

California Air Resources Board

Co-benefit Assessment Methodology Climate Adaptation Questionnaire

California Climate Investments Greenhouse Gas Reduction Fund



The tables on the following pages are excerpted from the Climate Adaptation Co-benefit Assessment Methodology for California Climate Investments. The questionnaire is converted into fillable tables for ease of use. Guidance on how to answer each question is provided in Section C of the full methodology available at: www.arb.ca.gov/ccj-cobenefits.

California Climate Investments that result in climate adaptation co-benefits generally address one of the following six topic areas covered by this questionnaire: extreme heat, drought, sea level rise and inland flooding, agricultural productivity and conservation, species habitat, and wildfire. A single California Climate Investments project may provide benefits in multiple topic areas. In such cases, users should evaluate the project using the assessment methods outlined for each relevant topic area to estimate the total climate adaptation co-benefit.

California Climate Investments that result in climate adaptation co-benefits reduce vulnerabilities posed by climate change through climate adaptation oriented improvements to homes, communities, natural and working lands, and infrastructure.

Overall, the methods for assessing the climate adaptation co-benefits are qualitative, involving a checklist for each topic area that will record the presence or absence of an expected outcome (a “yes/no” approach). This approach enables users to identify whether a project is contributing to a positive or negative climate adaptation co-benefit, but does not characterize the magnitude of that contribution. “Not applicable” options are also available for measures that are not relevant to the project.

Based on the responses to the questions, the project will be classified as providing “climate adaptation co-benefits,” “high climate adaptation co-benefits,” or “exceptional climate adaptation benefits.”

Topic Area 1. Extreme Heat

Table 1. Potential measures for extreme heat effects moderation	
Measure	Assessment (Y/N)
Is the project planting trees that will provide shade to buildings, homes, sidewalks, streets, or parking lots?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project enhancing insulation of homes?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project installing cool roofs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project reducing electrical grid demand and household costs associated with cooling?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project preventing conversion of agricultural lands (croplands, rangelands, or pasturelands) or natural land cover (trees, grasslands, shrublands, watersheds, or wetlands) to pavement or buildings?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project adding permeable land cover?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project replacing agricultural lands (croplands, rangelands, or pasturelands) or natural land cover (trees, grasslands, shrublands, watersheds, or wetlands) with pavement or buildings? <i>(negative co-benefit)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

Topic Area 2. Drought

Table 2. Potential measures for drought effects moderation	
Measure	Assessment (Y/N)
Is the project setting up an ongoing mechanism to conserve water?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project promoting improved soil health, soil quality, or soil stability?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project restoring wetlands, watersheds, or riparian buffers?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project planting native, drought-tolerant vegetation?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project changing permeable surfaces to paved surfaces? <i>(negative co-benefit)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project increasing water use? <i>(negative co-benefit)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

Topic Area 3. Sea Level Rise and Inland Flooding Adaptation

Table 3. Potential measures for sea level rise and inland flooding adaptation	
Measure	Assessment (Y/N)
Does the project include floodplain restoration or protection?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the project include forest/tree restoration or protection in a flood-prone or flood hazard area?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the project include improved soil health in a flood-prone or flood hazard area?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the project include rainwater capture and/or infiltration systems as part of urban green efforts in a flood-prone or flood hazard area?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the project include additional infrastructure, including natural infrastructure, to protect against flooding in a flood-prone or flood hazard area?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project mitigating the effects of sea level rise/flooding in a region at risk for sea level rise/flooding?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project developing buildings or structures in floodplains? <i>(negative co-benefit)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

Topic Area 4. Agricultural Productivity and Conservation

Table 4. Potential measures for agricultural productivity	
Measure	Assessment (Y/N)
Is the project conserving Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Grazing Land, or Farmland of Local Importance?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project promoting improved soil health, soil quality, or soil stability?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project reducing on-farm water consumption?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project converting Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Grazing Land, or Farmland of Local Importance to urban or other development? <i>(negative co-benefit)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

Topic Area 5. Species Habitat

Table 5. Potential measures for species habitat	
Measure	Assessment (Y/N)
Is the project restoring or conserving habitat that contains Species of Greatest Conservation Need, including threatened or endangered species?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project restoring or conserving historical habitat for Species of Greatest Conservation Need, including threatened or endangered species?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project constructing or conserving wildlife corridors and/or habitat connectivity?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project disturbing wetlands, waterways, tidelands, or wildlife corridors? (<i>negative co-benefit</i>)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project developing land, or otherwise disturbing habitat, that contains threatened or endangered species? (<i>negative co-benefit</i>)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

Topic Area 6. Wildfire

Table 6. Potential measures for wildfire mitigation	
Measure	Assessment (Y/N)
Does the project involve fuels management work to maintain ecosystem health in a high priority landscape?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the project involve rehabilitation work in a high priority landscape impacted by wildfire?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the project involve fire hazard prevention work to mitigate wildfire threats to communities?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project implementing other types of forest or other ecosystem management treatments to reduce wildfire intensity or reduce potential impacts of wildfires?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the project implementing other fire mitigation or prevention measures for non-forested habitats that may be impacted by wildfire?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the project involve new construction in a high priority landscape for reducing or preventing wildfire threats? (<i>negative co-benefit</i>)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

Assessment

To determine the overall Climate Adaptation Co-benefit, users will assess the checklist responses within each topic area and across the six project topic areas.

First, tally the number of “yes” responses in each topic area checklist. Each positive co-benefit will count as +1 and each negative co-benefit will count as -1. The negative co-benefits are labeled for clarity. If there is a net positive of at least 1 for the topic area, then the project is considered as providing “climate adaptation co-benefits” for that topic area.

Topic Area 1. Extreme Heat	_____
Topic Area 2. Drought	_____
Topic Area 3. Sea Level Rise and Inland Flooding Adaptation	_____
Topic Area 4. Agricultural Productivity and Conservation	_____
Topic Area 5. Species Habitat	_____
Topic Area 6. Wildfire	_____

Next, determine how many of the topic areas have a net positive number of climate adaptation co-benefits.

- If at least one topic area has net positive climate adaptation co-benefits, the overall classification is “**Climate Adaptation Co-benefits.**”
- If two or three topic areas have net positive climate adaptation co-benefits, the overall classification is “**High Climate Adaptation Co-benefits.**”
- If four or more topic areas have net positive climate adaptation co-benefits, the overall classification is “**Exceptional Climate Adaptation Co-benefits.**”