TCC Funds Requested ($):** Total amount of TCC funds requested from this solicitation to implement the water-energy efficiency project.

- **Additional GGRF Funds Requested ($):** Total amount of additional GGRF funds requested to implement the water-energy efficiency project. Include GGRF funds previously awarded to the project by SGC or another California Climate Investments program, GGRF funds currently being requested from another California Climate Investments program, and GGRF funds the project plans to request in the future from TCC or another California Climate Investments program. Identify California Climate Investments program(s) from which the project has been awarded GGRF funds (include award date), is currently requesting GGRF funds, or plans to request GGRF funds. For a list of GGRF funded programs, go to: www.caclimateinvestments.ca.gov/about-cci.

Organic Waste Diversion and Food Waste Prevention

The required inputs listed in Table 13 below are from the CARB Quantification Methodology for the CalRecycle Organics Grant Program. Full documentation of the approach for estimating the GHG emission reductions can be found within the Organics Grant Program Quantification Methodology.

Table 13. Applicant-supplied Inputs for Organic Waste Diversion Projects

Input Fields	Composting	Anaerobic Digestion or Co-digestion	Food Waste Prevention or Food Rescue
Feedstock Diverted	✓	✓	
Residual Material	✓	✓	
Digestate Handling		✓	
Final Use of Generated Fuel		✓	
Electricity Generation Device		✓	
Type of Vehicle Fuel		✓	
Low NO$_x$ Vehicle		✓	
Co-digestion Facility Size		✓	
Equipment Type			✓
Number of Identical Units			✓
Volume of System			✓
New Vehicle Type			✓
Number of Identical Vehicles			✓
Edible Food Rescued			✓
Source Reduction of Food Waste			✓
TCC Funds Requested	✓	✓	✓
Additional GGRF Funds Requested	✓	✓	✓

- **Feedstock Diverted (short tons):** Annual net tonnage of organic material newly diverted from a landfill each year. For composting projects, determine separate quantities of material that will be diverted for windrow and aerated static pile composting. For digestion projects, determine separate quantities of material that will be diverted for anaerobic digestion and co-digestion.

- **Residual Material (short tons):** Annual tonnage of residual material that will be landfilled or used as alternative daily cover.

- **Digestate Handling:** Proposed use of digestate from digester. Select from: compost, landfill/use for alternative daily cover, or land application.

- **Final Use of Generated Fuel:** Proposed use of fuel generated from digestion. Select from: vehicle fuel, electricity generation, or injection in utility pipeline.

- **Electricity Generation Device:** If generating electricity, device that will be used. Select from: lean-burn internal combustion engine, rich-burn internal combustion engine, microturbine or large gas turbine, or fuel cell.

- **Type of Vehicle Fuel:** If producing vehicle fuel, type of fuel that will be produced. Select from: RNG, hydrogen, or DME.

- **Low NO$_x$ Vehicle:** If producing RNG or DME, indicate whether or not the fuel will be used in a low NO$_x$ engine.

- **Co-digestion Facility Size:** Size of the co-digesting facility based on the throughput of treated waste. Select from: less than 21 million gallons per day or more than or equal to 21 million gallons per day.

- **Equipment Type:** If refrigeration equipment will be acquired for the project, identify the type of equipment. Select from: residential refrigerator/freezer combination, residential freezer only, residential refrigerator only, commercial refrigerator with solid doors, commercial refrigerator with transparent doors, commercial freezer with solid doors, commercial refrigerator/freezer with solid doors, small walk in refrigerator, large walk in refrigerator, small walk in freezer, or large walk in freezer.

- **Number of Identical Units:** If refrigeration equipment will be acquired for the project, the quantity of identical refrigeration units that match the type and system volume.

- **Volume of System (ft^3):** If refrigeration equipment will be acquired for the project, volume of refrigeration unit.

- **New Vehicle Type:** If vehicles will be acquired for the project, identify the vehicle type. Select from: van, refrigerated van, hybrid van, refrigerated hybrid van, plug-in hybrid van, refrigerated hybrid plug-in van, battery electric van, refrigerated battery electric van, fuel cell electric van, refrigerated fuel cell electric van, box truck, hybrid box truck, refrigerated hybrid box truck, battery electric box truck, refrigerated battery electric box truck, heavy duty truck, refrigerated heavy duty truck, battery electric heavy duty truck, or refrigerated battery electric heavy duty truck.

- **Number of Identical Vehicles:** If vehicles will be acquired for the project, the quantity of vehicles type.

- **Edible Food Rescued (short tons):** For food rescue projects, annual net tonnage of edible food that will be rescued and used to feed people.

- **Source Reduction of Food Waste (short tons):** For food waste reduction projects, annual tonnage of food waste that will be prevented from being landfilled as a result of source reduction.

- **TCC Funds Requested ($):** Total amount of TCC funds requested from this solicitation to implement the waste diversion project.

- **Additional GGRF Funds Requested ($):** Total amount of additional GGRF funds requested to implement the organic waste diversion and food waste prevention project. Include GGRF funds previously awarded to the project by SGC or another California Climate Investments program, GGRF funds currently being requested from another California Climate Investments program, and GGRF funds the project plans to request in the future from TCC or another California Climate Investments program. Identify California Climate Investments program(s) from which the project has been awarded GGRF funds (include award date), is currently requesting GGRF funds, or plans to request GGRF funds. For a list of GGRF funded programs, go to: www.caclimateinvestments.ca.gov/about-cci.

Waste Diversion of Recycled Fiber, Plastic, and Glass

The required inputs listed in Table 14 below are from the CARB Quantification Methodology for the CalRecycle Recycled Fiber, Plastic, and Glass Grant Program. Full documentation of the approach for estimating the GHG emission reductions can be found within the Recycled Fiber, Plastic, and Glass Grant Program Quantification Methodology.

Table 14. Applicant-supplied Inputs for Waste Diversion Projects

Input Fields	Recycled Fiber, Plastic, and Glass
Net Tons Feedstock Diverted and Used in Manufacturing	✓
TCC Funds Requested	✓
Additional GGRF Funds Requested	✓

- **Net Tons Feedstock Diverted and Used in Manufacturing:** Annual net tonnage of organic material newly diverted from a landfill each year. Determine quantities of waste diverted for each feedstock category (e.g., glass, cardboard, textiles).

- **TCC Funds Requested ($):** Total amount of TCC funds requested from this solicitation to implement the waste diversion project.

- **Additional GGRF Funds Requested ($):** Total amount of additional GGRF funds requested to implement the organic waste diversion and food waste prevention project. Include GGRF funds previously awarded to the project by SGC or another California Climate Investments program, GGRF funds currently being requested from another California Climate Investments program, and GGRF funds the project plans to request in the future from TCC or another California Climate Investments program. Identify California Climate Investments program(s) from which the project has been awarded GGRF funds (include award date), is currently requesting GGRF funds, or plans to request GGRF funds. For a list of GGRF funded programs, go to: www.caclimateinvestments.ca.gov/about-cci.

Step 3: Work with SGC-contracted Technical Assistance Provider to Estimate GHG Emission Reductions

Applicants are required to work with an SGC-contracted technical assistance provider to estimate GHG emission reductions from quantifiable projects. Upon receiving the necessary data inputs and documentation from the applicant, the technical assistance provider will use this TCC Quantification Methodology and the other quantification methodologies applicable to the project categories as listed in Table 1. Details of calculation methods for each quantifiable project category are provided within the individual CARB quantification methodologies.

After using the appropriate California Climate Investments quantification methodologies, technical assistance providers must use the TCC Benefits Calculator Tool to complete this step. The TCC Benefits Calculator Tool can be downloaded from: www.arb.ca.gov/cci-resources.

NOTE: Applicants may propose more than one project in any given project category. Most CARB quantification methodologies and accompanying Benefits Calculator Tools allow for more than one individual project to be entered. After estimating the benefits for each quantifiable project using the applicable CARB quantification methodologies, technical assistance providers must enter the estimated GHG emission reductions, co-benefits, and GGRF funding requested into the TCC Benefits Calculator Tool. If there are multiple quantifiable projects within a single project category, technical assistance providers will enter information from those quantifiable projects as a single line item in the TCC Benefits Calculator Tool.

However, if a TCC proposal includes more than one housing development; technical assistance providers must complete the AHSC Benefits Calculator Tool Affordable Housing Inputs tab for each development separately and enter GHG emission reductions, co-benefits, and GGRF funding requested for each development as separate line items in the TCC Benefits Calculator Tool. For example, if a TCC proposal includes two different housing developments – one with 75% multi-family affordable housing and one 50% affordable senior housing – the technical assistance provider would need to complete the AHSC Benefits Calculator Tool Affordable Housing Inputs tab twice, once per development, and enter the results in two rows of the TCC Benefits Calculator Tool.

Section C. Documentation

In addition to TCC application requirements, applicants for GGRF funding are required to document results from the use of this Quantification Methodology, including supporting materials to verify the accuracy of project-specific inputs.

Applicants are required to provide electronic documentation that is complete and sufficient to allow the calculations to be reviewed and replicated. Paper copies of supporting materials must be available upon request by agency staff.

General Documentation

The checklist in Table 16 is provided as a guide; additional data and/or information may be necessary to support project-specific input assumptions.

Table 15. General Documentation Description

	Documentation Description
1.	Contact information for the person who completed the quantification calculations
2.	Project description, including excerpts or specific references to the location in the main TCC application of the project information necessary to complete the applicable portions of the Quantification Methodology
3.	Completed TCC and other applicable Benefits Calculator Tool files (in .xlsx) with worksheets applicable to the project populated (ensure that all fields in the GHG Summary and Co-benefits Summary tabs are populated)
4.	Any other information, as necessary and appropriate, to substantiate TCC and other applicable Benefits Calculator Tool inputs (see project-specific documentation requirements below)

Project-specific Documentation

Some applicant-provided data may require additional documentation to substantiate the inputs. The expected documentation includes, but is not limited to, that described in Table 17, by quantifiable project category.

Table 16. Project-specific Documentation Provided by Applicant

Quantifiable Project Category	Documentation
Affordable Housing and Transportation	<u>Affordable Housing Development Components</u> 1. Project area map documenting type and location of proposed traffic calming measures, if applicable 2. Map documenting distance to central business district, determined using the CARB tool available at: www.arb.ca.gov/cc/capandtrade/auctionproceeds/kml/jobcenter map.htm 3. Documentation of parking inputs, including number of proposed residential parking spaces, and demonstration of how unbundled monthly parking cost and on-street parking price increase were calculated, if applicable. 4. Documentation of affordable housing development inputs, including proposed number and type of dwelling units, number of affordable units (as defined by the AHSC Program Guidelines), number of stories, and net density. 5. Documentation of mixed-use development inputs, if applicable, including proposed uses and total areas of each type of space. <u>Sustainable Transportation Infrastructure and Transportation-related Amenities Components</u> 1. Project area map documenting type, location, and length of proposed bicycle and pedestrian facilities, including activity centers in ¼ and ½ mile buffers around each facility, if applicable 2. Documentation of average daily traffic for the street parallel to each proposed bicycle or pedestrian facility, if applicable 3. Letter from transit agency partner (on transit agency letterhead and signed by transit agency staff) supporting proposed service or capital improvement, demonstrating how increase in ridership was calculated, and substantiating transit inputs including type of service, adjustment factor, days of operation, length of average auto trip reduced, toll avoided, and paid parking at transit facility, if applicable 4. Map documenting proposed transit routes, if applicable

Quantifiable Project Category	Documentation
Affordable Housing and Transportation (continued)	5. Letter from bike share partner (on bike share organization letterhead and signed by bike share organization staff) demonstrating how the proposed number of trips per year, bicycle energy use, and average cost per trip were calculated, if applicable Housing-related Infrastructure Components 1. Electronic copy of PVWatts results spreadsheet for proposed solar PV system, if applicable 2. Documentation of the proposed number of solar PV panels and Watts per panel and the size of the solar PV system required for the project by code, if applicable Program Components Documentation of the proposed transit subsidy program, including number of dwelling units to receive transit subsidies, annual value of transit subsidies to residents, and number of years for which subsidies will be funded
Transit	New/Expanded Service 1. Documentation to support estimated ridership 2. Documentation to support project VMT 3. Documentation to support adjustment factor for transit dependency 4. Documentation to support length of average auto trip reduced 5. Documentation to support new or displaced vehicle information 6. Documentation to support fuel savings Cleaner Vehicles/Technology/Fuels 1. Documentation to support project VMT 2. Documentation to support new or displaced vehicle information 3. Documentation to support fuel savings Fuel Reduction 1. Documentation to support fuel savings New/Expanded Service 1. Documentation to support estimated ridership 2. Documentation to support adjustment factor for transit dependency 3. Documentation to support length of average auto trip reduced

Quantifiable Project Category	Documentation
Car Sharing and Mobility Enhancement	**New Car or Bike Share Service** 1. Documentation on the expected number of riders per vehicle per trip (e.g., average number of riders per school bus per route). 2. Documentation on the expected number of annual trips per vehicle. 3. Documentation of the estimated length of an average vehicle trip. 4. Documentation regarding renewable electricity purchased for the project, if applicable (e.g., power purchase agreement with local utility that will in turn be used to charge electric vehicles). **Car Share Vehicle Replacement** 1. Documentation on the estimated annual VMT of the new vehicle in Year 1 (the first year of operation). 2. Documentation regarding renewable electricity purchased for/generated by the project, if applicable (e.g., power purchase agreement with local utility). **Car or Bike Share Vouchers** 1. Documentation on the expected increase in riders per vehicle per trip. 2. Documentation on the expected increase in annual trips per vehicle. 3. Documentation of the estimated length of an average vehicle trip. 4. Documentation on the baseline and new average fare costs.
Urban Greening	**Active Transportation Infrastructure** 1. Documentation of average daily traffic count data (from California Department of Transportation or local transit agency) **Tree Planting** 1. Electronic copies of a spreadsheet showing the i-Tree Planting inputs and outputs for each group of trees and tree planting site scenarios modeled, if applicable. 2. Electronic copies of the tree population inventory used in i-Tree Streets, if applicable. 3. Electronic copy of i-Tree Streets Carbon Stored and Energy reports, if applicable. 4. Documentation to substantiate Urban Greening Calculator Tool inputs (e.g., DBH or tree age and planting site characteristics).

Quantifiable Project Category	Documentation
Residential Energy Efficiency	1. Documentation supporting assumed number of dwelling units 2. Documentation supporting assumed number of solar water heaters 3. Documentation supporting number of rooftops for solar PV installation
Community Solar	1. Documentation to substantiate Community Solar Pilot Benefits Calculator Tool inputs (e.g., "Monthly" Results Excel Spreadsheet produced by the National Renewable Energy Laboratory PVWatts Calculator)
Water-Energy Efficiency	1. Documentation supporting equipment proposed for installation
Organic Waste Diversion and Food Waste Prevention	1. Documentation to support estimates of newly diverted waste and location(s) of landfills from which waste is diverted (public documents or private agreements) 2. Documentation to substantiate Organics Benefits Calculator Tool inputs (e.g., vehicle purchase information, refrigeration unit information, contracts for food rescue sources, contracts for waste materials, etc.)
Waste Diversion of Recycled Fiber, Plastic, and Glass	1. Documentation to support estimates of newly diverted waste and locations(s) of landfills from which waste is diverted (public documents or private agreements)

Appendix A. Inputs Determined by Technical Assistance Providers

Data inputs required to quantify GHG emission reductions vary based on the quantifiable projects identified in Step 1. Applicant-supplied data inputs are detailed in Section B, Step 2 of this Quantification Methodology. The tables in this Appendix list and describe the data inputs to be determined by the technical assistance providers to quantify the GHG emission reductions for each project category.

The required inputs listed are from the latest version of existing CARB quantification methodologies available at: www.arb.ca.gov/cci-resources.

Affordable Housing and Transportation

The required inputs listed in the Tables 18 through 21 below are from the CARB Quantification Methodology for the SGC AHSC Program. Full documentation of the approach for estimating the GHG emission reductions and air pollutant emission co-benefits can be found within the AHSC Quantification Methodology.

Table 17. Inputs Determined by Technical Assistance Providers for Affordable Housing Developments within the AHSC Quantification Methodology

Input Fields	Affordable Housing Developments
County	✓
Project Area Type	✓
Net Density	✓
Distance to Central Business District	✓

- **County:** County in which project will be located.
- **Project Area Type:** The AHSC Project Area type of the proposed project (Transit-Oriented Development, Integrated Connectivity Project, or Rural Innovation Project Area). Determined using guidance provided in the AHSC Guidelines.
- **Net Density:** Number of dwelling units per acre of development.
- **Distance to Central Business District (miles):** Estimated distance from the project site to the nearest central business district. Determined using the project location information supplied by the applicant and CARB mapping tool as instructed in the AHSC User Guide.

Table 18. Inputs Determined by Technical Assistance Providers for Active Transportation Infrastructure within the AHSC Quantification Methodology

Input Fields	Pedestrian Infrastructure	Bike Infrastructure	Bike Share
County	✓	✓	✓
One-way Facility Length	✓	✓	
Average Daily Traffic	✓	✓	
University Town with Population <250,000	✓	✓	
Key Destinations within ¼ Mile	✓	✓	
Key Destinations within ½ Mile	✓	✓	

- **County:** County in which project will be located.
- **One-way Facility Length (miles):** Length pedestrian or bicycle facility, measured in one direction only.
- **Average Daily Traffic (trips/day):** Average two-way daily traffic volume in trips/day on road parallel road to proposed bicycle or pedestrian facility. Determined using route proposed by applicant (maximum = 30,000).
- **University Town with Population <250,000:** Indication of whether the proposed facility is located in a university town with a population less than 250,000 people.
- **Key Destinations within ¼ and ½ Mile:** Number of Key Destinations, as defined in the AHSC Guidelines (e.g., bank, child care center, grocery store, office park, public park, school), within ¼ and ½ mile of the proposed facility.

Table 19. Inputs Determined by Technical Assistance Providers for Transit within the AHSC Quantification Methodology

Input Fields	Bus/Shuttle/ Vanpool	Rail/Trolley/ Street Car/ Cable Car	Ferry	Capital Improvement
Final Year of Operation	✓	✓	✓	✓
Adjustment Factor	✓	✓	✓	✓
Length of Average Auto Trip Reduced	✓	✓	✓	✓
Annual VMT of Transit Vehicle	✓	✓		
Annual Fuel Consumption of Ferry			✓	

- **Final Year of Operation:** Final year of the project element (e.g., the final year of operation for the new/expanded service funded, the final year of service the capital expenditure will support, the final year of increased ridership as a result of capital expenditure). Determined using default useful life guidance in AHSC Quantification Methodology.

- **Adjustment Factor:** Adjustment factor to account for transit dependency, determined using default values provided in AHSC Quantification Methodology.

- **Length of Average Auto Trip Reduced:** Estimated length of average auto trip reduced, determined using default values provided in AHSC Quantification Methodology.

- **Annual VMT of Transit Vehicle:** Estimated increase in miles traveled by transit vehicles to provide new or expanded service. Determined using proposed route information provided by the applicant.

- **Annual Fuel Consumption of Ferry:** Estimated increase in annual fuel consumed by ferry to provide new or expanded service (e.g., gallons of diesel, kWh of electricity). Determined using proposed route information provided by the applicant. Used in place of annual VMT for ferry vehicles.

Table 20. Inputs Determined by Technical Assistance Providers for Solar PV within the AHSC Quantification Methodology

Input Fields	Solar PV
Annual Solar PV Electricity Generation	✓

- **Annual Solar PV Electricity Generation (kWh/year):** Determined using PVWatts based on applicant supplied inputs.

Transit

The required inputs listed in Table 22 below are from the CARB Quantification Methodology for Caltrans LCTOP. Full documentation of the approach for estimating the GHG emission reductions and air pollutant emission co-benefits can be found within the LCTOP Quantification Methodology.

Table 21. Inputs Determined by Technical Assistance Providers for Transit Projects

Input Fields	New/ Expanded Service	Cleaner Vehicles/ Technology/ Fuels	Fuel Reductions	System and Efficiency Improvements
Region	✓	✓	✓	✓
Subregion	✓	✓	✓	✓
Year F	✓	✓	✓	✓
Adjustment Factor	✓			✓
Length of Average Trip	✓			✓
Annual VMT	✓/ Optional	✓/ Optional		
Annual Fuel/Energy	✓/ Optional	✓/ Optional	✓	

Key
✓ = Input is required.
✓/ Optional = Inputs depend on the vehicle type that is selected and may be required.

- **Region:** The type of boundary that best encompasses the geographic location for the proposed project element (i.e., air basin or county). Determined based on the service area proposed by the applicant.

- **Subregion:** The air basin or county where the majority of the service occurs. Determined based on the service area proposed by the applicant.

- **Year F:** Final year of the project element (e.g., the final year of operation for the new/expanded service funded, the final year of service the capital expenditure will support, the final year of increased ridership as a result of capital expenditure). Determined using default useful life guidance in the LCTOP quantification methodology.

- **Adjustment Factor:** Adjustment factor to account for transit dependency. Determined using default values provided in the LCTOP quantification methodology.

- **Length of Average Trip:** Estimated length of average unlinked passenger trip directly associated with the proposed project. Determined using passenger-miles and unlinked trips provided by applicant or data reported to National Transit Database for similar service.

- **Annual VMT:** Estimated annual VMT of the vehicle to be acquired or required to operate the new service or estimated VMT. Determined by the technical assistance provided using proposed route information provided by the applicant.

- **Annual Fuel/Energy:** Estimated annual fuel (e.g., gallons of diesel, kWh of electricity) used by vehicle to be acquired or required to operate the new service. Can be used in place of annual VMT for rail and ferry vehicles. Determined by the technical assistance provided using proposed route information provided by the applicant.

Car Sharing and Mobility Enhancement

The required inputs listed in Table 23 below are from the CARB Quantification Methodology for LCT Clean Mobility in Schools Pilot Project. Full documentation of the approach for estimating the GHG emission reductions and air pollutant emission co-benefits can be found within the Clean Mobility in Schools Quantification Methodology.

Table 22. Inputs Determined by Technical Assistance Providers for Car Sharing and Mobility Enhancement Projects

Input Fields	New Car Share Service	Car Share Vehicle Replacement	New Bike Share Service	Car or Bike Share Vouchers
County	✓	✓	✓	✓
Project Type	✓	✓	✓	✓
Quantification Period	✓	✓	✓	✓
Adjustment Factor	✓		✓	✓

- **County:** County in which project will be located.
- **Project Type:** Select from New Service, Vehicle Replacement, or Shared Mobility Service Subsidy based on Table 1 of the Clean Mobility in Schools Quantification Methodology.
- **Quantification Period:** Number of years that the project element will provide GHG emission reductions. Determined using defaults provided in the Definitions tab of the Clean Mobility in Schools Benefits Calculator Tool.
- **Adjustment Factor:** Adjustment factors are applied to account for existing dependency on alternative modes of transportation. Determined using default values provided in the Definitions tab of the Clean Mobility in Schools Benefits Calculator Tool.

Urban Greening

The required inputs listed in the Tables 24 through 25 below are from the CARB Quantification Methodology for the CNRA Urban Greening Program. Full documentation of the approach for estimating the GHG emission reductions can be found within the Urban Greening Quantification Methodology.

Table 23. Inputs Determined by Technical Assistance Providers for Active Transportation Infrastructure within the Urban Greening Quantification Methodology

Input Fields	Bike and Pedestrian Infrastructure
County	✓
Annual Days of Operation	✓
Average Daily Traffic	✓
Bicycle or Pedestrian Path Length	✓
City Population	✓
University Town	✓
Number of Activity Centers Within ¼ Mile	✓
Number of Activity Centers Within ½ Mile	✓

- **County:** County in which project will be located.
- **Annual Days of Operation:** Days of use per year of new service. Use default value of 200 days.
- **Length of Average Auto Trip Reduced:** Length of bike or walk trip. Determined using default length guidance in quantification methodology.
- **Average Daily Traffic:** Annual average daily traffic (two-way traffic volume in trips/day on parallel road). Determined using route proposed by applicant (maximum = 30,000).
- **Bicycle or Pedestrian Path Length:** Length of new bike lane or pedestrian facility. Determined using route proposed by applicant.
- **City Population:** Determined using project location proposed by applicant.
- **University Town:** Indication of whether the proposed facility is located in a university town.
- **Number of Activity Centers:** Quantity of activity centers (e.g., bank, church, hospital or HMO, office park, post office, public library, shopping area, schools) within ¼ and ½ mile of bike lane or pedestrian facility. Determined using route proposed by applicant.

Table 24. Inputs Determined by Technical Assistance Providers for Tree Planting within the Urban Greening Quantification Methodology

Input Fields	Trees Shading Buildings	Trees Not Shading Buildings
State	✓	✓
County	✓	✓
City	✓	✓
Project Parameters	✓	✓
Size of Trees at Planting	✓	✓
Direction of the Tree from the Building	✓	
Building Vintage	✓	
Climate Controls	✓	
Growing Condition	✓	✓
Exposure to Sunlight	✓	✓

- **State:** California
- **County:** County in which trees will be planted.
- **City:** City in which trees will be planted.
- **Project Parameters:** Use default parameters for emission factors, units, years for the project, and tree mortality listed in Table 5 of the Urban Greening Quantification Methodology.
- **Size of Trees at Planting:** Tree diameter at breast height at time of planting. Determined using proposed species information provided by the applicant.
- **Direction of the Tree from the Building:** Direction (e.g., North, West, Southeast) of the tree location from the building, if unknown by applicant. Because it is unlikely that specific tree site locations will be identified at the time of application submission, technical assistance providers can extrapolate information from the streets identified by the applicant for tree planting to shade buildings and enter an appropriate mix. For example, if a street runs east-west, the technical assistance provider would enter half of the trees as being north of a building and half being south. If a street runs north south, the technical assistance provider would enter half of the trees as being east of a building and half being west.
- **Building Vintage:** Vintage of the nearby building. Provide vintage as one of the following ranges: built before 1950, built 1950-1980, or built after 1980. Because it is unlikely that specific tree site locations will be identified at the time of application submission, technical assistance providers can extrapolate information from neighborhood characteristics.

- **Climate Controls:** Type of climate controls the nearby building has installed. Select from the following options: heat and air conditioning, heat only, air conditioning only, or none. Because it is unlikely that specific tree site locations will be identified at the time of application submission, technical assistance providers can extrapolate information from neighborhood characteristics.

- **Growing Condition:** The condition of the trees. This will affect how well they grow and thus future benefits. Use default value of "Excellent."

- **Exposure to Sunlight:** The exposure to sunlight. This will affect both how the trees grow and the degree to which a new tree adds shade to a building. Use default value of "Full Sun."

Residential Energy Efficiency and Solar PV

The required input listed in Table 26 below is from the CARB Quantification Methodology for CSD LIWP. Full documentation of the approach for estimating the GHG emission reductions can be found within the LIWP Quantification Methodology.

Table 25. Inputs Determined by Technical Assistance Providers for Residential Energy Efficiency and Solar PV Projects

Input Fields	Energy Efficiency	Rooftop Solar PV
Quantification Period for Efficiency Measures	✓	
Energy Pricing	✓	✓
Annual Solar PV Production		✓

- **Quantification Period:** Enter 15 years
- **Energy Pricing:** Select "Residential"
- **Annual Solar PV Production (kWh/yr):** Annual solar PV electricity generation. Determined using PVWatts based on applicant supplied inputs.

Community Solar PV

The required input listed in Table 27 below is from the CARB Quantification Methodology for CSD Community Solar. Full documentation of the approach for estimating the GHG emission reductions can be found within the LIWP Quantification Methodology.

Table 26. Inputs Determined by Technical Assistance Providers for Community Solar PV Projects

Input Fields	Community Solar PV
System Loss	✓
Tilt	✓
Azimuth	✓
DC to AC Size Ratio	✓
Inverter Efficiency	✓
Ground Coverage Ratio	✓
Light Induced Degradation	✓
Useful Life	✓
Annual Solar PV Production	✓

- **System Loss (%):** Determined in PVWatts after adjusting light-induced degradation as instructed in Community Solar Quantification Methodology.
- **Tilt (degrees):** Default value provided in PVWatts.
- **Azimuth (degrees):** Default value provided in PVWatts.
- **DC to AC Size Ratio:** Default value provided in PVWatts.
- **Inverter Efficiency (%):** Default value provided in PVWatts.
- **Ground Coverage Ratio:** Default value provided in PVWatts.
- **Light Induce Degradation (%):** Adjust default value provided in PVWatts to 0.5%.
- **Useful Life (years):** Use default of 30 years.
- **Annual Solar PV Production (kWh/year):** Determined using PVWatts based on applicant supplied inputs.

Water-Energy Efficiency

All inputs for Water-Energy Efficiency projects must be determined by applicants. The required inputs listed in Table 12 in Section B are from the CARB Quantification Methodology for the DWR Water-Energy Efficiency Grant Program. Full documentation of the approach for estimating the GHG emission reductions can be found within the DWR Quantification Methodology.

Organic Waste Diversion and Food Waste Prevention

The required inputs listed in Table 28 below are from the CARB Quantification Methodology for the CalRecycle Organics Grant Program. Full documentation of the approach for estimating the GHG emission reductions can be found within the Waste Diversion Quantification Methodology.

Table 27. Inputs Determined by Technical Assistance Providers for Organic Waste Diversion and Food Waste Prevention Projects

Input Fields	Composting	Anaerobic Digestion or Co-digestion	Food Waste Prevention or Food Rescue
Composition of Food Waste in Feedstock	✓		
Refrigerant Charge Size			✓
Refrigerant Type			✓

- **Composition of Food Waste and Green Waste in Feedstock (%):** Determined using default provided in the Benefits Calculator Tool (i.e., 30% food waste with the remainder assumed to be green waste).

- **Refrigerant Charge Size:** Optional input, do not enter value.

- **Refrigerant Type:** If refrigeration equipment will be acquired for the project, select the default value option in the Benefits Calculator Tool.

Waste Diversion of Recycled Fiber, Plastic, and Glass

All inputs for Waste Diversion of Recycled Fiber, Plastic, and Glass projects must be determined by applicants. The required inputs listed in Table 14 in Section B are from the CARB Quantification Methodology for the Recycled Fiber, Plastic, and Glass Program. Full documentation of the approach for estimating the GHG emission reductions can be found within the Recycled Fiber, Plastic, and Glass Quantification Methodology.