

California Air Resources Board

User Guide

California Department of Resources Recycling and
Recovery
Reuse Grant Program

California Climate Investments



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Section A. Introduction

For the California Department of Resources Recycling and Recovery (CalRecycle) Reuse Grant Program, California Air Resources Board (CARB) staff developed the Reuse Benefits Calculator Tool and accompanying Reuse Quantification Methodology to provide guidance for estimating the net greenhouse gas (GHG) benefit and selected co-benefits of each proposed project type. This User Guide provides instructions for using the Reuse Benefits Calculator Tool (Section B) and an example project (Section C).

The Reuse Benefits Calculator Tool and supporting Reuse Quantification Methodology are available for download at: www.arb.ca.gov/cci-resources. Methods and equations used in the Reuse Benefits Calculator Tool for estimating the net GHG benefit and air pollutant emission co-benefits are provided in the Reuse Quantification Methodology.

Program Assistance

Applicants should use the following resources for additional questions and comments:

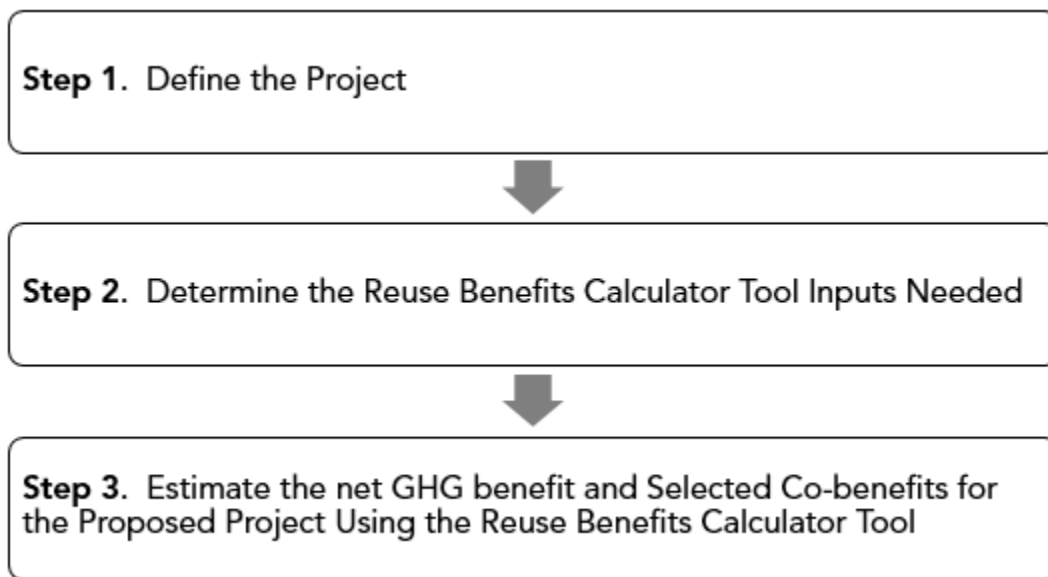
- Questions on this document should be sent to: GGRFProgram@arb.ca.gov.
- For more information on CARB's efforts to support implementation of California Climate Investments, see: www.arb.ca.gov/auctionproceeds.
- Questions pertaining to the Reuse Grant Program should be sent to: GHGReductions@CalRecycle.ca.gov.

Section B. Step-by-Step Guide

Overview

Applicants will follow the steps outlined in Figure 1 to estimate the net GHG benefit and selected co-benefits from the proposed project. Detailed instructions for each step are provided on subsequent pages. An example project showing how to estimate the net GHG benefit and selected co-benefits from a project is included in Section [C].

Figure 1. Steps to Estimating Net GHG Benefit and Selected Co-benefits



Step 1: Define the Project

Applicants must define the project by identifying eligible Project Types that apply to the project. Applicants may incorporate more than one Project Type, as appropriate, to quantify the net GHG benefit and selected co-benefits. The Project Types identified will determine which sections of the Reuse Benefits Calculator Tool must be used in order to estimate the net GHG benefit and selected co-benefits.

Project Types

The CalRecycle Reuse Program achieves a net GHG benefit through avoided emissions associated with manufacturing virgin wood construction materials and wood furniture along with a net increase in forest carbon storage due to decreased demand for new materials. CalRecycle developed two project types that meet the objectives of the Reuse Program and for which there are methods to quantify a net GHG benefit.¹ Other project features may be eligible for funding under the Reuse Program; however, only the following project types will be quantified for GHG benefits:

- Reuse of wood construction materials including hardwood flooring, solid wood doors, cabinets, and softwood lumber; and
- Reuse of wood furniture.

¹ [CalRecycle's Reuse Grant Program Website](#)

Step 2: Determine the Reuse Benefits Calculator Tool Inputs Needed

Table 1 identifies the required data inputs needed to estimate the net GHG benefit and selected co-benefits for the proposed project with the Reuse Benefits Calculator Tool by project type.

Table 1. Required Reuse Benefits Calculator Tool Inputs for Eligible Project Types

ALL PROJECTS
<p>General Information (Project Info worksheet)</p> <ul style="list-style-type: none"> • Project Name; • Grant ID, if applicable; • Contact Name; • Contact Phone Number; • Contact Email; • Date Completed; • Total amount of Reuse GGRF funds requested from this solicitation to implement the project; • Total amount of additional GGRF funds to implement the project (include GGRF funds previously awarded to the project by CalRecycle’s Reuse 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 CalRecycle’s Reuse or another California Climate Investments program); and • 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: ww2.arb.ca.gov/cci-funded-programs.
Reuse of Construction Materials and Furniture
<p>Quantification Inputs (Reuse worksheet)</p> <ul style="list-style-type: none"> • Reused Construction Materials <ul style="list-style-type: none"> ○ Hardwood Flooring (square footage); ○ Solid Wood Doors (number of doors); ○ Softwood Lumber Units (number of 2x4s, board feet, or short tons); ○ Softwood Lumber (quantity reused); ○ Wall Cabinets (linear feet); ○ Lower Cabinets (linear feet); and ○ Tall Wall/Pantry Cabinets (linear feet). • Reused Furniture <ul style="list-style-type: none"> ○ Type of furniture (e.g., tables, chairs, etc.); and ○ Quantity of Furniture Reused (number of similar furniture pieces).

Step 3: Estimate Net GHG Benefit and Selected Co-benefits for the Proposed Project Using the Reuse Benefits Calculator Tool

Applicants must use the Reuse Benefits Calculator Tool to complete this step. The Reuse Benefits Calculator Tool is available at: www.arb.ca.gov/cci-resources.

Users should begin with the **Read Me** tab, which contains general information about the Benefits Calculator Tool. The **Documentation** tab provides details on the documentation requirements to allow the calculations to be reviewed and replicated.

The **Project Info** tab prompts users to enter general project information.

The **Inputs** tab identifies inputs required by the user, generally requiring project-specific data or assumptions. Input and output fields are color coded:

- **Green** fields indicate direct user input is required.
- **Blue** fields are optional and user input is not required.
- **Grey** fields indicate output or calculation fields that are automatically populated based on user entries and the calculation methods.
- **Yellow** fields offer helpful hints or important tips to the user.
- **Black** fields are not applicable and no user input is necessary.

The **GHG Summary** tab displays the estimated:

- Total Reuse Grant GHG emission reductions (metric tons of carbon dioxide equivalent (MTCO_{2e}));²
- Total additional California Climate Investment GHG emission reductions (MTCO_{2e})
- Total GHG emission reductions (MTCO_{2e});
- Total GHG emission reductions per total Reuse GGRF funds (MTCO_{2e}/);
- Total GHG emission reductions per additional California Climate Investment funds (MTCO_{2e}/); and
- Total Reuse Grant GGRF Funds per Total GHG emission reductions (\$/MTCO_{2e}).

² This is the portion of GHG emission reductions attributable to funding from the Reuse Grant Program; GHG emission reductions are prorated according to the level of program funding contributed from the Reuse Grant Program and other California Climate Investments programs funded with GGRF, as applicable. The results in the Co-benefits Summary tab are prorated using the same approach, as applicable.

The **Co-benefits Summary** tab displays the estimated:

- ROG emission reductions (lbs);
- NO_x emission reductions (lbs);
- PM_{2.5} emission reductions (lbs);
- Diesel PM emission reductions (lbs);
- Fossil fuel use reductions (gallons and kWh);
- Energy and fuel cost savings (dollars);
- Reduction in vehicle miles traveled (miles); and
- Total Weight of Wood Reused (Short tons).

Section C. Example Project

Introduction

The following is a hypothetical project³ to demonstrate how the Reuse Benefits Calculator Tool would be applied. This hypothetical project does not provide examples of the supporting documentation that is required of actual project applicants.

Overview of the proposed project

A Los Angeles based applicant is proposing to recover and reuse wood flooring and various furniture pieces as part of their dismantling company. The applicants estimate they will collect 10,000 square feet of hardwood flooring, 200 solid wood doors, 25 dining room tables, and 50 small tables over the grant period.

The applicant is asking for \$250,000 and proposes to leverage \$50,000 from other local sources for a total proposed cost of \$300,000.

Methods to apply

Step 1: Determine the Reuse Benefits Calculator Tool Inputs Needed

Table 2: Required Inputs for Example Project

General Information	
Total Organics Grant Funds Requested	\$250,000
Non-GGRF Leveraged Funds	\$50,000
Quantification Inputs (Reuse Tab)	
Hardwood Flooring	10,000
Solid Wood Doors	200
Type of Furniture	25 - "Table, large e.g. dining"
Type of Furniture	50 - "Table small e.g. Coffee table"

³ The hypothetical project has not undergone verification of any Reuse requirements; all assumptions about location type and project features are for Reuse Benefits Calculator Tool demonstration purposes only.

Step 2: Estimate Net GHG Benefit and Selected Co-benefits for the Proposed Project Using the Reuse Benefits Calculator Tool

Once the Organics Benefits Calculator Tool is accessed the applicant must complete the project identifier information on the “Read Me” tab.

Figure 2: Example – General Information Entered into Project Info Tab

Project Name:	Los Angeles Reuse Company	
Applicant ID:	To be completed by CalRecycle staff	
Contact Name:	John Smith	
Contact Phone Number:	213-555-1234	
Contact Email:	John@Smith.com	
Date Calculator Completed:	March 1, 2020	
Total Reuse Grant Program California Climate Investments Funds Requested (\$):	\$	250,000.00
Additional California Climate Investments Funds (\$):	\$	-
Non-California Climate Investments Funds (\$):	\$	50,000.00
Total Funds (\$):	\$	300,000.00

Reuse Inputs Tab

Applicants must enter data into the green cells within the “Reuse” tab. The required data in the “Reuse” tab reflect project specific information. See the following figures for how the data should be entered for this example project.

Project Summary Tabs

Project reporting metrics and a summary of the overall project GHG emission reductions, air pollutant emission co-benefits, and key variables are provided on the “GHG Summary” and “Co-benefit Summary” tabs.

Figure 4: Example Project – GHG Summary tab outputs

Project Name		Los Angeles Reuse Company	
Project Information			
Reuse Grant Program California Climate Investments Funds	\$		250,000
Additional California Climate Investments Funds	\$		-
Non-California Climate Investments Funds	\$		50,000
Total Funds	\$		300,000
GHG Emission Reductions			
Per Reuse Grant Program California Climate Investments Funds (MTCO _{2e})			52
Per Additional California Climate Investments Funds (MTCO _{2e})			0
Per Total Funds (MTCO _{2e})			52
Total GHG Emission Reductions per Reuse Grant Program California Climate Investments Funds (MTCO _{2e} /\$)			0.000207
Total GHG Emission Reductions per Total Funds (MTCO _{2e} /\$)			0.000173
Total Reuse Grant GGRF Funds per Total GHG Emission Reductions (\$/MTCO _{2e})			4,830.09

Figure 5: Example Project – Co-benefit Summary tab outputs

Project Name		Los Angeles Reuse Company		
Co-benefits and Key Variables Summary	Per Reuse Grant Program California Climate Investments Funds	Per Additional California Climate Investments Funds	Per Total Funds	
NOx emission reductions (lbs)	22	0	22	
ROG emission reductions (lbs)	2	0	2	
PM2.5 emission reductions (lbs)	3	0	3	
Diesel PM emission reductions (lbs)	0	0	0	
Fossil fuel use reductions over Quantification Period (gallons)	154	0	154	
Fossil fuel use reductions over Quantification Period (kWh)	70,577	0	70,577.0	
Energy and fuel cost savings over Quantification Period (\$)	\$9,894	\$0	\$9,894	
Reduction in Vehicle Miles Traveled (miles)	1,179	0	1,179	
Total Weight of Wood Reused (Short tons)	20	0	20	