# COUNTY OF SAN BERNARDINO

## GENERAL PLAN AMENDMENT AND GREENHOUSE GAS REDUCTION PLAN

### VOLUME 1 - FINAL SUPPLEMENTAL PROGRAM ENVIRONMENTAL IMPACT REPORT

SCH No. 2005101038

*Prepared for:*

COUNTY OF SAN BERNARDINO
LAND USE SERVICES DEPARTMENT
385 N. ARROWHEAD AVENUE, FIRST FLOOR
SAN BERNARDINO, CA 92415

*Prepared by:*

PMC®

21171 S. WESTERN AVENUE, SUITE 200
TORRANCE, CA 90501

**SEPTEMBER 2011**

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## VOLUME 1 - FINAL SUPPLEMENTAL PROGRAM ENVIRONMENTAL IMPACT REPORT

EXECUTIVE SUMMARY



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2.0 COMMENTS AND RESPONSES TO COMMENTS ON THE DRAFT SEIR



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Submitted under separate cover

# Executive Summary

## ES.1 PURPOSE AND SCOPE OF THE FINAL SEIR

The primary purpose of this Final SEIR is to satisfy CEQA requirements by addressing the environmental effects specific to the proposed General Plan Amendment, Greenhouse Gas Reduction Plan, and associated Development Code Amendment (referred to collectively hereafter as the proposed project). The Final SEIR will address the environmental effects of implementing the proposed project in light of the previous environmental review in the San Bernardino County General Plan Program EIR (General Plan EIR) as provided for under CEQA Guidelines 15162 and 15163. Specifically, the Final SEIR evaluates whether the proposed project would result in new significant environmental effects not previously addressed in the San Bernardino County General Plan Program EIR (State Clearinghouse No. 2005101038) or a substantial increase in the severity of previously identified significant environmental effects consistent with CEQA Guidelines Section 15162(a)(1). Implementation of the proposed GHG Plan will address climate change and greenhouse gas emissions impacts associated with the County of San Bernardino 2007 General Plan.

## ES.2 PROJECT CHARACTERISTICS

The County of San Bernardino is proposing a General Plan Amendment and associated Greenhouse Gas Reduction Plan (GHG Plan). The project also includes a Development Code Amendment that will provide specific procedures for implementing development-related provisions of the GHG Plan. The focus of the Final SEIR is the environmental effects of County implementation of the GHG Plan.

## ES.3 PROJECT ALTERNATIVES SUMMARY

The analysis provided in this Final SEIR evaluates whether the changes to the General Plan and its implementation would alter the conclusions of the previous General Plan EIR alternatives analysis. The Draft SEIR also evaluates alternatives specifically associated with the implementation of the proposed General Plan Amendment, GHG Plan, and associated Development Code Amendment in order to avoid or substantially lessen the increased severity of significant and unavoidable environmental effects identified. These alternatives are summarized briefly below.

- **General Plan EIR Alternative No.1 – No Project Alternative** – Under Alternative No. 1, the General Plan would retain the 1989 General Plan, as amended but would not include the Community Plans developed as part of the proposed project, nor would the County Development Code be updated. This Alternative would allow for a population of about 415,000 people in County unincorporated territory.

- **General Plan EIR Alternative No.2 – Reduced Development Alternative** - Under Alternative No. 2 the County General Plan would only be updated to provide for the growth of the County by 200,000 people, not the approximately 415,000 people that would be accommodated by the of the 2007 General Plan. General Plan goals and policies would also be updated as they would as part of the 2007 General Plan.

- **General Plan EIR Alternative No.3 – Future Growth In Cities Sphere-Of-Influence Alternative** - Under Alternative No. 3 the County General Plan would be updated to accommodate the growth in the County by approximately 409,000 people. However, all the new growth in the County would only occur within the adopted spheres-of-influence of the cities within the County. This Alternative includes the revision to the General Plan goals and policies, although the goals and policies would be somewhat different than

the goals and policies included as part of the 2007 General Plan since all new growth in the County would only occur within city spheres-of-influence.

- **SEIR Alternative No. 1 - No Project Alternative** - Under this alternative, the proposed San Bernardino General Plan Amendment, Greenhouse Gas Reduction Plan (GHG Plan), and associated Development Code is not adopted and the General Plan and Development Code would remain as they are currently adopted. This alternative is consistent with CEQA Guidelines 15126.6(e)(3)(A).

- **SEIR Alternative No. 2 – Renewable Energy Generating Facility Restriction Alternative** - This alternative is similar to the proposed project and would implement the reduction measures that are proposed in the General Plan Amendment, Greenhouse Gas Reduction Plan (GHG Plan), and associated Development Code Amendment. However, this alternative differs from the proposed project by adding development standards beyond what is included in the proposed project to reduce the impacts to three resources, specifically aesthetic and visual resources, agricultural resources and biological resources. Alternative 2 would include additional Development Code provisions to Chapter 84.29 (Renewable Energy Generating Facilities) by adding standards that would substantially restrict the location of renewable energy generating facilities in a manner that would substantially lessen the significant and unavoidable impacts to aesthetic and visual resources, agricultural resources and biological resources that would result from the proposed project.

## ES.4 RELATIONSHIP TO THE PREVIOUS GENERAL PLAN AND EIR

The County of San Bernardino 2007 General Plan contains a series of linked documents, including the General Plan text and a series of land use, hazard, circulation, and resource overlay maps, a separately bound Housing Element, the community plans, and the background reports. Additionally, the General Plan lists various implementation tools that are incorporated as separate policies and documents. The General Plan EIR analyzed the impacts associated with the development of the General Plan.

The proposed project includes an amendment to the 2007 General Plan, adding a specific policy for the reduction of greenhouse gas emissions, pursuant to which policy the GHG Plan is proposed to be adopted. The GHG Plan will act as an implementation tool similar to those described in the General Plan to guide development in the county by focusing on attaining the various goals and policies of the General Plan and all community plans relative to greenhouse gas (GHG) emissions and to achieve the goals outlined above. The reduction measures described in the GHG Plan will be consistent with the goals, policies, and programs contained in the General Plan.

This Final SEIR is prepared as a Supplemental EIR to the certified General Plan Program EIR, pursuant to the provisions of CEQA Guidelines sections 15162 and 15163. A supplemental EIR augments a previously certified EIR, and contains only the analysis necessary to respond to the proposed project changes that trigger the need for environmental review. Thus this Final SEIR assesses whether the proposed General Plan Amendment, and the associated GHG Plan and proposed Development Code amendments, would result in new or substantially more severe significant environmental impacts.

## ES.5 EFFECTS FOUND NOT TO BE SIGNIFICANT

CEQA Guidelines Section 15128 requires an EIR to briefly describe any possible significant effects that were determined not to be significant and were therefore not discussed in detail in the Draft SEIR. For purposes of this Final SEIR, the following topics were eliminated from further evaluation in the scoping phase of the supplemental environmental analysis because the revisions to the project or changed conditions would not have a substantial effect on these resources beyond what was evaluated in the General Plan EIR: geology and soils, land use and planning, mineral resources, population and housing, and recreation.

## ES.6 ISSUES TO BE RESOLVED AND AREAS OF CONTROVERSY

Chapter 1.0, Introduction, provides a description of issues that have been identified to date since release of the Notice of Preparation. These issues include having the GHG Plan consider utilizing a per capita reduction target for greenhouse gas emissions, ensuring that the reduction measures in the GHG Plan are enforceable and quantified and address all options, and that the EIR address biological resources, water supply, and land use.

## ES.7 SUMMARY OF IMPACTS AND MITIGATION MEASURES

**Table ES-1** provides a summary of project impacts and mitigation measures identified in the Final SEIR. Changes to mitigation measures identified in the table below are as a result of comments made on the Draft SEIR and are underlined.

**TABLE ES-1**
**EXECUTIVE SUMMARY**

| Impact | | Level of Significance Without Mitigation | Mitigation Measure | | Resulting Level of Significance |
|---|---|---|---|---|---|
| **3.1 Aesthetics and Visual Resources** | | | | | |
| **Impact 3.1.1** | The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in significant and unavoidable impacts to scenic vistas, scenic resources, and the existing scenic character of the county (General Plan EIR Impacts AES-1 and 2). Implementation of General Plan policy provisions and the continued implementation of the County Development Code would generally ensure that implementation of the proposed Project would not result in an increased severity of these impacts. However, subsequent implementation of GHG Plan reduction measures that provide for renewable energy facilities could result in an increased severity of scenic impacts beyond what was considered in the General Plan EIR. | Substantially increase the severity of this impact, which was previously identified in the General Plan EIR as a significant and unavoidable impact. | None available. | | Substantial increase in severity of this impact that would result from the proposed Project is a significant and unavoidable impact. |
| **Impact 3.1.2** | The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in significant and unavoidable impacts associated in glare and nighttime lighting (General Plan EIR Impact AES-3). Implementation of General Plan policy provisions and the continued implementation of the County Development Code would generally ensure that implementation of the proposed Project would not increase the severity of nighttime lighting impacts. However, subsequent implementation of GHG Plan reduction measures that provide for renewable energy | Substantially increase the severity of this impact, which was previously identified in the General Plan EIR as a significant and unavoidable impact. | **MM 3.1.2** | Development Code Section 84.29.040 (Solar Energy Development Standards) shall be amended to include the following standard for glare:<br>• Solar energy facilities shall be designed to preclude daytime glare on any abutting residential land use zoning district, residential parcel, or public right-of-way. | No new or substantially more severe significant impact. |

| Impact | | Level of Significance Without Mitigation | Mitigation Measure | | Resulting Level of Significance |
|---|---|---|---|---|---|
| | facilities could result in an increased severity of daytime glare beyond what was considered in the General Plan EIR. | | | | |
| **3.2 Agricultural and Forestry Resources** | | | | | |
| **Impact 3.2.1** | The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in significant and unavoidable impacts to agricultural uses in the county due to urban expansion and economic considerations (General Plan EIR Impacts AG-1 and 2). Implementation of General Plan policy provisions and the continued implementation of the County Development Code would generally ensure that implementation of the proposed Project would not result in an increased severity of these impacts. However, renewable energy generating facilities promoted by the GHG Plan reduction measures are an allowed use in the Agriculture Zone and could result in increased severity of agricultural use impacts beyond what was considered in the General Plan EIR. | Substantially increase the severity of this impact, which was previously identified in the General Plan EIR as a significant and unavoidable impact. | **MM 3.2.1** | Development Code Chapter 84.29 (Renewable Energy Generation Facilities) shall be amended to include the following standard:<br>• Work with transmission line providers and developers to design and cite supporting off-site facilities such as transmission lines, in a manner that will allow for continued use of adjoining agricultural operations as long as the agricultural operations do not interfere with the transmission right-or-way. | Substantial increase in severity of this impact that would result from the proposed Project is a significant and unavoidable impact. |
| **Impact 3.2.2** | The General Plan EIR did not evaluate potential physical environmental effects to forest lands resulting from implementation of the General Plan as such provisions of Appendix G did not exist at the time the General Plan EIR was prepared. Implementation of General Plan policy provisions and the continued implementation of the County Development Code would ensure that implementation of the proposed Project would not result in forest impacts. | No new or substantially more severe significant impact. | None required. | | No new or substantially more severe significant impact. |

| Impact | | Level of Significance Without Mitigation | Mitigation Measure | | Resulting Level of Significance |
|---|---|---|---|---|---|
| **3.3 Air Quality** | | | | | |
| **Impact 3.3.1** | The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in significant and unavoidable impacts to air quality (General Plan EIR Impacts AQ-1, 2, and 3). Implementation of General Plan policy provisions and the continued implementation of the County Development Code would generally ensure that implementation of the proposed General Plan Amendment, GHG Plan, and associated Development Code Amendment would not result in increased severity of these impacts. In addition, implementation of these General Plan and Development Code provisions would ensure that construction air pollutant emissions are addressed. | No new or substantially more severe significant impact. | None required. | | No new or substantially more severe significant impact. |
| **3.4 Biological Resources** | | | | | |
| **Impact 3.4.1** | The General Plan EIR and the General Plan CEQA Findings found that, despite the imposition of certain mitigation measures, impacts to some sensitive and special-status species and their associated habitat and migratory corridors resulting from implementation of the 2007 General Plan cannot be fully mitigated to a level below significance (General Plan EIR Impacts BIO-1, 2, 3, 8, 9, 13, 14, and 16). Implementation of General Plan policy provisions and the continued implementation of the County Development Code would generally ensure that implementation of the proposed Project does not result in an increased severity of | Substantially increase the severity of this impact, which was previously identified in the General Plan EIR as a significant and unavoidable impact. | **MM 3.4.1a** | Development Code Chapter 84.29 (Renewable Energy Generation Facilities) shall be amended to include the following standard for transmission line design:<br>• Transmission lines and all electrical components shall be designed, installed, and maintained to reduce the likelihood of large bird electrocutions and collisions and each line will be evaluated for potential collision risks. | Substantial increase in severity of this impact that would result from the proposed Project is a significant and unavoidable impact. |

| Impact | Level of Significance Without Mitigation | Mitigation Measure | Resulting Level of Significance |
|---|---|---|---|
| these impacts. However, subsequent implementation of the GHG Plan reduction measures that provide for renewable energy generating facilities could result in increased severity of biological resource impacts than was considered in the General Plan EIR. | | **MM 3.4.1b** Development Code Chapter 84.29.030 (Wind Energy Development standards) shall be amended to include the following standards:<br>• The design of wind energy facilities will discourage the use of the site by avian species (provision of landscaping and ground conditions that are unattractive to avian species).<br>• Design and siting of wind turbines associated with lighting, avoidance placement of turbines on or immediately adjacent to the upwind side of ridge crests, and other design features to minimize impacts to bat and avian species.<br>• Provision of an avian and bat management plan that includes mortality monitoring and additional measures to address unanticipated significant adverse impacts on the population of avian or bat species or with any migratory corridor. | |

| Impact | | Level of Significance Without Mitigation | Mitigation Measure | Resulting Level of Significance |
|---|---|---|---|---|
| **Impact 3.4.2** | The General Plan EIR and the General Plan CEQA Findings found that despite the imposition of certain mitigation measures, impacts to wetland and riparian habitat in some areas of the county resulting from implementation of the 2007 General Plan cannot be fully mitigated to a level below significance (General Plan EIR Impacts BIO-2, 3, 8, 9, 4, and 16). While construction activity associated with implementation of the proposed Project may temporarily disturb wetland or riparian habitats and/or other biological resources, implementation of General Plan policy provisions and the continued enforcement of the County Development Code would generally ensure that implementation of the proposed Project would not result in increased severity of these impacts. The proposed Project would not result in a new impact that was not addressed in the General Plan EIR. | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |
| **Impact 3.4.3** | The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in a less than significant impact regarding the potential to conflict with any habitat conservation plans due to the imposition of mitigation measures (General Plan EIR Impacts BIO-5, 6, 12, 17, and 18). Implementation of General Plan policy provisions would ensure that implementation of the proposed Project would not result in a new impact that was not addressed in General Plan EIR. | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |

| Impact | | Level of Significance Without Mitigation | Mitigation Measure | Resulting Level of Significance |
|---|---|---|---|---|
| **3.5 Cultural and Paleontological Resources** | | | | |
| **Impact 3.5.1** | General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in a less than significant impact to historical resources due to the adoption of mitigation measures (General Plan EIR Impact CR-1). Implementation of General Plan policy provisions and the continued implementation of the County Development Code would ensure that implementation of the proposed General Plan Amendment, GHG Plan, and associated Development Code Amendment would not increase the severity of historic resource impacts or result in a new impact that was not addressed in General Plan EIR. | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |
| **Impact 3.5.2** | General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in a less than significant impact to archaeological resources due to the adoption of mitigation measures (General Plan EIR Impact CR-1). Implementation of General Plan policy provisions and the continued implementation of the County Development Code would ensure that implementation of the proposed General Plan Amendment, GHG Plan, and associated Development Code Amendment would not increase the severity of archaeological resource impacts or result in a new impact that was not addressed in General Plan EIR. | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |

| Impact | | Level of Significance Without Mitigation | Mitigation Measure | Resulting Level of Significance |
|---|---|---|---|---|
| **Impact 3.5.3** | General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in a less than significant impact to paleontological resources due to the adoption of mitigation measures (General Plan EIR Impact CR-1). Implementation of General Plan policy provisions and the continued implementation of the County Development Code would ensure that implementation of the proposed General Plan Amendment, GHG Plan, and associated Development Code Amendment would not increase the severity of paleontological resource impacts or result in a new impact that was not addressed in General Plan EIR. | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |
| **3.6 Hazards and Hazardous Materials** | | | | |
| **Impact 3.6.1** | The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in a less than significant impact regarding the release of hazardous materials (General Plan EIR Impacts HAZ-1, 2, 3, 4 and 5). Implementation of General Plan policy provisions and the continued implementation of the County Development Code would ensure that implementation of the proposed General Plan Amendment, GHG Plan, and associated Development Code Amendment would not increase the severity of hazard impacts or result in a new impact that was not addressed in General Plan EIR. | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |

| Impact | | Level of Significance Without Mitigation | Mitigation Measure | Resulting Level of Significance |
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| **Impact 3.6.2** | The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in a significant and unavoidable impact regarding wildland fires (General Plan EIR Impacts HAZ- 6). Implementation of General Plan policy provisions and the continued implementation of the County Development Code would ensure that implementation of the proposed Project would not increase the severity of this impact. | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |
| **3.7 Hydrology and Water Quality** | | | | |
| **Impact 3.7.1** | The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in a less than significant impact to groundwater supplies and groundwater recharge (General Plan EIR Impact HWQ-1). Implementation of General Plan policy provisions and the continued implementation of the County Development Code would ensure that implementation of the proposed Project would not increase the severity of groundwater impacts or result in a new impact that was not addressed in General Plan EIR. | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |
| **Impact 3.7.2** | The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in a less than significant impact to groundwater quality (General Plan EIR Impact HWQ-2). Implementation of the proposed Project could result in increased erosion and stormwater runoff, which could degrade groundwater quality. Implementation of General Plan policy provisions and the continued | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |

| Impact | | Level of Significance Without Mitigation | Mitigation Measure | Resulting Level of Significance |
|---|---|---|---|---|
| | implementation of the County Development Code would ensure that implementation of the proposed Project would not increase the severity of groundwater quality impacts or result in a new impact that was not addressed in the General Plan EIR. | | | |
| **Impact 3.7.3** | The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in a less than significant impact to drainage and flooding issues (General Plan EIR Impact HWQ-2 and 3). Implementation of General Plan policy provisions and the continued implementation of the County Development Code would ensure that implementation of the proposed Project would not increase the severity of drainage and flooding impacts or result in a new impact that was not addressed in the General Plan EIR. | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |
| **3.8 Noise** | | | | |
| **Impact 3.8.1** | The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in less than significant impacts from noise (General Plan EIR Impact N-1). Implementation of General Plan policy provisions and the continued implementation of the County Development Code would ensure that implementation of the proposed General Plan Amendment, GHG Plan, and associated Development Code Amendment would not increase the severity of construction noise impacts or result in a new impact that was not addressed in General Plan EIR. | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |

| Impact | | Level of Significance Without Mitigation | Mitigation Measure | Resulting Level of Significance |
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| **Impact 3.8.2** | The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in less than significant impacts from noise impacts (General Plan EIR Impacts N-1 and 2). Implementation of General Plan policy provisions and the continued implementation of the County Development Code would ensure that implementation of the proposed General Plan Amendment, GHG Plan, and associated Development Code Amendment would not increase the severity of vibration impacts or result in a new impact that was not addressed in General Plan EIR. | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |
| **Impact 3.8.3** | The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in less than significant impacts from noise impacts (General Plan EIR Impacts N-1, 2, and 3). Implementation of General Plan policy provisions and the continued implementation of the County Development Code would ensure that implementation of the proposed General Plan Amendment, GHG Plan, and associated Development Code Amendment would not increase the severity of noise impacts or result in a new impact that was not addressed in General Plan EIR. | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |
| **3.9 Public Services and Utilities** | | | | |
| **Impact 3.9.1.1** | The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in a less than significant impact to fire protection and emergency medical services (General Plan EIR Impacts PS-2 and 3). Implementation of General Plan policy | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |

| Impact | | Level of Significance Without Mitigation | Mitigation Measure | Resulting Level of Significance |
|---|---|---|---|---|
| | provisions and the continued implementation of the County Development Code would ensure that implementation of the proposed Project would not increase the severity of fire protection service impacts or result in a new impact that was not addressed in the General Plan EIR. | | | |
| **Impact 3.9.2.1** | The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in a less than significant impact to water supply (General Plan EIR Impacts UT-1, 2, and 3). Implementation of the proposed General Plan Amendment, Greenhouse Gas Reduction Plan, and associated Development Code Amendment would incrementally increase demand for water supply as well as the potential for needed additional water supply infrastructure, both of which could result in significant effects on the physical environment. Implementation of General Plan policy provisions and the continued enforcement of the County Development Code would generally ensure that implementation of the proposed Project would not result in an increased severity of these impacts. This project would not result in a new impact that was not addressed in the General Plan EIR. | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |
| **Impact 3.9.3.1** | The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in a less than significant impact regarding wastewater conveyance and treatment (General Plan EIR Impacts UT-4, 5, and 6). Subsequent development under | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |

| Impact | Level of Significance Without Mitigation | Mitigation Measure | Resulting Level of Significance |
|---|---|---|---|
| the proposed Project could incrementally increase wastewater flows and require additional infrastructure and treatment capacity to accommodate anticipated demands. However, implementation of General Plan policy provisions and the continued enforcement of the County Development Code would generally ensure that implementation of the proposed Project would not result in an increased severity of these impacts. This project would not result in a new impact that was not addressed in the General Plan EIR. | | | |
| **Impact 3.9.3.2** The General Plan EIR and General Plan CEQA Findings determined that implementation of the General Plan would result in a less than significant impact regarding stormwater drainage (General Plan EIR Impact HWQ-2). Subsequent development under the proposed Project could increase stormwater flows and require additional infrastructure to accommodate anticipated demands. However, continued implementation of General Plan policy provisions would ensure that no adverse impacts resulting from stormwater drainage issues would occur. | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |
| **3.10 Transportation and Circulation** | | | |
| **Impact 3.10.1** The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in a less than significant impact regarding standards for facility operations within the County (General Plan EIR Impact TR-1). Implementation of General Plan policy provisions and the continued implementation of the County Development | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |

| Impact | | Level of Significance Without Mitigation | Mitigation Measure | Resulting Level of Significance |
|---|---|---|---|---|
| | Code would ensure that implementation of the proposed General Plan Amendment, GHG Plan, and associated Development Code Amendment would not increase the severity of transportation-related impacts or result in a new impact that was not addressed in General Plan EIR. | | | |
| **Impact 3.10.2** | The General Plan EIR and the General Plan CEQA Findings found that despite the imposition of certain mitigation measures, impacts to facility operations not under the County's jurisdiction, such as freeways and State highways, as well as arterials in incorporated cities within the county and in areas to the County, resulting from implementation of the 2007 General Plan cannot be fully mitigated to a level below significance (General Plan EIR Impacts TR-2 and 3). Implementation of General Plan policy provisions would generally ensure that implementation of the proposed Project would not result in increased severity of these impacts. The proposed Project would not result in a new impact that was not addressed in the General Plan EIR. | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |
| **Impact 3.10.3** | The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in a less than significant impact regarding a change in air traffic patterns including either an increase in traffic levels or a change in location that results in substantial safety risks (General Plan EIR Impacts TR- 4). Implementation of General Plan policy provisions and the continued implementation of the County Development Code would ensure that implementation of | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |

| Impact | | Level of Significance Without Mitigation | Mitigation Measure | Resulting Level of Significance |
|---|---|---|---|---|
| | the proposed General Plan Amendment, GHG Plan, and associated Development Code Amendment would not increase the severity of air traffic-related impacts or result in a new impact that was not addressed in General Plan EIR. | | | |
| **Impact 3.10.4** | The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in a less than significant impact regarding hazards resulting due to a design feature or incompatible uses (General Plan EIR Impacts TR- 5). Implementation of General Plan policy provisions and the continued implementation of the County Development Code would ensure that implementation of the proposed General Plan Amendment, GHG Plan, and associated Development Code Amendment would not increase the severity of roadway or traffic hazard impacts or result in a new impact that was not addressed in General Plan EIR. | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |
| **Impact 3.10.5** | The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in a less than significant impact regarding emergency access (General Plan EIR Impacts TR- 6). Implementation of General Plan policy provisions and the continued implementation of the County Development Code would ensure that implementation of the proposed Project would not increase the severity of emergency access-related impacts or result in a new impact that was not addressed in General Plan EIR. | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |

| Impact | Level of Significance Without Mitigation | Mitigation Measure | Resulting Level of Significance |
|---|---|---|---|
| **Impact 3.10.6** The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in a less than significant impact regarding public transit, bicycle, and pedestrian facilities (General Plan EIR Impacts TR- 8). Implementation of General Plan policy provisions and the continued implementation of the County Development Code would ensure that implementation of the proposed Project would not increase the severity of impacts to public transit systems, or bicycle and pedestrian facilities or result in a new impact that was not addressed in General Plan EIR. | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |
| **3.11 Climate Change and Greenhouse Gases** | | | |
| **Impact 3.11.1** Implementation of the proposed General Plan Amendment, GHG Plan, and associated Development Code Amendment would implement a number of activities to reduce greenhouse gas emissions that are under the County's jurisdiction to implement. The proposed project's GHG reducing activities are consistent with the early emission reduction targets contained in AB 32 the AB 32 Scoping Plan Report. | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |
| **Impact 3.11.2** Subsequent implementation of the General Plan in combination with reduction measures under the proposed General Plan Amendment, GHG Plan, and associated Development Code Amendment could be exposed to environmental effects associated with climate change. While the exact extent of the environmental effects of climate change on San Bernardino County is not known at this time, current General Plan | No new or substantially more severe significant impact. | None required. | No new or substantially more severe significant impact. |

| Impact | | Level of Significance Without Mitigation | Mitigation Measure | Resulting Level of Significance |
|---|---|---|---|---|
| | policies and other state and local provisions address these effects. Amending the General Plan to add the GHG reduction policy and adopting the proposed GHG Plan would not increase impacts of climate. | | | |
| **Cumulative Impacts** | | | | |
| **Impact 5.1** | The General Plan EIR found that cumulative impacts to scenic resources would not be considerable with implementation of the General Plan. Implementation of the proposed General Plan Amendment, GHG Plan, and associated Development Code Amendment, in combination with anticipated cumulative impacts identified from implementation of the General Plan, would further contribute to the alteration of the visual character of the region, impacts to scenic vistas, and increased glare/lighting. Subsequent implementation of GHG Plan reduction measures that provide for renewable energy generating facilities would result in an increased severity of scenic impacts beyond what was considered in the General Plan EIR. | Substantially increase the severity of this impact, which was previously identified in the General Plan EIR as a less than significant impact. | None available. | Substantial increase in severity of this impact that would result from the proposed Project is a significant and unavoidable cumulative impact. |
| **Impact 5.2** | The General Plan EIR and the General Plan CEQA Findings determined that implementation of the General Plan would result in significant and unavoidable cumulative impacts to agricultural resources that cannot be fully mitigated to a level below significance. Implementation of the proposed General Plan Amendment, GHG Plan, and associated Development Code Amendment, in combination with anticipated cumulative impacts identified from implementation of the General Plan, would result in a contribution to the loss of agricultural uses. | Substantially increase the severity of this impact, which was previously identified in the General Plan EIR as a significant and unavoidable impact. | Implement Mitigation Measure MM 3.2.1. | Substantial increase in severity of this impact that would result from the proposed Project is a significant and unavoidable cumulative impact. |

| Impact | | Level of Significance Without Mitigation | Mitigation Measure | Resulting Level of Significance |
|---|---|---|---|---|
| **Impact 5.3** | The General Plan EIR and the General Plan CEQA Findings found that despite the imposition of certain mitigation measures, cumulative impacts to biological resources from implementation of the General Plan cannot be fully mitigated to a level below significance. The proposed General Plan Amendment, GHG Plan, and associated Development Code Amendment, in combination with anticipated cumulative impacts identified from implementation of the General Plan, would result in an increase in severity of cumulative biological resource impacts identified in the General Plan EIR. | Substantially increase the severity of this impact, which was previously identified in the General Plan EIR as a significant and unavoidable impact. | Implement Mitigation Measure MM 3.4.1a and b. | Substantial increase in severity of this impact that would result from the proposed Project is a significant and unavoidable cumulative impact. |
| There are no new or substantially more severe impacts anticipated from Air Quality, Cultural and Paleontological Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Public Services and Utilities, Transportation and Circulation, and Climate Change and Greenhouse Gases as a result of the proposed project. Therefore, there would be no cumulatively significant impacts related to these areas. | | | | |

# 1.0 Introduction

This Final Supplemental Environmental Impact Report (FSEIR) was prepared in accordance with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines (Section 15132). The County of San Bernardino (County) is the lead agency for the environmental review of the proposed General Plan Amendment, Greenhouse Gas Reduction Plan (Plan) and Development Code Amendment, collectively referred to as the project. The County has the principal responsibility for approving the project. This FSEIR assesses the expected environmental impacts resulting from approval and implementation of the proposed project, as well as responds to comments received on the Draft SEIR.

## 1.1 BACKGROUND AND PURPOSE OF THE EIR

### OVERVIEW OF CEQA REQUIREMENTS FOR PREPARATION OF AN EIR

The County, serving as the lead agency, has prepared this SEIR to provide the public and responsible and trustee agencies with information about the potential environmental effects of the proposed project. As set forth in the provisions of CEQA and implementing regulations, public agencies are charged with the duty to consider the environmental impacts of proposed development and to minimize these impacts where feasible while carrying out an obligation to balance a variety of public objectives, including economic, environmental, and social factors.

State CEQA Guidelines Section 15121(a) states that an EIR is an informational document for decision-makers and the general public that analyzes the significant environmental effects of a project, identifies possible ways to minimize significant effects, and describes reasonable alternatives to the project that could reduce or avoid its adverse environmental impacts. Public agencies with discretionary authority are required to consider the information in the EIR, along with any other relevant information, in making decisions on the project.

CEQA requires the preparation of an environmental impact report prior to approving any project, which may have a significant effect on the environment. For the purposes of CEQA, the term "project" refers to the whole of an action which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]). With respect to the proposed project, the County has determined that the proposed General Plan Amendment, Greenhouse Gas Reduction Plan, and associated Development Code Amendment are a "project" within the definition of CEQA.

### BACKGROUND OF ENVIRONMENTAL REVIEW PROCESS OF THE PROJECT

The following is an overview of the environmental review process for the proposed General Plan Amendment and Greenhouse Gas Reduction Plan that has led to the preparation of this FSEIR.

#### Previous Environmental Review

Following the County's adoption of its General Plan in March 2007, the California Attorney General filed a lawsuit alleging that the EIR prepared for the General Plan Update did not comply with the requirements of CEQA in its analysis of GHG emissions and climate change. Subsequently, the County and the Attorney General entered into an agreement to settle the lawsuit, which included an agreement by the County to: (1) prepare an amendment to its General Plan adding a policy that describes the County's goal of reducing those GHG emissions reasonably attributable to the County's discretionary land use decisions and the County's internal government operations; and (2) prepare a GHG Reduction Plan, which includes inventories, a reduction target, and reduction measures to meet the reduction target, by regulating those sources of GHG emissions reasonably attributable to the County's discretionary

land use decisions and the County's internal government operations. A related lawsuit challenging the General Plan EIR was filed by the Center for Biological Diversity and other organizations, and that lawsuit was dismissed following the settlement with the Attorney General. With the dismissal of these lawsuits, the March 2007 approval of the General Plan, and the County's certification of the program EIR for the General Plan, remained in full effect.

### Notice of Preparation

The Notice of Preparation was submitted for public review on September 20, 2010. As of the close of the public review period (October 20, 2010), two comment cards and five comment letters were received by the County of San Bernardino, the lead agency for the proposed project. The major topics of the received letters that are relevant to the Draft SEIR were that the County set a per capita reduction target; develop a broad range of mitigation measures that are specific and enforceable; address hydrology and water quality impacts, the impacts of land use and zoning changes, as well as to utilities and service systems; use metrics for GHG policies; include more specificity in the plan; notification if the project will supersede USDA Forest Service management; and include extensive alternative approaches. The Notice of Preparation and the comments received are included in Appendix A of the Draft SEIR.

### Draft Supplemental EIR

The Draft Supplemental EIR (DSEIR) was released for public and agency review on April 5, 2011, with the review period set to end on May 20, 2011. The DSEIR contains a description of the project, description of the environmental setting, identification of project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives. The DSEIR was provided to interested public agencies and the public and was made available for review at the County offices and on the County's website.

### Final Supplemental EIR

The County received comment letters from interest groups and the public regarding the Draft SEIR. This document responds to the written comments received as required by CEQA. This document also contains minor edits to the Draft SEIR, which are included in Section 3.0, Minor Revisions to the Draft SEIR. This document constitutes the FSEIR.

### Certification of the Final EIR/Project Consideration

The County will review and consider the FSEIR. If the County finds that the FSEIR is "adequate and complete," the County may certify the FSEIR. The rule of adequacy generally holds that the EIR can be certified if: (1) it shows a good faith effort at full disclosure of environmental information; and (2) it provides sufficient analysis to allow decisions to be made regarding the project in contemplation of its environmental consequences.

Upon review and consideration of the Final SEIR, the County may take action to adopt, revise, or reject the proposed project. A decision to approve the proposed project would be accompanied by written findings in accordance with State CEQA Guidelines Section 15091 and Section 15093. Public Resources Code Section 21081.6 also requires lead agencies to adopt a mitigation monitoring and reporting program to describe measures that have been adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment.

## 1.2 INTENDED USES OF THE SUPPLEMENTAL EIR

The SEIR is intended to evaluate the environmental impacts of the proposed project. This SEIR, in accordance with CEQA Guidelines Section 15126, should be used as the primary environmental document to evaluate all planning and permitting actions associated with the proposed project. Please refer to Section 2.0, Project Description, of the Draft SEIR for a detailed discussion of the proposed project.

### COUNTY OF SAN BERNARDINO

The SEIR is intended to be used by the County as a tool in evaluating the proposed project's environmental impacts and can be further used to modify, approve, or deny approval of the proposed project based on the analysis provided in the SEIR. A description of requested entitlements and subsequent approvals associated with approval and implementation of the proposed project are described in Section 2.0, Project Description, of the Draft SEIR.

### KNOWN RESPONSIBLE AND TRUSTEE AGENCIES

For the purpose of CEQA, the term "responsible agency" includes all public agencies other than the lead agency that have discretionary approval power over a project or an aspect of a project. The term "trustee agency" is a state agency having jurisdiction by law over natural resources affected by a project that are held in trust for the people of the State of California. The following agencies are identified as potential responsible or trustee agencies:

- California Regional Water Quality Control Board, Lahontan Region
- California Department of Fish and Game
- U.S. Fish and Wildlife Service
- U.S. Army Corp of Engineers
- San Bernardino County Flood Control District

## 1.3 ORGANIZATION AND SCOPE OF THE FINAL SUPPLEMENTAL EIR

This document is organized in the following manner:

### SECTION ES – EXECUTIVE SUMMARY

Section ES includes an updated Executive Summary that provides a brief project description and presents a summary table of probably environmental effects of the project.

### SECTION 1.0 – INTRODUCTION

Section 1.0 provides an overview of the SEIR process to date and what the FSEIR is required to contain.

### Section 2.0 – COMMENTS AND RESPONSES TO COMMENTS ON THE DRAFT SEIR

Section 2.0 provides a list of commenters, copies of written comments (coded for reference), and the responses to those written comments made on the Draft SEIR.

## Section 3.0 – MINOR REVISIONS TO THE DRAFT SEIR

Section 3.0 provides a list of minor edits made to the Draft SEIR as a result of comments received and other staff initiated changes.

# 2.0 Comments and Responses to Comments on the Draft SEIR

## 2.1 INTRODUCTION

This Final Supplemental Environmental Impact Report (FSEIR) was prepared in accordance with the California Environmental Quality Act (CEQA) (Cal. Pub. Res. Code Section 21000, et seq.) and State CEQA Guidelines (Cal. Code Regs. Section 15000, et seq.). The County is the lead agency for the environmental review of the proposed project and has the principal responsibility for approving the project. This FSEIR assesses the expected environmental impacts resulting from the approval and implementation of the proposed project and responds to comments received on the Draft Supplemental EIR (referred to as Draft SEIR or DSEIR).

## 2.2 LIST OF COMMENTERS

The following individuals and representatives of organizations and agencies submitted written comments on the Draft SEIR.

| Letter | Agency, Organization or Individual | Date |
|---|---|---|
| A | California Regional Water Quality Control Board | 5/12/2011 |
| B | Town of Apple Valley | 5/20/2011 |
| C | Department of Conservation | 5/20/2011 |
| D | San Manuel Band of Mission Indians | 5/20/2011 |
| E | South Coast Air Quality Management District | 6/30/2011 |
| 1 | Center for Biological Diversity and Natural Resources Defense Council | 5/20/2011 |
| 2 | Southern California Edison | 5/20/2011 |

## 2.3 COMMENTS AND RESPONSES

### REQUIREMENTS FOR RESPONDING TO COMMENTS ON A DRAFT EIR

State CEQA Guidelines Section 15088 requires that lead agencies evaluate all comments on environmental issues received on the Draft SEIR and prepare a written response. The written response must address the significant environmental issue raised and must be detailed, especially when specific comments or suggestions (e.g., additional mitigation measures) are not accepted. In addition, there must be a good faith and reasoned analysis in the written response. However, lead agencies need only respond to significant environmental issues associated with the project and do not need to provide all the information requested by commenters, as long as a good faith effort at full disclosure is made in the EIR (State CEQA Guidelines 15204).

State CEQA Guidelines Section 15204 recommends that commenters provide detailed comments that focus on the sufficiency of the Draft SEIR in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated. State CEQA Guidelines Section 15204 also notes that commenters should provide an explanation and evidence supporting their comments. Pursuant to State CEQA Guidelines Section 15064, an effect shall not be considered significant in the absence of substantial evidence supporting such a conclusion.

State CEQA Guidelines Section 15088 also recommends that where a response to comments results in revisions to the Draft SEIR, that those revisions be incorporated as a revision to the Draft SEIR or as a separate section of the Final SEIR.

### RESPONSES TO COMMENT LETTERS

Written comments on the Draft EIR are reproduced on the following pages, along with responses to those comments. To assist in referencing comments and responses, the following coding system is used:

- Agency and service provider comment letters are coded by letters and each issue raised in the comment letter is assigned a number (e.g., Comment Letter A, comment 1 is referred to as A-1).

- Individual and interest group comment letters are coded by numbers and each issue raised in the comment letter is assigned a number (e.g., Comment Letter 1, comment 1 is referred to as 1-1).

Where changes to the Draft SEIR text result from responding to comments, those changes are included in the response and demarcated with revision marks (<u>underline</u> for new text, ~~strike-out~~ for deleted text). The responses to comments were prepared by County staff and PMC with the expert technical assistance of Rich Walter, ICF International and Michael Hendrix, Atkins North America, Inc. These consultants assisted in particular in responding to the various comments about technical topics relating to the inventory and the emissions reductions measures.

# Letter A

**California Regional Water Quality Control Board**
**Lahontan Region**

Linda S. Adams
*Acting Secretary for Environmental Protection*

**Victorville Office**
14440 Civic Drive, Suite 200, Victorville, California 92392
(760) 241-6583 • Fax (760) 241-7308
www.waterboards.ca.gov/lahontan

Edmund G. Brown Jr.
*Governor*



May 12, 2011

File: Environmental Doc Review
San Bernardino County

Doug Feremenga, Project Planner
County of San Bernardino Land Use Services Dept
385 N. Arrowhead Ave., First Floor
San Bernardino, CA 92415
Fax: 909.387.3223

**COMMENTS ON THE GENERAL PLAN AMENDMENT AND GREENHOUSE GAS REDUCTION PLAN, DRAFT SUPPLEMENTAL PROGRAM ENVIRONMENTAL IMPACT REPORT, SAN BERNARDINO COUNTY, STATE CLEARINGHOUSE NO. 2005101038**

California Regional Water Quality Control Board, Lahontan Region (Water Board) staff received a Supplemental Environmental Impact Report (SEIR) for the General Plan (GP) Amendment and associated greenhouse gas (GHG) emissions reduction plan (collectively referred to as the Project) on April 7, 2011. The SEIR, dated March 2011, was prepared by PMC for the County of San Bernardino (County) and submitted in compliance with provisions of the California Environmental Quality Act (CEQA). The environmental analysis in the SEIR assesses whether the Project would result in new significant environmental impacts not previously addressed in the San Bernardino County 2006 General Plan Programmatic EIR. The Project is located in San Bernardino County and involves implementing policies and programs to reduce GHG emissions and would consist of: 1) inventories; 2) target reductions; and 3) goals, objectives, and strategies to meet the reduced targets.

A-1

Pursuant to CEQA guidelines, California Code of Regulations (CCR), title 14, section 15096, responsible agencies must specify the scope and content of the environmental information germane to their statutory responsibilities. Water Board staff, acting as a responsible agency, has reviewed the above-referenced document in context as to how well the proposed project protects water quality, and ultimately, the beneficial uses of waters of the State.

The conclusions in this SEIR are such that, provided the General Plan policies and procedures continue to be implemented, including implementation of the County Development Code, the Project would not increase the severity of groundwater quality impacts. This SEIR does not address site-specific mitigation measures for new future projects; and as such, each new project must satisfy CEQA before the Water Board may take regulatory action. Therefore, new projects that could potentially impact water

# Letter A Continued



quality and hydrological resources must be adequately addressed in their respective environmental reviews. If required, adequate mitigation must be implemented to prevent adverse impacts to water quality and cumulative impacts that have the potential to permanently alter the hydrological and ecological function of the aquatic water resources within the Project area, thereby preventing adverse affects to beneficial uses of waters of the State.

**AUTHORITY**

The State Water Resources Control Board (State Water Board) and the Lahontan Water Board regulate discharges of waste in order to protect water quality and, ultimately, the beneficial uses of waters of the State. State law assigns responsibility for protection of water quality in the Lahontan Region (Region) to the Lahontan Water Board. The *Water Quality Control Plan for the Lahontan Region* (Basin Plan) contains policies that the Water Board uses with other laws and regulations to protect water quality within the region. All surface waters and groundwaters are considered waters of the State, which include, but are not limited to, aquifers, drainages, streams, washes, ponds, pools, or wetlands. Surface water bodies may be permanent or intermittent. All waters of the State are protected under California law. Additional protection is provided for waters of the United States (U.S.) under the Federal Clean Water Act (CWA). Based on our review of the SEIR, activities implemented under this Project may involve alteration, dredging, filling, and/or excavating activities in waters of the State. Such activities constitute a discharge of waste[1], as defined in California Water Code (CWC), section 13050, and could affect the quality of waters of the State.

**A-1 cont.**

The Basin Plan sets forth water quality standards for the surface and groundwaters of the Region, which include both designated beneficial uses of water and the narrative and numerical objectives which must be maintained or attained to protect those uses. It identifies general types of water quality problems, which can threaten beneficial uses in the Region. It then identifies required or recommended control measures for these problems. In some cases, it prohibits certain types of discharges in particular areas. The Basin Plan includes a program of implementation to protect beneficial uses and to achieve water quality objectives. The Basin Plan can be accessed via the Water Board's web site at http://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.shtml.

**REGULATORY ACTIONS**

A number of activities that may be associated with Project implementation may require regulatory action by either the State Water Board or Lahontan Water Board. These regulatory actions may include:

[1] "Waste" is defined in the Basin Plan to include any waste or deleterious material including, but not limited to, waste earthen materials (such as soil, silt, sand, clay, rock, or other organic or mineral material) and any other waste as defined in the California Water Code, section 13050(d).

# Letter A Continued



- Activities in areas that would impact waters of the U.S. and disturb land of more than 1 acre may require a CWA, section 402(p) stormwater permit, including a National Pollutant Discharge Elimination System (NPDES) General Construction Stormwater Permit and/or General Industrial Stormwater Permit, both obtained from the State Water Board;
- Activities in all other areas (non-federal) that would adversely impact water quality from land disturbances may require an individual stormwater permit obtained from the Water Board;
- Activities that would alter streambed channels and/or discharge fill material to a surface water may require a CWA section 401 water quality certification (WQC) for impacts to federal waters (waters of the U.S.); and,
- Activities that involve dredge and fill within non-federal waters may require Waste Discharge Requirements (WDRs) for impacts to non-federal waters approved by the Water Board.

Some waters of the State are "isolated" from waters of the U.S.; determinations of the jurisdictional extent of the waters of the U.S. are made by the United States Army Corps of Engineers (USACE). Projects that have the potential to impact surface waters will require the appropriate jurisdictional determinations. These determinations are necessary to discern if the proposed surface water impacts will be regulated under section 401 of the CWA or through dredge and fill WDRs issued by the Water Board.

**A-1 cont.**

**POTENTIAL IMPACTS TO SURFACE WATERS**

The practice of channelizing, straightening, and lining streambeds changes a stream's hydrology by decreasing water storage capacity and increasing water flow velocity, which in turn leads to increases in the severity of peak discharges. These hydrologic changes tend to exacerbate flooding, erosion, scouring, sedimentation and, ultimately, near-total loss of natural functions and values, thereby resulting in the increased need for engineered solutions to re-establish the disrupted flow patterns.

The proposal for each individual activity implemented under the Project will need to identify and quantify impacts, if applicable, to the impacted drainage and discuss the purpose of the individual activity, need for disturbance, and alternatives (avoidance, minimize disturbances, and mitigation).

If impacts to surface waters are unavoidable, then Water Board staff request that the proposed activity be designed such that it would maintain existing hydrologic features and patterns to the extent feasible. All unavoidable impacts to surface waters must be mitigated to ensure that no net loss of function and value will occur as a result of project implementation.

# Letter A Continued



**CLOSING**

Please note that obtaining a permit and conducting monitoring does not constitute adequate mitigation. Development and implementation of acceptable mitigation is required. The environmental document that assesses impacts from activities as a result of Project implementation must specifically describe the best management practices and other mitigation measures used to mitigate project impacts to water quality.

**A-1 cont.**

Thank you for the opportunity to comment on the SEIR. If you have any questions regarding this letter, please contact me at (760) 241-7373 (chunter@waterboards.ca.gov) or Patrice Copeland, Senior Engineering Geologist, at (760) 241-7404 (pcopeland@waterboards.ca.gov).

Sincerely,

Patrice A. Copeland

for: Christy Hunter, PG
Engineering Geologist

cc: State Clearinghouse
Debra Hawk, California Department of Fish & Game, Inland Deserts Region
Shannon Pankratz, U.S. Army Corps of Engineers, Los Angeles District

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*California Environmental Protection Agency*

Recycled Paper

Letter A **CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LAHONTAN REGION**

Response A-1: The County acknowledges the Regional Board's statements regarding the way in which it will respond to particular project applications, and the other statements in this letter. The comment and the statements of the Water Board's position are noted for the record. The letter does not set forth comments on environmental issues that require further response.

# Letter B

Town of Apple Valley

14955 Dale Evans Parkway • Apple Valley, California 92307

May 20, 2011

County of San Bernardino
Land Use Services Department
ATTN: Doug Feremenga, Project Planner
Land Use Services Department
385 N. Arrowhead Ave., First Floor
San Bernardino, CA 92415

**Re: County of San Bernardino General Plan Amendment and Greenhouse Gas Reduction Plan**

Dear Mr. Feremenga:

The Town of Apple Valley (Town) appreciates the opportunity to provide comments on the proposed County of San Bernardino General Plan Amendment and Greenhouse Gas Reduction Plan. The Town recognizes and appreciates the tremendous effort undertaken by the County of San Bernardino (County) to address greenhouse gas (GHG) emissions and develop a plan to significantly reduce GHG emissions in the County by 2020.

The Town, like the County, recognizes that its prosperity and economic development cannot be achieved at the expense of the environment. The Town has taken several steps towards striking a balance between maintaining a strong local economy, protecting the environment, and providing a better way of life for its residents. These steps include:

**Adopting a Climate Action Plan (CAP):** The Town's CAP was adopted by the Town Council in July 2010. The CAP outlines how the Town will reduce its GHG emissions to 15% below 2005 levels by 2020.

**Amending Development Code to Allow for Solar Farms:** The Development Code amendment allows for the location of solar farms in the North Apple Valley Industrial Specific Plan and Apple Valley Dry Lake areas. Solar farms that are ten acres in size or less can be administratively approved. Solar farms over ten acres in size but less than 400 acres are conditionally permitted.

**Preparing a Multispecies Habitat Conservation Plan/Natural Communities Conservation Plan (MSHCP/NCCP):** The planning area for the MSHCP/NCCP is approximately 265 square miles (170,000 acres). The planning area includes approximately 108 square miles (69,000 acres) currently under the County's jurisdiction that is within the Town's Sphere of Influence (SOI). The MSHCP/NCCP will comprehensively address environmental impacts that are likely to occur with the implementation of the Town's 2009 General Plan and the County's 2007 General Plan within the planning area.

B-1

The planning initiatives described above support the goals and objectives of the County's General Plan Amendment and GHG Reduction Plan. In particular, the MSHCP/NCCP has the

# Letter B Continued

ability to provide opportunities for the County to offset impacts to sensitive species and other environmental resources listed in the draft Supplemental Program Environmental Impact Report (Impact 3.4.1.).

Although the MSHCP/NCCP is in the planning phase, the Town is taking a regional approach in developing the conservation strategy. Two important regional linkages have been identified which intersect in the MSHCP/NCCP's planning area. These linkages are: the Wild Wash Linkage and the San Bernardino-Granite Mountains Linkage.

> **Wild Wash Linkage:** An east-west linkage comprised of a series of interconnected desert valleys. This linkage utilizes Wild Wash, which is the last undeveloped wash traversing under the I-15 (via a 180-foot span bridge) from the Mojave Narrows to well east of Barstow. The Wild Wash Linkage consists of largely unfragmented blocks of good-quality desert tortoise habitat that connects the Ord-Rodman and Freemont-Kramer Desert Wildlife Management Areas (managed by the Bureau of Land Management) and provides regional connectivity between critical habitat for the desert tortoise and other desert plants and animals.
>
> **San Bernardino-Granite Mountains Linkage:** A north-south linkage that connects the north face of the San Bernardino Mountains with the Granite Mountains and desert ranges across Fifteen Mile Valley. In 2005 Science and Collaboration for Connected Wildlands ranked this linkage in the top 15 southern California linkages for priority conservation. The linkage represents a landscape-level connection between the coastal and desert mountains, facilitating the direct dispersal and multigenerational movement of over 40 focal species, including the desert bighorn sheep, American badger, and Pacific kangaroo rat.

**B-1 cont.**

Preserving these linkages, along with the reduction of GHG emissions, will play an important role in mitigating the effects of Climate Change. Linkages ensure the multi-generational movement of species, both plant and animal, across the landscape, allowing species to adapt to changing environmental factors.

The Town is taking this regional approach to its conservation strategy because it provides many benefits to its residents and the region at large. The Town hopes that its MSHCP/NCCP will be a plan that other Victor Valley communities can build on to facilitate the continued growth of a regional economy while preserving the rural character enjoyed today. The Town looks forward to working with the County in its efforts to promote the economic success of the region while protecting the diverse natural resources of the high desert. If you would like more information about efforts the Town is implementing to reduce GHG, including the MSHCP/NCCP, please feel free to contact me at (760) 240-7000, ext. 7204.

Sincerely,

Lori Lamson

Lori Lamson
Assistant Director of Community Development

c: Kenneth Henderson, Assistant Town Manager
Chris Kelly, Director of Land Use Services, County of San Bernardino

**Letter B** TOWN OF APPLE VALLEY

Response B-1: The County acknowledges the Town of Apple Valley's statements and these statements are noted for the record. The letter does not set forth comments on environmental issues that require further response.

# Letter C

NATURAL RESOURCES AGENCY EDMUND G. BROWN, JR., GOVERNOR

DEPARTMENT OF CONSERVATION

*Managing California's Working Lands*

DIVISION OF LAND RESOURCE PROTECTION

801 K STREET • MS 18-01 • SACRAMENTO, CALIFORNIA 95814

PHONE 916 / 324-0850 • FAX 916 / 327-3430 • TDD 916 / 324-2555 • WEBSITE conservation.ca.gov

May 20, 2011

**VIA FACSIMILE: 909.387.3223**
Doug Feremenga, Project Planner
County of San Bernardino
Land Use Services Department
385 N. Arrowhead Ave., First Floor
San Bernardino, CA 92415

Dear Mr. Feremenga:

Subject: San Bernardino GPA and Greenhouse Gas Emissions Reduction PlanSEIR**SCH: 2005101038**

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the Supplemental Environmental Impact Report (SEIR) for the referenced project. The Division monitors farmland conversion on a statewide basis and administers the California Land Conservation (Williamson) Act and other agricultural land conservation programs. We offer the following comments and recommendations with respect to the project's impacts on agricultural land and resources.

Project Description

The San Bernardino County (County) General Plan Amendment and Greenhouse Gas (GHG) Emissions Reduction Plan (Plan) includes the following objectives:

- Adopt a GHG emissions reduction goal to reduce emissions from activities over which the county has jurisdictional and operational control, consistent with the target reductions of Assembly Bill (AB) 32 and the AB 32 scoping plan; **C-1**
- Provide estimated GHG reductions associated with the County's existing sustainability efforts and integrate the County's sustainability efforts into the discrete actions of the GHG reduction plan;
- Provide a list of discrete actions that will reduce GHG emissions; and,
- Approve a GHG emissions reduction plan that satisfies the requirements of section 15183.5 of the CEQA guidelines, so that compliance with the GHG Plan

*The Department of Conservation's mission is to balance today's needs with tomorrow's challenges and foster intelligent, sustainable, and efficient use of California's energy, land, and mineral resources.*

# Letter C Continued



can be used in appropriate situations to determine the significance of a project's effects relating to GHG emissions.

The location of the proposed project includes all of the unincorporated areas of the County that are under the County's land use authority, as well as all County-owned or -operated facilities and services (whether they are in an incorporated city or town or within an unincorporated area). The GHG Plan would likely involve citing renewable energy generating facilities on Important Farmlands and/or lands under Williamson Act contracts. Because these facilities are an allowed use in the Agriculture Zone, and could result in increased severity of agricultural use impacts beyond what was considered in the County's General Plan EIR, the impact to agricultural resources has been categorized as potentially significant and unavoidable. Therefore, the Division recommends that any subsequent CEQA document address the following items to provide a comprehensive discussion of potential impacts of the project on agricultural land and activities:

Agricultural Setting of the Project

- Location and extent of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and other types of farmland in and adjacent to the project area.
- Current and past agricultural use of the project area. Please include data on the types of crops grown, and crop yields and farm gate sales values.

**C-1 cont.**

To help describe the full agricultural resource value of the soils on the site, the Department recommends the use of economic multipliers to assess the total contribution of the site's potential or actual agricultural production to the local, regional and state economies. Two sources of economic multipliers can be found at the University of California Cooperative Extension Service and the United States Department of Agriculture (USDA).

Project Impacts on Agricultural Land

- Type, amount, and location of farmland conversion resulting directly and indirectly from project implementation and growth inducement, respectively.
- Impacts on current and future agricultural operations; e.g., land-use conflicts, increases in land values and taxes, vandalism, etc.
- Incremental project impacts leading to cumulative impacts on agricultural land. This would include impacts from the proposed project, as well as impacts from past, current, and likely projects in the future.

Under California Code of Regulations Section 15064.7, impacts on agricultural resources may also be both quantified and qualified by use of established thresholds of significance. As such, the Division has developed a California version of the USDA Land Evaluation and Site Assessment (LESA) Model. The California LESA model is a

# Letter C Continued



semi-quantitative rating system for establishing the environmental significance of project-specific impacts on farmland. The model may also be used to rate the relative value of alternative project sites. The LESA Model is available on the Division's website at:

http://www.consrv.ca.gov/DLRP/qh_lesa.htm

Williamson Act Lands

Under California Code of Regulations Section 15206(b)(3), a project is deemed to be of statewide, regional or area-wide significance if it would result in the cancellation of a Williamson Act contract for any parcel of 100 or more acres. The project described above could result in the cancellation of 100 or more acres of contracted lands depending on which project alternative is chosen. As such, the Department recommends that the following information be provided and/or discussed in any subsequent CEQA document:

- A map detailing the location of agricultural preserves and contracted land within each preserve. The CEQA document should also tabulate the number of acres under Williamson Act contract, according to land type (e.g., prime or non-prime agricultural land), which could be impacted directly or indirectly by the project.
- A discussion of Williamson Act contracts that may be terminated in order to implement the project. The CEQA document should discuss the probable impacts on nearby properties resulting from the termination of adjacent Williamson Act contracts. For example, a termination of a Williamson Act contract may have a growth-inducing impact. In other words, a termination may not only lift a barrier to development, but also result in higher property taxes, and thus, an incentive to shift to a more intensive land use, such as urban development.
- As a general rule, land can only be withdrawn from a Williamson Act contract through the nine-year non-renewal process. Immediate termination via cancellation is reserved for "extraordinary circumstances" (See Sierra Club v. City of Hayward (1981) 28 Cal.3d 840, 852-855). Under Government Code section 51282, the city or county must approve a request for cancellation and base that approval on specific findings that are supported by substantial evidence. When cancellation is proposed, the Department recommends that a discussion of the findings be included in the CEQA document. Finally, a notice of the hearing to approve the tentative cancellation and a copy of the landowner's petition must be mailed to the Director of the Department ten working days prior to the hearing. (The notice should be mailed to Derek Chernow, Director, Department of Conservation, c/o Division of Land Resource Protection, 801 K Street MS 18-01 Sacramento, CA 95814-3528.)
- If portions of the planning area are under Williamson Act contracts (and will continue to be under contract after project implementation) the CEQA document should discuss the proposed uses for those lands. Uses of contracted land must meet compatibility standards identified in Government Code Sections 51238 -

**C-1 cont.**

# Letter C Continued



51238.3. Otherwise, contract termination (see paragraph above) must occur prior to the initiation of the new land use.

- An agricultural preserve is a zone authorized by the Williamson Act and established by the local government to designate qualified land to be placed under the Williamson Act's 10-year contracts. Preserves are also intended to create a setting for contract-protected lands that is conducive to continuing agricultural use. Under Government Code Section 51230, "An agricultural preserve may contain land other than agricultural land, but the use of any land within the preserve and not under contract shall within two years of the effective date of any contract on land within the preserve be restricted by zoning, including appropriate minimum parcel sizes that are at a minimum consistent with this chapter, in such a way as not to be incompatible with the agricultural use of the land." Therefore, the CEQA document should also discuss any proposed general plan designation or zoning within agricultural preserves affected by the project.

Mitigation Measures

The loss of agricultural land represents a permanent reduction in the State's agricultural land resources and the County's economic base. In 2008-2009, approximately $355,379,000 in farm sales was generated in the County.[1] The significant value agriculture has on the County's economy demonstrates why the remaining agricultural resources in the County should be protected whenever feasible.

C-1 cont.

As such, the Department recommends the use of permanent agricultural conservation easements on land of at least equal quality and size as partial compensation for the direct loss of agricultural land. If growth inducing or cumulative agricultural impacts are involved, the Department recommends that this ratio of conservation easements to lost agricultural land be increased. Conservation easements will protect a portion of those remaining land resources and lessen project impacts in accordance with CEQA Guideline §15370. The Department highlights this measure because of its acceptance and use by lead agencies as an appropriate mitigation measure under CEQA and because it follows an established rationale similar to that of wildlife habitat mitigation.

Mitigation via agricultural conservation easements can be implemented by at least two alternative approaches: the outright purchase of easements or the donation of mitigation fees to a local, regional or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural conservation easements. The conversion of agricultural land should be deemed an impact of at least regional significance. Hence the search for replacement lands can be conducted regionally or statewide, and need not be limited strictly to lands within the project's surrounding area.

[1] *See* California Department of Food and Agriculture – Agricultural Statistical Review, page 27, http://www.cdfa.ca.gov/statistics/PDFs/AgResourceDirectory_2010-2011/2AgOvStat10_WEB.pdf.

# Letter C Continued



Thank you for giving us the opportunity to comment on this SEIR. If you have questions regarding our comments, or require technical assistance or information on agricultural land conservation, please contact Elliott Lum, Environmental Planner, at 801 K Street, MS 18-01, Sacramento, CA 95814; phone: (916) 324-0869; email: Elliott.Lum@conservation.ca.gov.

**C-1 cont.**

Sincerely,

John M. Lowrie
Program Manager
Williamson Act Program

cc: State Clearinghouse

**LETTER C** CALIFORNIA DEPARTMENT OF CONSERVATION'S DIVISION OF LAND RESOURCES PROTECTION

Response C-1: The County acknowledges the Department of Conservation's statements regarding the way in which the County will respond to particular project applications, and the other statements in this letter. The comments and statements of the Department's position are noted for the record. The letter does not set forth comments on environmental issues that require further response.

# Letter D

**From:** Ann Brierty [mailto:Abrierty@SanManuel.com]
**Sent:** Friday, May 20, 2011 4:13 PM
**To:** Feremenga, Douglas - LUS
**Cc:** Ann Brierty; Anthony Madrigal
**Subject:** CoofSanBernardino-SCH NO. 2005101038
**Importance:** High

Friday, May 20, 2011
Mr. Feremenga, Senior Planner

RE: County of San Bernardino, Environmental Impact Report (SEIR)
State Clearinghouse No. 2005101038, General Plan Amendment
And Greenhouse Gas Emissions Reduction Plan

Mr. Feremenga, I appreciate that you took the time to assist me this afternoon, in locating the SEIR on the County website and providing a CD copy.
Per our conversation, I indicated that the San Manuel Band of Mission Indians ("Tribe") is requesting government-to-government consultation pertaining to the aforementioned general plan amendment. The focus of our discussion will be on the preservation, protection, mitigation measures, treatment plans and documentation of the Native American cultural resources. The area identified in the SEIR is within the Tribes ancestral traditional lands, with many cultural resources that are presently utilized today and were utilized by the Serrano ancestors. **D-1**

Here are tentative dates to meet with you at the County-Land Use Services department; May 27, June 3, 6, 8-10 anytime. Please let us know which date/time works best for you. We certainly appreciate and look forward to meeting with you.

Respectfully,
Ann Brierty

# Letter D Continued

Cultural Resources Field Manager
Cultural Resources Management Department
San Manuel Band of Mission Indians
26569 Community Center Drive
Highland, CA 92346
O: (909) 864.8933
C: (909) 649.1585
F: (909) 425.1409
Email: abrierty@sanmanuel-nsn.gov

**D-1 cont.**

**LETTER D** SAN MANUEL BAND OF MISSION INDIANS

Response D-1: The County acknowledges the statements in the letter provided by the San Manuel Band of Mission Indians and the County will consult as requested. The comments and the statements of the Tribe are noted for the record and the letter does not set forth comments that require a further response.

# Letter E

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

E-Mailed: June 30, 2011 June 30, 2011
dferemenga@lusd.sbcounty.gov

Mr. Doug Feremenga
Land Use Services Department
County of San Bernardino
385 N. Arrowhead Ave., First Floor
San Bernardino, CA 92415

**Review of the Draft Supplemental Environmental Impact Report (draft SEIR) for the Proposed Greenhouse Gas Emissions Reduction Plan Project**

The South Coast Air Quality Management District (AQMD) staff appreciates the opportunity to comment on the above-mentioned document. AQMD staff appreciates the open and collaborative approach that county staff and its consultants have used in developing this plan. This dialogue has helped AQMD staff to understand the details of the proposed plan and GHG reduction strategies. With some minor revisions (see below) this comprehensive plan provides a pathway for the county to reach its goal of achieving 1990 emission levels by 2020. In addition, with these revisions the proposed plan is consistent with AQMD's GHG threshold for industrial sources, and will allow future projects that comply with the plan to demonstrate a less than significant impact for climate change. The following comments are meant as guidance, and should be considered by the lead agency prior to certifying the Final EIR. **E-1**

In the draft SEIR the lead agency chose a performance standard to establish a greenhouse gas (GHG) emissions significance threshold. The performance standard selected by the lead agency is based on the California Air Resources Board's (CARB's) AB 32 Scoping Plan, which is the State's plan to achieve 1990 GHG emission levels by 2020. Specifically, the CARB Scoping Plan recommends a GHG reduction goal for local governments of 15% below baseline levels. In order to achieve a less than significant impact on climate change for this proposed plan, the lead agency conducted a comprehensive emissions inventory analysis to determine the requirements needed to reduce the County's baseline 2007 GHG emissions levels by 15% for consistency with AB 32. The emissions inventory analysis demonstrated that the proposed project could meet these targets with the implementation of mitigation measures applicable to internal (public) and external (private) emissions sources. **E-2**

# Letter E Continued



Additional Mitigation to Remedy any Excess GHG Emissions

In order to allow future projects to tier off this CEQA document, the lead agency established a new significance threshold in the GHG Reduction Plan that requires the County to reduce individual project GHG emissions by 31% below unmitigated 2020 levels. This specific requirement is based on the presumption that without mitigation emissions in the County will grow from 6.25 $MMTCO_2e$ per year in 2007 and reach approximately 7.59 $MMTCO_2e$ per year in 2020. However, AQMD staff is concerned that if the emissions growth rate exceeds anticipated 2020 levels then the proposed mitigation may not be sufficient to ensure less than significant impacts from the proposed plan or future projects tiering off of this EIR. As an example, if 2020 emissions levels are above 7.59 $MMTCO_2e$ per year then the proposed significance threshold (requiring a 31% reduction in GHG emissions) may be inadequate. In order to address this possibility, the lead agency has proposed updating the entire GHG inventory in 2015. AQMD staff requests that if the results of the interim inventory compilation process require a revision of the proposed significance threshold or other alternative measures to remedy the excess emissions that the lead agency commits to providing the public and other stakeholders an opportunity to provide input prior to certifying any changes. As AQMD is a responsible agency for projects requiring an air permit in the County within our jurisdiction this additional commitment will ensure that the proposed project is consist with Tier 2 of AQMD's Interim CEQA GHG Significance Threshold for Stationary Sources. **E-3**

Compliance with the GHG Reduction Plan

New development projects can demonstrate compliance with the proposed GHG Reduction Plan by either achieving 100 points from the screening tables provided in the GHG Reduction Plan or conducting a project specific analysis that yields a 31% reduction in GHGs. However, the county did not provide a technical analysis demonstrating that a project which garners 100 points from the screening tables also achieves at least 31% reduction in GHG emissions. Absent a technical analysis that demonstrates equivalence between the point values and GHG emissions reductions (e.g., each point equals approximately a 0.31% reduction in GHG emissions) the effectiveness of the measures provided in the screening tables remains unclear. Therefore, the county should provide additional information that shows a nexus between the point system and the effectiveness of the measures in the screening tables. Further, AQMD staff recommends that the county ensure that the effectiveness of each measure is consistent with the mitigation measures provided in the CAPCOA local government resource document: "Quantifying Greenhouse Gas Mitigation Measures[1]." **E-4**

Area Source (Transportation) Emissions Quantification and Modeling

The county specified that the URBEMIS land use software be utilized to evaluate GHG impacts for future projects through 2020. AQMD staff recently released the California Emissions Estimator Model (CalEEMod). This model has the ability to quantify **E-5**

[1] The CAPCOA document for quantifying GHG mitigation measures is available at: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

# Letter E Continued



potential GHG emissions and the effectiveness of mitigation measures for transportation activities associated with various land use projects. Therefore, the county should revise the methodology for determining a project's GHG emissions to use the current AQMD recommended land use software to estimate a project's GHG emissions from transportation related sources. **E-5 cont.**

Also, to ensure that projects subject to the GHG Reduction Plan provide quantifiable "real" emissions reductions the AQMD staff recommends that the county provide all necessary land use metrics (e.g., density of existing land use or area) to be used in establishing a given project's baseline emissions based on existing conditions. The land use metrics should be defined in the methodology document for determining a project's GHG impacts that is provided in Attachment B of the GHG Screening Tables. By providing the proper land use metrics for input into emissions calculation software (such as CalEEMod), the county will ensure that all future projects tiering off of this plan will establish a baseline in an equitable manner. **E-6**

Contact Information

Pursuant to Public Resources Code Section 21092.5, AQMD staff requests that the lead agency provide the AQMD with written responses to all comments contained herein prior to the adoption of the Final EIR. Further, staff is available to work with the lead agency to address these issues and any other questions that may arise. Please contact Ian MacMillan, Program Supervisor CEQA Section, at (909) 396-3244, if you have any questions regarding the enclosed comments. **E-7**

Sincerely,

Susan Nakamura

Susan Nakamura
Planning Manager

Attachment

SN:IM:DG

SBC110407-02
Control Number

**LETTER E** SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Response E-1: The comment is noted and no further response is required. The comment does not raise any substantial issues regarding the adequacy of the SEIR under CEQA.

Response E-2: The comment is noted and no further response is required. The comment does not raise any substantial issues regarding the adequacy of the SEIR under CEQA.

Response E-3: As stated on page 3.11-16 of the SEIR, the External Inventory of unmitigated emissions at 2020 would be 7,586,908 metric tons (MT) of carbon dioxide equivalent (CO2e) and the Internal Inventory of unmitigated emissions at 2020 would be 517,221 $MTCO_2e$. The commenter is referred to Appendix A and Appendix B of the GHG Reduction Plan for an expansive discussion of the information, the methodology, and supporting material relating to calculations of GHG emissions for the San Bernardino County GHG Inventory, as well as data collection efforts.

The County will conduct periodic comprehensive reviews on a four-year schedule that will involve an appropriate level of re-inventorying emissions sources in order to get a more complete understanding of GHG conditions at that time and the results of the GHG Reduction Plan. A four-year interval for re-inventorying will be synchronized with the reduction measure phasing. Phases 1 and 2 will be concluded in 2014 and thus, re-inventorying (the inventory will be completed in 2015) at this point will provide an important milestone assessment in the progress that the County is making with GHG Reduction Plan implementation. The County will examine the following in 2015: 1) whether the inventory is increasing faster than anticipated; and 2) whether GHG reductions are less than expected. If the trend analysis indicates that the County may not meet its 2020 target, then the County will revise the GHG Reduction Plan to identify the additional means necessary to meet the target, with a noticed public hearing before the Planning Commission and the Board of Supervisors. Additionally, if the revisions to the plan trigger the need for additional CEQA review, the County will comply with all public disclosure requirements under CEQA. The commenter is also referred to Section 5.9 of the Plan, addressing amendments to the GHG Plan.

The next inventory would be completed to coincide with the 2020 target date and implementation of the Phase 3 reduction measures. This inventory will provide a more comprehensive assessment of the GHG Reduction Plan's success while providing a basis for adjusting the GHG Reduction Plan for the 2030 target.

Response E-4: The County's Screening Tables are based on a 100 point system that corresponds to 31 percent reduction in GHG emissions. In other words the point system is devised to correspond to a reduction of GHG emissions for new development of 31 percent compared to unmitigated emissions. The 31 percent amount was derived from calculation of the amount of reductions needed from new development in combination with state measures and other local measures to meet the County's 2020 reduction

target. Consistent with the CEQA Guidelines, new projects that are consistent with the GHG Reduction Plan, with a reduction target consistent with AB 32, will be determined to have a less than significant individual and cumulative impact for GHG emissions.

As stated in Appendix F of the GHG Reduction Plan, the point values in the Screening Tables were derived from the projected emissions reductions that each of the R2 reduction measures within the GHG Reduction Plan would achieve. The GHG Reduction Plan shows the reduced emissions for each of the reduction measures in aggregate terms, meaning that the total emission reductions afforded each measure is based on both changes in existing land use activities as well as how new development is designed and built. In order to correctly allocate the emission reductions within the Screening Table, the amount of emission reductions afforded new development is segregated out of the aggregate total in a manner that is described in detail in Appendix F of the GHG Reduction Plan. The points were then proportioned by residential unit or square feet of commercial/industrial uses. This was accomplished by taking the predicted growth in households and commercial/industrial uses by the year 2020 and assigning the appropriate proportion of the total R2 reduction quantities for new development to the residential, commercial, and industrial land use sectors within the Screening Table. The result is point values that are allocated by residential unit or commercial/industrial square footage (measured in 1,000 square feet). Because of this, the size of the project is not relevant to the Screening Table. Regardless of size, each project needs to garner 100 points to demonstrate consistency with the GHG Reduction Plan. Efficiency, not size of the project is critical.

The following steps were taken to develop the point system: (1) The total amount of emissions reductions afforded by the GHG Reduction Plan was determined; (2) The State's strategies (R1 measures in the GHG Plan) and the County's strategies (R2 measures in the GHG Plan) that will serve to reduce emissions from new development were identified and segregated from the total R1 and R2 measures; (3) The total amount of projected emissions that will be reduced through the R1 and R2 measures associated with new development was calculated; (4) The reduction quantity for each R1 and R2 measure was determined from the GHG Reduction Plan Appendices, which include detailed descriptions and reduction quantities for each measure; (5) The number of new homes and commercial buildings that are anticipated by year 2020 was determined; (6) The projected reductions of emissions that will be achieved through the R2 measures for new residential development and non-residential development were divided by the anticipated new residential units and non residential square footage. The amount equals 100 points.

Screening Tables scores were calculated for various sample projects and the results were compared with the corresponding CalEEMod modeling results for each sample project. The Screening Tables conservatively estimate the amount of emissions that will be reduced by the measures and are, on average, consistent with the reductions calculated using CalEEMod and the mitigation measures provided in the CAPCOA local government resource document "*Quantifying Greenhouse Gas Mitigation*

*Measures, August 2010.*" CalEEMod incorporates the mitigation measures provided by CAPCOA in its document. Because there are some differences in the methodology and data sources between CalEEMod and the Screening Tables, the County will continue to work with SCAQMD in calibrating the point values for the Screening Tables. The commenter is referred to Appendix F of the GHG Reduction Plan for an expanded discussion on the County's Screening Table and point system.

Response E-5: The comment is noted and the description of the methodology has been revised to state that current AQMD recommended software should be used in estimating emissions from transportation related sources. It is noted that CalEEMod is currently recommended by AQMD.

Response E-6: The County intends to develop further instructions on the use of the screening tables, modeling, and land use metrics to ensure that all future projects will establish baseline on an equal basis.

Response E-7: Written responses to the SCAQMD comment letter will be provided by the County to SCAQMD.

# Letter 1


May 20, 2011

***Via Electronic Mail and Certified Mail (w/attachments)***

County of San Bernardino
Land Use Services Department
Attn: Doug Feremenga, Associate Planner
Land Use Services Department
385 N. Arrowhead Ave., First Floor
San Bernardino, CA 92415
dferemenga@lusd.sbcounty.gov

RE: Comments on Draft Supplemental Program Environmental Impact Report for the County of San Bernardino General Plan Amendment and Greenhouse Gas Emissions Reduction Plan, SCN 2005101038

Dear Mr. Feremenga:

These comments are submitted on behalf of the Center for Biological Diversity ("Center") and the Natural Resources Defense Council ("NRDC") on the Draft Supplemental Program Environmental Impact Report ("Draft EIR") for the County of San Bernardino General Plan Amendment and Greenhouse Gas Emissions Reduction Plan ("GHG Reduction Plan"). **1-1**

The Center is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center's Climate Law Institute works to reduce greenhouse gas emissions to protect biological diversity, our environment, and public health. We work to educate the public about the impacts of climate change on our world and to build the political will to enact solutions. The Center has over 315,000 members and e-activists including those located in the County of San Bernardino. **1-2**

NRDC is a nonprofit membership corporation organized under the laws of the state of New York, with offices in Los Angeles, San Francisco, Chicago, New York, Washington, D.C. and Beijing. NRDC has approximately 500,000 members throughout the United States, including 120,000 members in the state of California. NRDC is dedicated to the preservation, protection and defense of the environment, its wildlife and

*Arizona • California • Nevada • New Mexico • Alaska • Oregon • Minnesota • Vermont • Washington, DC*

Matthew D. Vespa • Senior Attorney • 351 California St., Suite 600 • San Francisco, CA 94104
Phone: 415-436-9682 x309 • Fax: 415-436-9683 • mvespa@biologicaldiversity.org

# Letter 1 Continued

natural resources, and public health. NRDC actively pursues effective enforcement of CEQA and other state environmental laws in California on behalf of its members. **1-2 cont.**

To our knowledge, the County's GHG Reduction Plan represents the first effort to develop a programmatic document intended for tiering GHG impacts under CEQA. Given that climate action planning is an emerging area, we are cognizant of the challenges the County may have encountered in developing its Plan. It is evident from a cursory review of the Plan that the County invested significant resources in conducting an inventory of County emissions and attempting to demonstrate that state and local action would reduce County emissions to a less than significant level under CEQA. **1-3**

Yet, when examined with greater scrutiny, it becomes apparent that the GHG Reduction Plan requires little concrete and meaningful action from the County. The Plan fails to limit sprawl and many County measures identified in the Plan are couched in unenforceable and vague "encourage" or "support" language and largely reliant on voluntary action and potential programs by other entities. Given the severity of the climate crisis and urgent need for deep and rapid reductions in greenhouse gas pollution, it is difficult to conceive how a GHG Reduction Plan that largely memorializes business as usual behavior can legitimately conclude that Plan compliance renders a project's greenhouse gas impacts less-than-significant. **1-4** **1-5**

Although the GHG Reduction Plan purports to reduce County emissions by 15% below current levels by 2020, County per capita emissions in 2020 would still be 17.3 metric tons per person. This per capita emissions level exceeds by close to *three times* the statewide 6.6 metric ton per capita objective under the Global Warming Solutions Act (AB 32). Moreover, unlike the 15% reduction standard used in the GHG Reduction Plan, the 6.6 per capita objective has been recommended by multiple air districts as a threshold of significance for General Plans under CEQA.[1] The significant disparity between County per capita emissions and statewide per capita targets suggests that the GHG Reduction Plan may not be legitimately used for tiering purposes because Plan compliance would still result in cumulatively considerable environmental effects. *See* Guideline § 15183.5(b)(2) ("If there is substantial evidence that the effects of a particular project may be cumulatively considerable notwithstanding the project's compliance with the specified requirements in the plan for the reduction of greenhouse gas emissions, an EIR must be prepared for the project."). Accordingly, the County must take more aggressive action to lower its emissions. **1-6**

While the County's high per capita emissions level can be attributable in part to the presence of several GHG-intensive cement manufacturing facilities, it is also a consequence of the County's failure to limit sprawl and require "smart growth" development. Neither the General Plan nor the GHG Reduction Plan appear to contain any enforceable or well-defined requirements for phased growth, mixed use and high **1-7**

[1] SCAQMD, Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group Meeting # 15, Sept. 28, 2010, *available at* http://www.aqmd.gov/ceqa/handbook/GHG/GHG.html (recommending a 2020 6.6 metric ton/per capita GHG threshold for general plans, decreasing to 4.1 metric tons/per capita by 2035); BAAQMD, CEQA Guidelines Updates, Proposed Thresholds of Significance (May 2010).

# Letter 1 Continued

density development, or prioritization of development in infill areas. Instead, the General Plan actually encourages sprawl be creating growth capacity that far exceeds demand. The General Plan allows for the addition of 415,000 new residents to the County while the GHG Reduction Plan only projects the need for 3,733 new residential units for 2020. (DSEIR at 5.0-3, GHG Reduction Plan Screening Tables at 22.)

1-7 cont.

Faced with a similar disconnect between demand projections for new growth and oversupply provided under its General Plan, the County of Sacramento retained outside consultants, Design, Community & Environment (DC&E), to describe smart-growth approaches to growth and recommend strategies the County could implement in conjunction with its General Plan.[2] The resulting report found:

> Parenthetically, it should be noted that many counties in California have increasingly found that urbanization does not make fiscal sense. Many counties believe that urban development is best served by incorporated cities, and that counties should focus on providing needed county-wide services (such as courts, corrections, and health and social services) and administering rural lands.
>
> ....
>
> The oversupply of land included in the current draft [General Plan] cannot be justified from the perspective of maintaining a healthy land market, and is likely to result in overly dispersed development, low densities, high development and service costs, increased vehicle miles travelled, and unnecessary loss of open space and agricultural lands.[3]

1-8

The report recommended a number of measures, including eliminating new growth areas to more closely match demand for new housing with supply, require that development projects greater than 100 acres comply with a number of smart growth criteria such as an average minimum net density of 9 units per acre, adjacency to an existing urban area, vertically integrated mixed-use and provisions for low-income housing.[4]

The County's failure to assert more direct and enforceable control over the location, timing, and type of growth fatally undermines efforts to reduce vehicle miles travelled (VMT) and resulting greenhouse gas pollution. Because the benefits of smart growth development accrue over time, it is critical the County begin now to prevent additional sprawl and require any new development to legitimately conform to smart growth principles. At a minimum, the County should reduce growth allowed under the General Plan to more closely correlate with demand, direct this growth to existing cities and urban areas, and require new development meet minimum criteria to prevent leap frog development as recommended in the DC&E Report. The County should also

1-9

[2] Memorandum dated February 11, 2011 from DC&E to Steve Szalay, Interim County Executive, Sacramento County re: Sacramento County General Plan.
[3] *Id.* at 6-7.
[4] *Id.* at 9-10.

# Letter 1 Continued

commit to modifying its General Plan to align with the regional SCS once it is finalized under SB 375. 1-10

In addition, the vast majority of measures ascribed to the County merely call for the County to "promote" or "encourage" various initiatives rather than require specific action. It is therefore unclear how these measures will result in the specific emissions reductions attributed under the GHG Reduction Plan. For example, in claiming emission reductions from energy improvements to existing residential and commercial structures, the County relies on an inapposite study to claim that 1 in 5 County residences will undergo energy efficiency retrofits by 2020 and install solar systems based on voluntary action and the possibility of unsecured financial incentives. 1-11 The lack of detail, support and specific enforceable requirements underlying proposed mitigation fails to meet CEQA's standards of adequacy. *Communities for a Better Environment v. City of Richmond* 184 Cal.App.4th 70, 96 (2010) ("the novelty of greenhouse gas mitigation measures is one of the most important reasons 'that mitigation measures timely be set forth, that environmental information be complete and relevant, and that environmental decisions be made in an accountable arena.'"). To create greater assurance that reductions will be realized, the GHG Reduction Plan should be modified to require specific action and policies by the County. For example, in the case of retrofits to existing residential and commercial structures, the County should require retrofits upon sale and at the time of major renovations rather than depend on voluntary action. 1-12

We also have concerns over the efficacy of the proposed Development Review Process (DRP). First, because per capita emissions are still much higher than state targets and expectations for reductions from other measures identified in the Plan appear overstated, additional reductions should be required of new development. 1-13 Second, because the DRP appears to measure improvement from a historic 2007 regulatory environment, it is unclear what would be expected of new development beyond compliance with existing and anticipated regulatory requirements at the time building permits would be issued. 1-14 The numeric and alternative per capita thresholds developed by both the Bay Area Air Quality Management District (BAAQMD) and the South Coast Air Quality Management District (SCAQMD) offer a more supportable, stable and informative method to analyze the GHG impacts of new projects. 1-15

The GHG Reduction Plan also does not appear to include a mitigation monitoring and reporting program to ensure that adjustments are made in the event that assumed reductions from various state and local measures are not ultimately realized. 1-16 The GHG Reduction Plan's failure to "[e]stablish a mechanism to monitor the plan's progress toward achieving [its GHG target] and to require amendment if the plan is not achieving specified levels" means that the EIR cannot be legitimately used for tiering purposes. 1-17 Guidelines § 15183.5.

We look forward to working with the County to develop a more robust GHG Reduction Plan that can legitimately be used for tiering purposes under CEQA. 1-18 Specific questions, comments and suggestions on the GHG Reduction Plan are set forth below.

# Letter 1 Continued

**SPECIFIC QUESTIONS AND COMMENTS ON GHG REDUCTION PLAN**

**I. Quantification of 2020 Unmitigated Emissions Inventory**

What estimate of future population growth was used to calculate the 2020 unmitigated emissions inventory? If full build-out of the General Plan was not assumed (extrapolated from 2030 to 2020), what was the basis for this assumption? **1-19**

**II. Energy Reduction Measures**

**A. R1 Energy Efficiency Measures**

Measure R1E4 and R1E5 take significant credit for improvements to energy efficiency based on zero energy buildings, voluntary efficiency targets beyond mandatory codes, voluntary and mandatory building retrofits, water system efficiency, financing innovation and Title 24 improvements. Please describe more fully how emissions reductions claimed in this measure are not double counted in County measures targeting the same objective and in the Development Review Process (both under the Screening Tables and the Unmitigated Emissions Reduction method). For example, because R1E4 and R1E5 already take into account voluntary increases in efficiency beyond code requirements, why and how are these same actions not double counted as part of the DRP? **1-20**

Measure R1E7 is labeled "Industrial Boiler Efficiency" at A-41 but is described as "Industrial Efficiency Measures" related to oil and gas exploration and production at A-47. The language at A-47 tracks that of the Scoping Plan (at 56). Although the GHG Reduction Plan later admits that "San Bernardino County has very little oil and gas production" (GHG Reduction Plan at A-88), reductions derived from this measure assume that "the State's emissions from industrial efficiency measures is equal to the percent reduction of the County's industrial emissions." (GHG Reduction Plan at A-47.) Given the limited oil and gas development in the County, it does not appear supportable for the County to take credit for statewide reductions that may occur in this sector. In addition, separate and additional reductions for oil and gas extraction in the Stationary Source section of the GHG Reduction Plan appear to be double counting reductions already taken under this measure. **1-21**

**B. R2 Energy Efficiency and Renewables**

Measure R2E1 appears to involve a County "program" for residential energy efficiency retrofits. Yet this program appears to amount to no more than the waiver of permit fees. (GHG Reduction Plan at A-48.) The measure claims it "will be implemented through a combination of County permitting for major renovations and incentives for homeowners to voluntarily retrofit their properties." With regard to the County permitting aspect, no detail is provided on how the permitting would function to facilitate retrofits. Beyond the waiver of permit fees, please articulate what policies and incentives currently exist to facilitate energy efficiency retrofits. If the County does not **1-22**

# Letter 1 Continued

have such a requirement already, the County should require increased efficiency above a defined percent of current state requirements in the event of major renovation. This would allow more certainty that reductions would be achieved in existing building stock. **1-22 cont.**

As for incentives, the GHG Reduction Plan refers to "financing mechanisms, such as AB 811 type programs and grants, such as Energy Efficiency Conservation Block Grant funding." (GHG Reduction Plan at A-48). Yet, as the GHG Reduction Plan notes, AB 811 financing districts are currently impracticable due to objections by Fannie Mae. Even if barriers to AB 811 were eliminated, the County does not commit to operating an AB 811 program within its jurisdiction or discuss if the County had an AB 811 program in place prior to action by Freddie Mac. Has the County expressly committed to creating an AB 811 program in the event current roadblocks with Freddie Mac are resolved? **1-23**

Similarly, although Block Grant funding is facilitated through the federal stimulus package, the GHG Reduction Plan provides no information about what, if any, grants the County has applied for and received and when sources of Block Grant funding will be depleted, if they are not already. Has the County applied for and received Block Grant funding? If so, how has it been implemented to date and what has it achieved? Given that this funding will soon be extinguished, the County could establish its own fund to retrofit low-income residences to provide more certainty that retrofits would occur. This fund could be supplied from impact fees for new development. **1-24**

In the apparent face of the lack of any defined regulatory requirements for retrofits or identified financial incentives, the GHG Reduction plan claims that 20% of existing buildings, or 1 in 5 dwellings, will be retrofit or renovated by 2020. Citing to *Green Building in North America*, the GHG Reduction Plan asserts that a 20% retrofit rate is what would occur voluntarily in the absence of the aggressive regulatory and financial policies identified in the "Deep Green" scenario. There is no basis in the *Green Building in North America* report to support this conclusion. Indeed, the *Green Building* report estimates that only *16%* of existing residential stock will be affected by energy efficiency activities associated with retrofit activities by *2030* under the "Deep Green" scenario, far less than that stated in the GHG Reduction Plan.[5] Please provide data on the rate of retrofits currently occurring in the County. This would provide basic data to project a more realistic estimate of the level of retrofits expected to voluntarily occur in the future. **1-25**

The GHG reduction plan makes similar unsupported assertions for the retrofit of commercial structures. (GHG Reduction Plan at A-50.) To provide greater assurance that retrofits would occur at the rate claimed by the County, the County should require retrofits at the time of a change in ownership of a commercial structure and when major renovations occur. **1-26**

The GHG Reduction Plan also appears to assume that a significant amount of existing residential and commercial structures will install on-site renewable energy. (GHG Reduction Plan at A-50.) It is, however, unclear from the GHG Reduction Plan **1-27**

[5] Commission for Env't Cooperation, Background Paper One – Green Building Scenarios for 2030 at 40.

# Letter 1 Continued

the percent of existing structures projected to install on-site renewables. Please clarify and further explain the basis for assuming this level of installation would occur. While the County points to the CEC's Solar Initiative as a source of incentive funding to facilitate installation of on-site renewables, this program has been in effect several years, with funding set to decline in the future. Data on the percentage of residential and commercial structures in the County that have already taken advantage of solar installation funding would provide a better sense of whether the assumptions in the GHG Reduction Plan are reasonable. 1-27 cont.

With regard to warehouse renewables, the County aims to "promote and encourage participation in an incentive program .... to be developed through a partnership between Southern California Edison and the California Public Utilities Commission." (GHG Reduction Plan at A-50.) Although this program does not appear to be finalized, details are not provided, and the County has no direct control over the program, the County seems to assume that 50% of warehouse electricity use will be reduced. To properly support this measure, the GHG Reduction Plan should be revised so the County *requires* all warehouses to install on-site solar as a condition of project approval. 1-28

**C. R3 Measures**

The GHG Reduction Plan's R3 energy measures should be revised to provide enforceable requirements with concrete deadlines for action. For example, under Measure R311, the County need merely "encourage" solar-ready homes. Not only are on-site renewables not required for new buildings, but even criteria needed to facilitate future installation can be disregarded. Absent unusual circumstances, on-site renewables should be required of new homes, with solar ready homes as the default where unusual circumstances are present. Similarly, the GHG Reduction Plan only requires the County to "pursue developing 'heat island' mitigation plan including guidelines for cool roofs, cool pavements, and strategically placed shade trees." (GHG Reduction Plan at A-57.) This measure should be modified to require the heat island plan be developed by a date certain and require that its guidelines be mandated for new development. 1-29

**III. Stationary Source Measures**

Measure R1I3 and R1I4 take significant reductions in County emissions due to carbon intensity standards for cement manufacturers and concrete batch plants. While these measures were initially evaluated by ARB and supported by the environmental community, they were ultimately not adopted as part of the Scoping Plan. (See Scoping Plan at 54-56.) The Scoping Plan also does not appear to require waste reduction in concrete use as stated in Measure R1I5. Accordingly, the GHG Reduction Plan cannot legitimately take credit for these non-existent measures. 1-30

**IV. Thresholds for New Development** 1-31

# Letter 1 Continued

The GHG Reduction Plan proposes that new projects either comply with a screening table point system or reduce emissions 31% below unmitigated conditions. As an initial matter, this system creates an entirely new structure as compared to what has been adopted by BAAQMD and last proposed by SCAQMD. These air districts have recommended a 1,100 to 3,000 ton numeric threshold and alternative 4.6/4.8 metric ton per capita threshold. Unlike the system devised in the GHG Reduction Plan, per capita thresholds more accurately capture project location, with compact infill projects well served by transit typically falling under the threshold and sprawl projects coming in over the threshold. Rather than use a point system, which does not provide an accurate sense of the emission reductions resulting from elected measures, actual reductions to meet the per capita or numeric standard could be calculated with methodologies set forth by CAPCOA in its *Quantifying Greenhouse Gas Reduction Measures*. We urge the County to adopt the threshold last articulated by SCAQMD to provide greater consistency and rigor in analyses and a more informative environment document. **1-31 cont.**

With regard to the proposed point system please clarify the following:

- Is the Title 24 improvement used in the point system based on improvements from Title 24 at the time building permits are issued or Title 24 improvements based on 2007 (or some other base year) conditions? If the point system is based on improvements from historic baseline conditions, how many points would a project already accrue merely be complying with regulatory standards in existence today? **1-32**
- How do points taken for improvements from Title 24 avoid double counting reductions taken under Measure R1E4, which assumes voluntary efficiency above existing codes?
- What is the basis for the County's assumption that 3,733 new residential units will be needed by 2020? **1-33**
- Environmental review documents typically state a project would result in an [x] percent improvement above Title 24. Presumably, this applies to the entire building envelope. Yet the point system articulated in the GHG Reduction Plan breaks Title 24 improvements down to insulation, doors, windows etc. If a project asserted it would be 20% above Title 24, would it able to take credit for each of these subfactors that go into the building envelope? **1-34**
- Please provide examples of projects implementing the point system. This would provide a better understanding of what combination of measures might typically be required of a project. **1-35**

With regard to reducing emissions to 31% below unmitigated levels, please clarify the following: **1-36**

# Letter 1 Continued

- Can a project take credit for improvements in energy efficiency (such as Title 24) and anticipated state and local action in determining whether it is 31% below unmitigated levels? If so, please explain the percent reduction a residential and commercial development would be permitted to take solely due to existing and anticipated state and local measures. **1-36 cont.**

- How would purported improvements from unmitigated conditions avoid double counting reductions taken under Measure R1E4, which assumes continual improvements to Title 24 and voluntary efficiency above existing codes? **1-37**

- As the GHG Reduction Plan acknowledges, GHG emissions must continue to be reduced past 2020. Indeed, the Scoping Plan for AB 32 notes that emissions must be reduced 5% per year from 2020 to 2030. Accordingly, new projects should be required to continually and consistently improve beyond existing minimal regulatory standards rather than allow these projects to look backward to improvements from a 2007 baseline year. Please specify that reductions from an "unmitigated scenario" are measured from regulatory requirements at the time of project permitting, not from a historic and obsolete base year. **1-38**

**V. Mitigation Monitoring & Reporting**

While the GHG Reduction Plan aims to be used for project-level tiering, it fails to include all necessary elements. Under CEQA, a plan for tiering and streamlining the analysis of greenhouse gas emissions must "[e]stablish a mechanism to monitor the plan's progress toward achieving the [target GHG reduction] level and to require amendment if the plan is not achieving specified levels." Guidelines § 15183.5(b)(1)(E). This requirement is especially important where, as here, the GHG Reduction Plan relies heavily on measures of uncertain efficacy. For example, with regard to state level measures, litigation delay, lack of effectiveness and/or limits in the supply of biofuel may result in the GHG Reduction Plan's overestimation of reductions attributable to the low-carbon fuel standard. Similarly, because the vast bulk of measures attributable to the County are based on voluntary, unenforceable action or coordination with other agencies, their efficacy is extremely uncertain. Accordingly, the GHG Reduction Plan should include a defined monitoring mechanism, require specified action where reduction are not being realized as anticipated, and explicitly provide that tiering is not appropriate if such action is not taken. **1-39**

**VI. Failure to Consider Reasonable Range of Alternatives**

An EIR is required to describe a reasonable range of alternatives to the project, which would feasibly attain most of its basic objectives but would avoid or substantially lessen its significant effects. Guidelines § 15126.6(a). "Without meaningful analysis of alternatives in the EIR, neither courts nor the public can fulfill their proper roles in the CEQA process." *Laurel Heights Improvement Ass'n v. Regents of University of California*, 47 Cal.3d 376, 404 (1988). Accordingly, "[a] major function of an EIR 'is to ensure that all reasonable alternatives to proposed projects are thoroughly assessed by the **1-40**

# Letter 1 Continued

responsible official." *Save Round Valley Alliance v. County of Inyo*, 157 Cal.App.4th 1437, 1456 (2007) (citations omitted). **1-40 cont.**

The Draft EIR fails to consider a reasonable range of alternatives. The Draft EIR considers a reduced growth alternative that would provide growth for 200,000 people rather than the 415,000 people contemplated under the General Plan. However, rather than concentrate this more limited growth, the alternative would reduce population density averages and exacerbate sprawl. (Draft EIR at 4.0-3.) The Draft EIR also contains a city-centered alternative that target growths and increases densities within existing cities' spheres of influence but needlessly seeks to accommodate over 400,000 people. **1-41** **1-42**

Given that the County growth projections are far less than the supply created under the General Plan, the County should consider an alternative that both provides for less growth *and* concentrates this growth in existing cities or within their spheres of influence. **1-43**

Thank you for considering these comments. If you have any questions, please contact Matt Vespa, mvespa@biologicaldiversity.org, (415) 436-9682 x309.

Please ensure that we are notified of any future action on this Project.

Sincerely,

Matthew Vespa
Senior Attorney
Center for Biological Diversity

Damon Nagami
Staff Attorney
Natural Resources Defense Council

**1-44**

Exhibit A: Memorandum dated February 11, 2011 from DC&E to Steve Szalay, Interim County Executive, Sacramento County re: Sacramento County General Plan.

Exhibit B: Commission for Env't Cooperation, Background Paper One – Green Building Scenarios for 2030

Exhibit C: SCAQMD, Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group Meeting # 15, Sept. 28, 2010, available at http://www.aqmd.gov/ceqa/handbook/GHG/GHG.html.

Exhibit D: BAAQMD, CEQA Guidelines Updates, Proposed Thresholds of Significance (May 2010).

**LETTER 1** CENTER FOR BIOLOGICAL DIVERSITY AND NATURAL RESOURCES DEFENSE COUNCIL

Response 1-1: The comment is noted.

Response 1-2: The information about the commenters is noted for the record.

Response 1-3: The comment is noted. The County is adopting the GHG Reduction Plan to reduce emissions of greenhouse gasses in the County. The document may also be used, in appropriate circumstances consistent with the limitations set forth in the plan, to streamline review of the greenhouse gas emissions impacts associated with certain projects. The County agrees that it has invested substantial resources in preparing the plan.

Response 1-4: The comment is noted. The comment does not raise any substantial issues regarding the adequacy of the SEIR under CEQA. The County disagrees with the characterization that the Plan requires little action from the County. As a point in clarification, and as described on pages 3.11-18 and 3.11-19 of the SEIR, the GHG emissions reduction measures identified in the GHG Reduction Plan include existing and proposed State, regional, and County measures that would reduce GHG emissions from the County. Reduction measures have been organized into a classification system that recognizes both the origin of the measures, i.e., State, regional, or local, and also whether the measure is quantifiable in terms of calculating a volume of emission reduction. The emissions reduction measures are organized into two classes. Reduction Class 1 (R1) includes adopted, implemented, and proposed State and regional measures that do not require additional County action and that will result in GHG reductions for the County's land use authority area and internal operations. These measures may require County action to achieve the GHG reductions, but that action is limited and compulsory. Reduction Class 2 (R2) includes measures currently implemented or in the process of implementation by the County, as well as any additional quantifiable measures that require County action and will further reduce the GHG emissions for the County's land use authority area and internal operations. R2 also includes any State and regional measures that require substantial action by the County to achieve the expected GHG reductions.

For instance, Measure R2E1, Residential Energy Efficiency Retrofit, is a Countywide program for energy efficient retrofits (emissions reduction of 1.2 percent from 2020 unmitigated levels). Retrofits would include various energy efficiency upgrades, including improvements to HVAC systems, water heating systems, or the building envelope (windows/insulation). This measure would be implemented through a combination of County permitting for major renovations and incentives for homeowners to retrofit their properties.

As another example, Reduction Measure R2T1, Anti-Idling Enforcement involves enforcement of a County adopted ordinance requiring all discretionary land use projects approved by the County and all business establishments that use diesel vehicles or off-road equipment as part of their normal business operations to be required to limit vehicles/off-road equipment idling on site for periods not to exceed five minutes. Measure

R2T2, Employment Based Trip and VMT Reduction Policy would require creating County commuter-choice programs, employer transportation management, guaranteed ride-home programs, and commuter assistance and outreach. GHG reduction measures would result in GHG reductions for the municipal solid waste management sector. The County proposes the implementation of a methane recovery system at Barstow Landfill (R2W2). In 2020, the reductions associated with the Barstow site are estimated at 10,970 $MTCO_2e$ from waste already in place at the landfill. The County can further reduce emissions by installing a methane recovery system at Landers as proposed in the GHG Reduction Plan (R2W3). There are many more examples of GHG reduction measures proposed under the GHG Plan (see Appendix B of the SEIR).

In addition, as stated on page 3.11-19 of the SEIR, measurable reductions of GHG emissions will also be achieved through the County's development review process (DRP) by applying appropriate reduction requirements as part of the discretionary approval of new development projects. For example, Reduction Measure R2E10, Commercial and Industrial Rehabilitation/Expansion Renewable Energy, concerns installation of solar (or other renewable) energy in commercial and industrial projects requiring discretionary permits for major rehabilitations or expansions (additions of 25,000 square feet of office/retail commercial or 100,000 square feet of industrial floor area) of commercial, office, or industrial development greater than or equal to 25,000 square feet in size (emissions reduction of 1.4 percent from 2020 unmitigated levels). Through the DRP, the County will implement CEQA requiring new development projects to quantify project GHG emissions and adopt feasible mitigation to reduce project emissions below a level of significance.

Response 1-5: It is unclear to what the commenter is referring to regarding "business as usual behavior." The commenter's reference to "business as usual behavior", appears to be an assertion by the commenter that the GHG Reduction Plan would not change GHG emissions in any substantive way in the future compared to taking no action The comment is noted, but as described above the County disagrees with the comment. The County has set forth above examples of the many substantial ways in which the Reduction Plan, as a whole, and in combination with state measures, will result in lower GHG emissions compared to what would occur if the County took no action. The commenter is referred to Response 1-4 for several examples of GHG reduction measures proposed under the GHG Reduction Plan. In addition, the GHG Reduction Plan describes the reduction strategies currently being employed by the County, as well as those that will be employed by the County in the future, through implementation of the GHG Reduction Plan, and by the State, through a variety of legislation and regulations.

Response 1-6: The County disagrees with the commenter's assertion that the State's per capita emissions in 2020 need to be 6.6 metric tons per person in order to meet AB 32. The commenter specifically references the South Coast Air Quality Management District (SCAQMD) working group notes from 10/28/10 as a source of the 6.6 metric ton metric. The working group notes actually refer to the 6.6 metric tons per "Service Population" (Service

Population= residents + employees, abbreviated as "SP") as a plan threshold and not to 6.6 metric tons per person as the commenter asserts. This SP metric is actually derived from the June 2010 CEQA thresholds adopted by the Bay Area Air Quality Management District (BAAQMD) and is based on the GHG emissions target for the entire State (427 million metric tons) and the 2020 forecasted State population and employment. Compared to the 2020 business as usual case, implementation of AB 32 would require a reduction of 40 percent in the metric tons per SP to meet the reduction target.

The SP metric may not always be an appropriate tool for determining significance. No jurisdiction contains the perfect "average" profile of Statewide emissions and thus, caution is warranted when comparing a single jurisdiction's emission profile to the Statewide totals. For example, there are some notable differences between the Statewide emissions profile and the County's emissions profile including the following: 1) the County's industrial emissions are a significantly higher proportion of overall emissions (50%) compared to the State (20%); 2) The County's agricultural and forestry sector is very small and makes up a very small part of the emissions profile compared to the State; 3) The County inventory did not include high global warming potential (GWP) gases whereas the State's inventory does; 4) The County inventory did not include carbon sequestration whereas the State's inventory does. As a result, use of a metric that includes all the State and County emissions sets up a false comparison between dissimilar inventories.

Although the SCAQMD working group has considered use of the 6.6 metric tons per SP metric as a threshold, it has not adopted any thresholds for the land use sector to date, and thus, this is only a concept that has been discussed at the staff level and is not a SCAQMD recommendation at this time. Furthermore, SCAQMD's staff concept (as indicated in the 10/28/10 working group presentation) is that the SP metric is only employed for significance determination after considering whether a CEQA plan or project is consistent with a climate action plan and whether it is above the mass emissions thresholds. The BAAQMD's inclusion of the threshold in their recommended CEQA thresholds is relevant to the Bay Area only and is not advisory for other parts of California. While the SP metric might be a useful indicator to measure overall GHG efficiency, all communities do not start in the same place on efficiency and a downside to using a fixed efficiency metric based on a State average is that it places a much higher burden on jurisdictions that start from an overall less efficient basis. A fairer standard is to require an equivalent percentage reduction in overall emissions from a base year. Thus the County is of the opinion that the California Air Resources Board (CARB) recommendation in the Scoping Plan of 15% reductions compared to current emissions (roughly at the time of original adoption of the Scoping Plan in 2008) is a more appropriate measurement of significance than the use of the SP metric. It is for this reason that the County's Plan uses a 15 percent below 2007 target – in order to comply with CARB's recommendation.

In addition, considering the suggestions of the commenter to use a 6.6 metric tons per Service Population metric, the CARB recommendations in

the AB 32 Scoping Plan, the considerations of SCAQMD in developing their thresholds, BAAQMD's adoption of a threshold, and the changes in emissions resultant from the implementation of the GHG Reduction Plan, it is the County's judgment that the CARB recommendations in the AB 32 Scoping Plan are the most appropriate threshold for evaluating the GHG Reduction Plan. The CARB Scoping Plan contains the most specific recommendation made for an entire jurisdiction's emissions relevant to a reduction target compliant with AB 32 and CARB is the lead agency implementing AB 32. Since the County has made an effort to deal with as broad of an inventory as appropriate, it is appropriate to use a recommendation made by the lead agency charged with implementing AB 32 (CARB) that is directly relevant to a municipality's full community emissions. As such, it is the County's judgment that the GHG Reduction Plan meets the CARB recommendation, and is thus consistent with the goals of AB 32.

Response 1-7: The County discourages leap-frog development and urban sprawl through implementation of General Plan Land Use Element Policy 9.2, which restricts the extension or creation of new urban services or special districts to areas that cannot be sustained in a fiscally responsible manner. The GHG Reduction Plan does not result in any designation of land for new development potential or construction of facilities. The GHG Reduction Plan would function as an implementation tool of the General Plan and does not modify designated land uses or patterns or policy provisions. There are no proposed changes to land use designations in the General Plan as part of the GHG Reduction Plan.

As explained in revisions to Chapter 5 of the GHG Reduction Plan, It is anticipated that upon completion of the Sustainable Communities Strategy (SCS) by the Southern California Association of Governments (SCAG) and the Regional GHG Reduction Plan currently under preparation by the San Bernardino County Association of Governments (SANBAG), adequate methodology for quantification of regional VMT and more comprehensive mitigation will provide suitable planning tools that can be incorporated into this Plan through a future amendment. Both the SCS and the Regional GHG Reduction Plan are intended to satisfy the requirements of SB 375 and allow better forecasts of GHG emissions to 2035 as well as providing a regional strategy for reducing GHG emissions.

Through measure R3T4, the County intends to evaluate and consider regional alternative land use and transportation patterns being developed under SB 375, their implementation/adoption by cities within San Bernardino County, and the potential for land use planning within the County to support the regional effort. Because the County's opportunities cannot be developed in isolation from City and regional initiatives, the County's specific evaluation of its opportunities must of necessity occur later in the process rather than in advance of the process. At this time, the County is not relying on further land use-related GHG reductions from VMT reductions to quantitatively meet the 2020 reduction. However, the County does intend to examine the potential for measure R3T4 to become a quantified measure as part of the implementation effort for the Plan overall.

The County is committed to reducing the dependence on automobiles for local trips by integrating transportation and land use planning at the community and regional levels, by encouraging mixed-use development through the planned development process that includes dense, multiple-family residential development and clustered, single-family residential development, and other uses that provide convenient shopping and employment opportunities close to major transportation corridors (General Plan Policies H11.6, CI 4.2, and LU 6.1).

Response 1-8: The commenter is referred to Response 1-7. The comment recites analysis prepared in Sacramento County with reference to a draft general plan. The plan at issue here is the GHG Reduction Plan, not the overall general plan.

Response 1-9: The commenter is referred to Response 1-7.

Response 1-10: The GHG Reduction Plan does not presently rely on quantitative reductions relative to the SB 375 process to demonstrate that the plan will meet the 2020 reduction target. However, the plan does include measure R3T4 which anticipates that future amendments to the plan could result in additional reductions in the transportation sector.

As explained in revisions to Chapter 5 of the GHG Reduction Plan, It is anticipated that upon completion of the SCS by SCAG and the Regional GHG Reduction Plan currently under preparation by SANBAG, adequate methodology for quantification of regional VMT and more comprehensive mitigation will provide suitable planning tools that can be incorporated into this Plan through a future amendment.

Response 1-11: The County disagrees with the comment that the Plan does not require specific action and that the measures in the Plan are not effective. The GHG reduction measures of the GHG Reduction Plan would substantially reduce projected unmitigated year 2020 emissions. The GHG Plan includes both External and Internal reduction measures to address the resultant emissions of buildings (associated with energy use), transportation and land use emissions, solid waste emissions, industrial fuel combustion and process emissions, agriculture emissions, emissions generated for the energy used to pump water, County fleet emissions, County operated landfills, and the emissions from County workers commuting to their jobs. As stated on page 3.11-22 of the SEIR, the GHG Reduction Plan quantifies the GHG equivalent of State, regional, and local reduction policies and efforts. State reduction measures are quantified using the methodology included in the AB 32 Scoping Plan and Technical Appendices. Regional and local reductions are quantified with the best available methodology from agencies and associations such as the California Environmental Protection Agency (CalEPA), California Climate Action Registry (CCAR), and California Energy Commission (CEC). The GHG reduction potential is clearly and comprehensively documented and is sound. Did we respond to the specific comment: "…the GHG Plan does not require specific action…"? The response seems to address quantification rather than specific required action.

The commenter is referred to Appendix A and Appendix B of the GHG Reduction Plan for the methodology used for estimating the effectiveness of proposed reduction measures. These sections present the major assumptions and calculation methodologies used to estimate emission reductions for the GHG Reduction Plan.

Emission reductions for the external R1 measures were based on CARB methodology, as presented in the AB 32 Scoping Plan. In certain cases, CARB's calculations were modified to better estimate reductions for the unincorporated County, as described in Appendix A of the GHG Reduction Plan. R2 measures were calculated using County-specific assumptions, where available, and custom methodologies for each sector of emission reductions. The reduction methodologies for each emissions sector are based on a combination of widely accepted protocols established by the EPA, CCAR, CARB, and other relevant protocols, as appropriate, or on scientific studies.

During the County's data collection process, appropriate emission factors for each of the sources identified for the Internal Inventory were compiled as described in Appendix B of the GHG Reduction Plan. For electricity consumption, the Southern California Edison GHG emission factor was applied to determine GHG emissions for all of San Bernardino County's locations as this factor was the most specific factor publicly available. All other emissions were calculated based on emission factors provided in the 2008 Local Government Operations Protocol. As different units are often provided for energy consumption (i.e., therms, MBtus), data for all energy was converted to a single metric (Terajoules) before calculating metric tons carbon dioxide equivalent (MTCO2e) using the above-mentioned emission factors.

The comment cites *Communities for a Better Environment v. City of Richmond* to claim that the measures in the GHG Plan do not meet CEQA's standards for adequate mitigation measures. The comment misperceives the nature of the measures in the GHG Reduction Plan – these are plan policies and measures designed to reduce GHG emissions in the County and to achieve compliance with AB 32. They are not mitigation measures applied to a particular project, such as the substantial oil refinery expansion that was evaluated in the *CBE* decision.

Response 1-12: As stated in Response 1-11, the County does not agree with the statement that the Plan does not require specific action. The Plan does not require mandatory retrofits to existing structures upon sale, and such measures are not needed to achieve the Plan's goal of compliance with AB 32. The commenter is also referred to Responses 1-22 and 1-26.

Response 1-13: The commenter is referred to Response 1-6 for a discussion on State targets for GHG emissions. The commenter is referred to Response 1-11 for a discussion of the methodology used for estimating the effectiveness of proposed reduction measures.

Response 1-14: The CARB Scoping Plan identifies the local equivalent of AB 32 targets as a 15 percent reduction below "current" GHG emissions levels. The CARB

Scoping Plan was not specific as to what base year to use to identify "current" levels. However, the Scoping Plan was adopted in 2008 and a review of the GHG inventory and emission trends at the time of the Scoping Plan indicates that 15 percent below 2008 levels would approximately equal 1990 levels at the state level (which is the goal of AB32). CARB projected from baseline emissions to the year 2020, using assumptions about potential growth, assuming no change in the existing business practices, and without considering implementation of any GHG emission reduction measures. CARB designated the baseline emissions inventory projected to the year 2020 as business-as-usual (BAU).

New development, subject to County discretionary permit authority, will reduce emissions by 31 percent compared to 2020 unmitigated conditions through the County's Development Review Process (DRP). The County has developed a screening table with a point system that takes into account a wide range of potential measures that new development could implement in order to achieve the overall 31 percent reduction level (Screening Table). The State measures and mandatory local measures (such as water conservation requirements) and other local action (such as the County's municipal waste measures) will be included in the Screening Table such that where these measures apply to a specific development; they can be counted toward the 31 percent requirement. The County's Screening Table will be based on a 100 point system that corresponds to a 31 percent reduction in GHG emissions. Beyond the State measures and the mandatory local measures, the County intends to leave the specific choice of reduction measures to the individual project proponent to facilitate the adoption of the most feasible, effective, and cost efficient measures relevant to each specific project. Through the County's DRP each new project will be reviewed in order to assure that the identified measures are feasible, relevant to the project, committed to by the proponent, funded, and have a definite schedule for their implementation. Using this approach, the precise amount of GHG emissions reductions cannot be estimated for new development on a measure by measure basis because the individual choices of new development proponents as to which measures will be implemented cannot be known at this time. However, the aggregate reductions are known that will be required and are part of the GHG Reduction Plan. The analysis examined feasible scenarios of reductions that would result from new development utilizing different reduction strategies relating to energy efficiency, and alternative energy features. The County will monitor the emissions reductions from new development, calculate those emissions and make any needed modifications to the County's reduction strategies to enable the County to reach its 2020 target.

The commenter is also referred to Response 1-6 for a discussion of significance thresholds.

Response 1-15: The commenter is referred to Response 1-6 for further discussion of significance thresholds.

Response 1-16: As above, the comment appears to confuse GHG Reduction Plan measures with mitigation measures (see Response 1-11). Nevertheless, the

Plan does include a mechanism to re-evaluate the Plan's effective, as set forth below.

The County Greenhouse Gas Reduction Team (GRT) will establish a process for monitoring the implementation of the GHG Reduction Plan and to adjust the plan as opportunities arise. The Land Use Services Department (LUSD) will compile the monitoring results and report to the Board of Supervisors on GHG Reduction Plan implementation progress. The LUSD anticipates incorporating annual monitoring results with the required annual reporting procedures for implementation of the County General Plan. As specified in GHG Section 5.7, Monitoring and Inventorying and Reporting, the County will conduct periodic comprehensive reviews on a four year schedule that will involve an appropriate level of re-inventorying emissions sources in order to get a more complete understanding of GHG conditions at that time and the results of the GHG Emissions Reduction program. A new section, GHG 5.9 Amending the GHG Plan, has been added to make a clear commitment to revise the Plan to incorporate new and improved methodologies and protocols. A four year interval for —re-inventorying will be synchronized with the reduction measure phasing. Phases 1 and 2 will be concluded in 2014 and thus, re-inventorying (the inventory will be completed in 2015) at this point will provide an important milestone assessment in the progress that the County is making with GHG Reduction Plan implementation. The next inventory would be completed to coincide with the 2020 target date and implementation of the Phase 3 reduction measures. This inventory will provide a more comprehensive assessment of the GHG Reduction Plan's success while providing a basis for adjusting the GHG Reduction Plan for the 2030 target. As the GHG Reduction Plan is implemented and as technology changes, for example, energy consumption, vehicle efficiency, waste diversion amounts, and methane recovery amounts will change. If promising new strategies emerge, the County will evaluate how to incorporate these strategies into the GHG Reduction Plan. Further, State and federal action will also result in changes which will influence the level of the County emissions.

Response 1-17: The commenter is referred to Response 1-16.

Response 1-18: The comment is noted.

Response 1-19: The 2020 unmitigated emissions inventory includes multiple methods of forecasting 2007 emissions to the year 2020, as described in GHG Reduction Plan Appendix A - External Inventory/Reduction Measures Methodology, pages A-2 through A-7 and tables A-1, A-3, and A-4 of the GHG Reduction Plan. Growth factors provided by SCAQMD[1] were used to project stationary source emissions and agricultural emissions; the Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) employment forecast growth from 2008 to 2020 in all of San Bernardino County[2] were used to project cement plant

[1] South Coast Air Quality Management District (SCAQMD). 2009. *Greenhouse gas (GHG) inventories for the county of San Bernardino; technical document: methodology, assumptions, data sources and inventory*. Diamond Bar, CA.
[2] SCAG, 2004. Regional Transportation Plan

emissions; revised County growth forecasts[3] were used to project residential, commercial, and industrial energy use emissions; the EMFAC model was used to project on-road transportation emissions; the OFFROAD model was used to project off-road transportation emissions; data from the County's waste management division was used to project landfill waste emissions; and General Plan forecast data was used to project wastewater and water conveyance emissions.[4]

General Plan projections were not used to calculate all sectors of the 2020 unmitigated emissions inventory because other forecast data was deemed more appropriate for certain sectors as follows. Stationary source and agricultural emissions for 2007 and 2020 were adapted from the SCAQMD emissions inventory and 2020 forecast for the County as these sources tend to grow in accordance with broader regional growth patterns rather than specific County population, employment and housing growth. Cement plant emissions were projected using the SCAG RTP employment forecast growth from 2008 to 2020 since cement production tends to trend more with regional economic growth than with unincorporated County population or other unincorporated County General Plan forecasts. Transportation emissions were projected using EMFAC (on-road) and OFFROAD (off-road), which use CARB-approved methods for estimating future vehicle emissions and this method was recommended by SCAQMD for the transportation sector. Landfill waste emissions were forecast based on projections provided by the County's Waste Management Division, which are more accurate relative to waste generation than deriving waste generation from per capita factors and general socioeconomic forecasts.

Revised 2020 socioeconomic forecasts were developed by Stanley Hoffman & Associates (2009) and were used to forecast emissions associated with residential, commercial, and industrial building emissions associated with electricity and gas consumption. The revised forecasts are shown in Table A-4 on page A-7 of the GHG Reduction Plan. These forecasts are lower than an interpolation of the 2030 forecasts in the General Plan because they take into account the substantially reduced rate of growth to 2020 in light of the recent economic downturn and reduced growth forecasts. The intent of the GHG Reduction Plan is to address the amount of emissions expected in 2020 based on the most recent data available. Since an economic downturn has occurred after the General Plan forecasts were originally prepared, it was appropriate to revise the forecasts taking into account the effect of current socioeconomic trends.

The General Plan forecasts of water demand and wastewater treatment demand were used to analyze water conveyance emissions and wastewater treatment emissions. Although water and wastewater

[3] Stanley Hoffman & Associates (Hoffman). 2009. *Revised General Plan Projections for the Unincorporated San Bernardino County*. Prepared for the County of San Bernardino. September 11

[4] San Bernardino County. 2006. *Draft Program Environmental Impact Report for the San Bernardino County 2006 General Plan Program*. Appendix C: 2030 Growth Projections – Background Information. Prepared by Stanley R. Hoffman Associates. March 20.

demands may be less than predicted using the General Plan forecasts, it was considered more accurate to use the quantities in the General Plan background studies rather than adjust these consumption demands. As these are not major sources of GHG emissions overall in the County, the 2020 forecast may be slightly overestimated if the revised 2020 growth forecast is realized. Adjusting the numbers for this sector would not substantially change the conclusions of the GHG Reduction Plan.

Response 1-20: The GHG Reduction Plan has taken precise steps to insure that there is no double-counting between State efficiency measures and local efficiency actions. Measures R1E4 and R1E5 are derived from AB 32 Scoping Plan strategies and the GHG Reduction Plan analysis takes credit for improvements to energy efficiency based on zero energy buildings, voluntary efficiency targets beyond mandatory codes, voluntary and mandatory building retrofits, water system efficiency, financing innovation and Title 24 improvements. For additional description of measures R1E4 and R1E5, refer to GHG Reduction Plan pages A-44 to A-46.

The DRP reductions do not double-count reductions from R1E4 and R1E5 because any reductions achieved from the DRP measures account for reductions calculated for Measures R1E4 and R1E5. Measure R1E4 includes the emission reductions associated with electricity energy efficiency activities included in CARB's AB 32 Scoping Plan that are not attributed to other reduction measures already calculated in the GHG Reduction Plan. The amount of energy efficiency gains included in R1E4 in the County's GHG Reduction Plan is limited to those associated with the Title 24 Energy Efficiency Standards updates and energy efficiency retrofits (net of other State energy measures like the Renewable Portfolio Standard (RPS)). The County's R2 measures relating to these strategies have been subtracted out to avoid double counting.

R1E5 includes the emission reductions associated with natural gas energy efficiency activities included in CARB's AB 32 Scoping Plan that are not attributed to other reduction measures already calculated. The amount of GHG reductions identified for the R1E5 measure only includes Title 24 Energy Efficiency Standards updates and energy efficiency retrofits (net of other State energy measures like the RPS). The County's R2 measures relating to natural gas energy efficiency strategies were subtracted out to avoid double counting.

Response 1-21: The commenter is correct that the measure is titled differently on these two pages (this was a typographic error on page A-47). This error has been corrected in the Final GHG Reduction Plan. R1E7 actually captures the reduction in industrial building energy emissions associated with the energy efficiency measures for industrial sources included in CARB's AB 32 Scoping Plan, and is not related to oil and gas exploration emission reductions. Measure R1I1, "Oil and Gas Extraction Combustion Related GHG Emission Reduction," is the measure which would reduce combustion emissions from oil and gas extraction.

The commenter expresses concern that since there is limited oil and gas development in the County it does not appear supportable for the

County to take credit for Statewide reductions that may occur in this sector. The reductions calculated for R1I1 are based on the baseline emissions in the County for oil and gas extraction as calculated by SCAQMD and follow the methodology used by CARB. In addition, these reductions are very small compared to the 2020 inventory, reflecting the limited oil and gas development in the County, accounting for a 0.001 percent reduction of total 2020 unmitigated industrial stationary source emissions (GHG Reduction Plan, pg. A-48).

The commenter also expresses concern that separate and additional reductions for oil and gas extraction in the Stationary Source section of the GHG Reduction Plan appear to be double counting reductions already taken under this measure. As described above, measure R1E7 does not account for oil and gas extraction reductions (the description was incorrect in the draft and has been corrected). Measures R1E7 and R1I1 are different measures addressing different sectors of the inventory, and therefore do not double-count emission reductions.

Response 1-22: The commenter asserts that R2E1 involves a County program for residential energy efficiency retrofits. In addition to this, the commenter also claims that this program amounts to no more than the waiver of permit fees. Measure R2E1 will be implemented through a combination of County permitting for major renovations and incentives for homeowners to voluntarily retrofit their properties (GHG Reduction Plan, pg. A-48). As stated in the GHG Reduction Plan, incentives will include financing mechanisms (AB 811 type programs and grants), the County's Green County program for waiving permit fees, increasing community awareness of retrofit potential, engaging in efforts to encourage a qualified retrofit workforce, and removing regulatory and procedural barriers to implementing green building practices (GHG Reduction Plan, pg. A-48). A list of actions that can increase energy efficiency for retrofit buildings is listed on page A-48.

The commenter claims that if the County does not have requirements to facilitate energy efficiency retrofits beyond the waiver of permit fees already, and that the County should require increased efficiency above a defined percent of current State requirements in the event of major renovation. The commenter claims that this would allow more certainty that GHG emission reductions would be achieved in existing building stock. Major residential renovations (as noted on Page A-48) that trigger discretionary permits would be subject to the DRP and would require reductions relative to the renovated portion of existing buildings. The County, as this time, is not proposing mandatory reductions for existing buildings but rather a voluntary and incentive based approach.

Response 1-23: The commenter is correct in stating that the GHG Reduction Plan refers to financing mechanisms including AB 811 type programs and grants, such as Energy Efficiency Conservation Block Grant funding (GHG Reduction Plan, pg. A-48). The commenter expresses concern that AB 811 financing districts are currently impracticable due to objections by Fannie Mae and Freddie Mac. The GHG Reduction Plan notes the current barriers in place

by Fannie Mae and Freddie Mac. This barrier affects all AB 811 financing districts for residential energy efficiency funding.

The commenter claims that if barriers to AB 811 were eliminated, the County does not commit to operating an AB 811 program within its jurisdiction or discuss if the County had an AB 811 program in place prior to action by Fannie Mae and Freddie Mac. The County did not have an AB 811 financing program in place before the action by Fannie Mae and Freddie Mac.

The commenter asks if the County expressly committed to creating an AB 811 program in the event current roadblocks with Fannie Mae and Freddie Mac are resolved. If the obstacle to AB 811 financing districts is removed, then Measure R2E1 will require the County to implement an AB 811 style financing mechanism or its equivalent. The language of the measure has been revised to make this clear.

In addition, it is important to remember that the Fannie Mae and Freddie Mac objections only affect residential AB 811 financing districts since their jurisdiction only relates to guaranteeing residential mortgages. As a result, the County can move forward now with AB 811 approaches for commercial properties.

Response 1-24: In 2008 the County submitted an Energy Efficiency and Conservation Block Grant (EECBG) application to the U.S. Department of Energy to avail of the direct formula grant to the County in the amount $4,050,800 for a 36 month period. The EECBG Program provides grants to U.S. local governments to fund projects that reduce energy use and fossil fuel emissions and improve energy efficiency. The EECBG Program was authorized under Title V, Subtitle E of the Energy Independence and Security Act (EISA), which was signed into law on December 19, 2007 and subsequently funded on February 19, 2009 through the American Recovery and Reinvestment Act (ARRA). On March 26, 2009, the County was allocated $4,050,800 in formula funding under the EECBG Program. The grant has funded: solar electric system improvements for County facilities; home energy efficiency improvements; and, environmental review related to the County's GHG Emissions Reduction Plan.

In addition, Measure R2E1 would include County participation in seeking and facilitating new sources of grant funding and linking up private parties with sources of both private and public financing for energy efficiency retrofits. The County is not in a financial position to fund the program on its own from the County's General Fund. Regarding the suggestion that impact fees from new development could be used to fund retrofits, the plan does not include provision to establish impact fees on new development to fund retrofits of low-income housing. Given that new development is required to meet energy efficiency requirements and will be subject to the provisions of the GHG Reduction Plan, in the County's view it is questionable whether there is an appropriate basis or nexus to justify the imposition of such an impact fee. It should also be noted that new development can only be required to mitigate their own GHG emissions (which will be done through the DRP), and thus if retrofits of

existing buildings were to be used to comply with the DRP requirements, this would not result in greater reductions than that assumed for the DRP already.

Response 1-25: The commenter is correct in stating that the GHG Reduction Plan claims that 20% of existing buildings, or 1 in 5 dwellings, will be retrofit or renovated by 2020. The commenter is also correct that this figure was derived from the *Green Building in North America* report from the Commission for Environmental Cooperation identified in the "Deep Green" scenario. The GHG Reduction Plan refers to *Paper 1: Green Building Energy Scenarios for 2030*,[5] which states on page 19, "Roughly 90 percent of the existing residential and commercial buildings undergo an energy retrofit or renovation" for the United States by the year 2030. The GHG Reduction Plan used a linear regression from 2005 to 2030 to determine that the U.S. retrofit rate for the year 2020 would be 47%. The GHG Reduction Plan also notes that because this measure is voluntary, the 47% was a reduced to 20 percent to provide a conservative scenario of retrofits in the County by 2020.

The commenter claims that the *Green Building* report estimates that only *16%* of existing residential stock will be affected by energy efficiency activities associated with retrofit activities by *2030* under the "Deep Green" scenario, far less than that stated in the GHG Reduction Plan. The *Green Building* report does make the statement cited by the commenter. The *Green Building* report also states that, "By 2030, approximately 26 percent of the existing residential stock will have been affected by energy efficiency activities associated with major renovations" (page 35). This is in addition to the 16% of existing residential stock affected by energy efficiency activities associated with retrofit activities, for a total of 42% retrofit or renovated by 2030. Measure R2E1 is relevant for both retrofits and renovations. The 90 percent figure cited in the GHG Reduction Plan referred to both residential and commercial buildings, which might explain the discrepancy between the 90% figure and the 42% figure, although it is unclear in the paper. Regardless of this discrepancy, if the 42% rate is applied to the same linear regression as the 90% rate, the number of existing residences retrofit or renovated by 2020 would be about 22%, which is higher than the 20% rate used to calculate reductions for Measure R2E1. Consequently, Measure R2E1 reflects a relatively conservative estimate rate of retrofits.

Regarding data on the current retrofits occurring in the County, this data is not readily available at this time and would be time consuming to compile. The information will be developed and included in the County's compilation of emissions reduction during its re-inventory process. As described above, the County is of the opinion that the assumptions regarding retrofits in the Plan are reasonable as they are derived from appropriate subject references.

[5] See http://www.cec.org/files/PDF/GBpaper1_en.pdf

Response 1-26: As stated above, the GHG Reduction Plan refers to *Paper 1: Green Building Energy Scenarios for 2030*,[6] which states on page 19, "Roughly 90 percent of the existing residential and commercial buildings undergo an energy retrofit or renovation" for the United States by the year 2030. This number was used as a basis for the assumption that 20% of commercial buildings existing in 2007 will be retrofit or renovated by 2020 (see Response 1-32 above).

Major commercial renovations (additions of 25,000 square feet of office/retail commercial or 100,000 square feet of industrial floor area and as noted on Page A-49 under Measure R2E2) that trigger discretionary permits would be subject to the DRP and would require reductions relative to the renovated portion of existing buildings. The County, as this time, is not proposing mandatory reductions for existing building but rather a voluntary and incentive based approach except in the case of major renovations.

Response 1-27: The GHG Reduction Plan indicates that Measure R2E3 assumes 20 percent of existing residential dwellings will install solar by 2020 (GHG Reduction Plan, pg. A-50). The 20 percent value is the same rate of residential retrofits assumed in Measure R2E1. The GHG Reduction Plan indicates that Measure R2E4 assumes 25 percent of existing commercial warehousing space will install solar by 2020 (GHG Reduction Plan, pg. A-51). This assumption was an estimate based on the County's best judgment regarding the amount of existing warehouse space that would install solar by 2020, through a combination of a partnership between Southern California Edison (SCE) and California Public Utilities Commission, incentives from the CEC's Solar Initiative, other public and private funding sources, and individual owner initiative in response to energy prices.

The commenter is correct that the GHG Reduction Plan includes incentives available to homeowners through the CEC's California Solar Initiative. The CEC's Solar Initiative began in 2007 and has a total budget of $2.167 billion between 2007 and 2016, along with a goal to install approximately 1,940 megawatts (MW) of new solar generation capacity. This program includes: a solar rebate program which funds solar on existing homes, existing or new commercial, agricultural, government and non-profit buildings; a solar rebate program for low-income residents that own their own single-family home and meet a variety of income and housing eligibility criteria; and a solar rebate program for multifamily affordable housing. The County intends to utilize funding for this program to install solar photovoltaics on existing and new residential and commercial buildings in the County. As noted above, Measure R2E3 and R2E4 will need to rely on multiple funding sources in order to achieve the reductions including partnerships with SCE, other public and private funding sources, and individual owner initiative in response to energy prices.

[6] See http://www.cec.org/files/PDF/GBpaper1_en.pdf

Regarding data on the current retrofits occurring in the County, this data is not readily available at this time and would be time consuming to compile. The information will be developed and included in the County's compilation of emissions reduction during its re-inventory process. As described above, the County is of the opinion that the assumptions regarding retrofits in the Plan are reasonable as they are derived from appropriate subject references.

Response 1-28: The commenter correctly claims that the County aims to "promote and encourage participation in an incentive program …. to be developed through a partnership between Southern California Edison and the California Public Utilities Commission" as part of Measure R2E4 (GHG Reduction Plan, pg. A-50). The commenter expresses concern that details are not provided for in R2E4. The GHG Reduction Plan does not explain the details of the partnership between Southern California Edison and the California Public Utilities Commission because the partnership has not yet been created – it is an implementation action of the GHG Reduction Plan. The County is required to participate in this partnership as part of the GHG Reduction Plan, and the details of the partnership will become available in the future. If the partnership were to not come to fruition, then the County would need to establish alternative means to fund renewably investments equivalent to measure R2E4 In addition, the GHG Reduction Plan includes the following details regarding Measure R2E4: the program would require that the solar photovoltaic panels offset at least 50 percent of a warehouse's electricity use; the measure would only affect emissions from commercial warehouse space electricity use which, based on Commercial Buildings Energy Consumption Survey (CBECS) warehousing data, was calculated to be 40 percent of the County's external electricity emissions associated with buildings; 25 percent of unmitigated 2020 emissions from commercial warehousing would be affected by this program; and the installation of solar photovoltaic panels will offset 50 percent of a warehouse's electricity use.

The commenter also expresses concern that while the County has no direct control over the program, the County assumes that 50% of warehouse electricity use will be reduced. The GHG Reduction Plan specifies that reductions from this measure will be achieved through installation of solar on warehouses by means of a partnership between Southern California Edison and the California Public Utilities Commission. The County will promote and encourage participation in an incentive program for installing the panels for existing warehouses and has included solar installation as one of the options for seeking mandatory reductions through the DRP. The commenter is incorrect in stating that the GHG Reduction Plan claims a 50% reduction in warehouse electricity use. The GHG Reduction Plan states that 25% of total unmitigated 2020 emissions from commercial warehousing would be affected by this program; in other words, approximately 25% of warehouses will install solar by 2020. The GHG Reduction Plan also states that for these 25% of warehouses, the installation of solar photovoltaic panels will offset 50 percent of a warehouse's electricity (GHG Reduction Plan, pg. A-51). Consequently, Measure R2E4 results in a 12.5% reduction in warehouse electricity use in 2020, far lower than the commenter's claim of a 50% reduction.

The commenter suggests that to properly support R2E4, the GHG Reduction Plan should be revised so the County requires all warehouses to install on-site solar as a condition of project approval. The County's approach is that on-site solar is an option for new warehouses to meet their DRP obligation to reduce GHG emissions by 31%, but that the County is not mandating the precise means and methods to achieve that reduction.

Response 1-29: The GHG Reduction Plan states that R3 measures "were not used to demonstrate achievement of the proposed County 2020 GHG emissions reduction target. For these measures, emissions reductions have either not been quantified due to a lack of available data or protocols required for quantification or because of uncertainty regarding the County's jurisdictional control over relevant emissions sources" (GHG Reduction Plan, pg. 2.0-14). Because the R3 measures were not quantified or counted toward the County's 2020 GHG emissions reduction target, these measures are not required by the GHG Reduction Plan for the County to meet its target. Therefore, the R3 energy measures do not need enforceable requirements with concrete deadlines for action. However, many of the R3 measures are currently under development and will involve enforceable requirements when completed. R3 measures may in fact be enforceable and include requirements, but emission reductions have not been quantified due to the reasons listed above.

The commenter is correct that measure R3E11 states that the County will encourage the construction of new buildings to allow for the easy, cost-effective installation of future solar energy systems, and on-site renewable energy generators are not required for new buildings. As stated above, R3E11 is not required by the GHG Reduction Plan for the County to meet its 2020 emission reduction target.

The commenter suggests that absent unusual circumstances, on-site renewable energy generators should be required of new homes, with solar ready homes as the default where unusual circumstances are present. As noted above, R3 measures were not used to demonstrate achievement of the proposed County 2020 GHG emissions reduction target. On-site renewables are one option for new development to demonstrate their compliance with the 31 percent reductions required under the DRP.

The commenter claims that as another example of an R3 energy measure that does not provide enforceable requirements with concrete deadlines for action, the GHG Reduction Plan only requires the County to "pursue developing 'heat island' mitigation plan including guidelines for cool roofs, cool pavements, and strategically placed shade trees" (GHG Reduction Plan, pg. A-57). The commenter suggests that this measure should be modified to require the heat island plan be developed by a date certain and require that its guidelines be mandated for new development. The commenter is correct in their citation of Measure R3E5. The Measure includes specific guideline requirements for the heat island mitigation plan (GHG Reduction Plan, pg. A-57). Although the measure does not require the heat island plan to be developed by a certain date, and does not require that its guidelines be mandated for new

development, this measure was not used to demonstrate achievement of the proposed County 2020 GHG emissions reduction target.

Response 1-30: The commenter correctly states that Measures R1I3 and R1I4 assume substantial reductions in emissions due to carbon intensity standards for cement manufacturers and concrete batch plants. These measures result in a 2.3 percent and 25 percent reduction from 2020 unmitigated cement and concrete emissions, respectively.

The commenter claims that while these measures were initially evaluated by CARB and supported by the environmental community, they were ultimately not adopted as part of the Scoping Plan. The commenter is correct that the Scoping Plan evaluated the cement/concrete plan measures but they were not specifically adopted as measures for the development of specific regulations as part of the Scoping Plan. Instead the Scoping Plan recommends that large industrial sources like cement emissions be addressed through a cap-and-trade program.

Cement combustion and process emissions in the State in 2006 were 9.8 million metric tons. There are 11 cement plants in California, three of which are in unincorporated San Bernardino County. In order to meet the AB 32 reduction target by 2020, there will be a need for substantial reductions in this sector. Cement is an essential regional building material, the majority of which is provided from regional sources due to high transportation costs at distance (approximately 60% of cement used in the State is produced in the State; the rest is imported). As a result, through either a cap-and-trade program and/or through complementary regulation later, reductions will be needed across the State at all major cement manufacturing facilities.

The Scoping Plan states: "Reducing greenhouse gas emissions from the wide variety of sources can best be accomplished though a cap-and-trade program along with a mix of complementary strategies that combine market-based regulatory approaches, other regulations, voluntary measures, fees, policies, and programs. CARB will monitor implementation of these measures to ensure that the State meets the 2020 limit on greenhouse gas emissions."[7] Thus, cap-and-trade will be the first approach to promoting reductions in the cement industry, but CARB will retain the authority (given to it by AB 32) to later evaluate whether specific cement industry GHG regulation (such as a cement intensity standard like that mentioned in Measures R1I3 and R1I4) should be instituted as a complementary measure. Thus, although it is difficult to precisely predict the exchange changes in the cement carbon intensity that will occur due to cap-and-trade, reduction in the approximate amount of that assumed in Measures R1I3 and R1I4 will be necessary to support reaching the overall AB 32 reduction target.

[7] California Air Resources Board. 2008. *Climate change proposed scoping plan.* October. Available: <http://www.arb.ca.gov/cc/scopingplan/document/psp.pdf>. Sacramento, CA. Page 15.

The commenter is correct in claiming that the Scoping Plan does not mandate waste reduction in concrete use as stated in Measure R1I5. This measure assumes that waste reduction will be one of the approaches that cement manufacturers will adopt in response to a cap-and-trade program and/or later complementary regulation measures. The key point of the commenter is an assertion that GHG Reduction Plan cannot legitimately take credit for Measures R1I3, R1I4, and R1I5. The CARB states that these measures "… are included in the economic model runs as potential technical options that have been evaluated by staff as low cost … for achieving reductions of GHG emissions in the Industrial sector under the cap-and-trade program. These measures, although not part of the recommendation in the AB 32 GHG emissions reduction program, were therefore used as a surrogate for the cap-and-trade program in the economic modeling."[8] The County's plan takes a similar approach as the Scoping Plan. Based on the Scoping Plan's description of the cap-and-trade program, Measures R1I3, R1I4, and R1I5 were included in the GHG Reduction Plan as a likely response of the industrial sector to the cap-and-trade program.

While not considered likely, is possible that the cap-and-trade program and/or specific GHG regulation of the cement industry will not be implemented. In this case, the State of California will need to implement additional measures to cover the gap needed to achieve the Statewide emission reductions goal under AB 32. If cement emissions are included in the inventory the County is responsible for, the County may not meet its 2020 emission reduction goal without reductions in the cement emissions equivalent to that assumed in R1I3, R1I4, and R1I5. The County will remain responsible to implement additional measures (such as R3 measures) or strengthen current measures to achieve its reduction goal by 2020. All indications at present indicate that CARB will implement a cap and trade program that will include cement plant emissions and/or will seek direct regulation of large industrial sources in order to reach the overall Statewide AB 32 reduction goal. The County will monitor progress as to whether it remains reasonably foreseeable that the assumed reductions in cement production carbon intensity will come to fruition by 2020. If information comes to light that such reductions are no longer reasonably foreseeable, then the County will need to take into consideration alternative means to meet the County's identified 2020 reduction target.

Federal action, through USEPA regulation under the Clean Air Act, will also require GHG reductions for cement manufacturers as well. The USEPA's "tailoring rule" identifies that Prevention of Significant Deterioration (PSD) requirements for new or expanded facilities and Title V operating permits for existing permits relative to GHG emissions will apply to cement manufacturers starting in 2011.

The County included cement emissions to present a full picture of areas in which the County can have influence over GHG emission sources. The

[8] California Air Resources Board. 2008. *Climate change proposed scoping plan. Volume 2: analysis and* documentation. Available: <http://www.arb.ca.gov/cc/scopingplan/document/appendix2.pdf>. Page I-36.

County does have permitting authority over new cement manufacturers and expansion of existing cement manufacturing facilities (in certain cases), but has no authority to mandate reductions of emissions from existing cement manufacturing facilities (if those emissions are otherwise permitted by State and federal regulations). Thus, if State regulation (directly through source reduction mandates or indirectly through cap and trade) or federal regulation does not come to fruition, the County would need to amend the GHG Reduction Plan to account for this. In that instance, the County would be likely to only include new emissions associated with new cement plants (or expanded) ones within its reduction responsibility, given the limitations on County authority to mandate reductions of emissions from existing industrial sources. At this time, it is reasonably foreseeable that the State (through cap and trade) and the federal government (through the Clean Air Act) will take actions that will result in substantial GHG emission reductions compared to a business as usual condition and thus it is appropriate for the County to rely on this regulatory intent. As noted above, the County will monitor accomplishments in this sector and if and when necessary take action to modify its GHG Reduction Plan should substantial changes in expected GHG reductions from this sector occur.

Response 1-31: The commenter is referred to Response 1-15.

Response 1-32: The point system is based upon Title 24 improvements used at the time of the development application. Projects need to provide greater energy efficiency than Title 24 standards at the time of the application in order to achieve points.

The CARB Scoping Plan identifies the local equivalent of AB 32 targets as a 15 percent reduction below baseline GHG emissions level, with baseline interpreted as GHG emissions levels between 2003 and 2008. Baseline Period GHG emissions include emissions from all sources in CARB's emissions inventory, including both, old and new, large and small GHG emission sources. The Baseline Period emissions were then projected to the year 2020, using assumptions about potential growth, assuming no change in the existing business practices, and without considering implementation of any GHG emission reduction measures. CARB designated the baseline emissions inventory projected to the year 2020 as business-as-usual (BAU). New development, subject to County discretionary permit authority, will reduce emissions by 31 percent compared to 2020 unmitigated conditions through the County's Development Review Process (DRP).

As shown in Appendix F of the GHG Reduction Plan, compliance with Title 24 would award a proposed project zero points. In this way, the GHG Plan does not double count for energy efficiency improvements imposed by the State through Title 24 Standards.

Response 1-33: The estimate of new residential units expected to be needed by 2020 came from a report prepared by Stanley R. Hoffman Associates (SRHA), September 11, 2009, entitled "Revised General Plan Projections for the Unincorporated San Bernardino County". The number of new residential

units represents the estimate of new homes required to house the forecasted population in 2020. During the process if preparing the GHG Plan, staff recognized that the economy had made a dramatic downturn and that development activity had slowed substantially. It was apparent that the growth projections contained in the 2007 General Plan Update (GPU) may need to be adjusted to reflect the economic conditions in 2009. The County used SRHA to analyze the 2007 GPU growth projections and revise as needed. The SRHA report was used as an information source in the GHG Plan and is referenced in Appendix A of the Plan.

Please note that during subsequent revisions to the Screening Tables, it was discovered that the number 3,733 units was incorrectly cited. The correct number is 5,083 units, which is the estimated housing need for the period 2007 to 2020. The number "3,733" represents the estimated housing units needed for the period from 2009/2010 to 2020. The actual number of new residential units has been corrected in the updated version of the Development Review Process /Screening Tables that is presented in this Final SEIR within Section 3.0, Minors Revisions to the Draft SEIR.

SRHA revised the population, household and employment projections originally prepared by their firm for the San Bernardino County 2007 General Plan update. The 2007 General Plan projections were prepared for the 2000 to 2035 period exclusively for the unincorporated portions of the County and these were presented by smaller sub-regions or 'Planning Areas' – Valley, Mountain and Desert . SRHA revised the General Plan projections for the period 2009 to 2020 by the three Planning Areas for population, households and employment. In doing so, they analyzed historic data from 2000 January to 2008 December, including data for the interim years of 2002 and 2007. Under the revised projections, they also estimated the persons per household and jobs per household ratios by the three County Planning Areas. The number of housing units needed for the period 2007 to 2009 was derived from actual building permit data and other sources.

Response 1-34: Yes, projects would be able to take credit for energy efficiency 20% above Title 24 requirements. This can be done through a Title 24 energy report typically provided with the development application package. Points can be calculated for the overall project efficiencies using the "Independent Energy Efficiency Calculations" option in the Screening Tables. Alternatively, future project proposals seeking to develop buildings 20% or more above Title 24 energy efficiency standards would be required to specify the specific aspects of the building that would receive greater efficiency and derive points based upon the specific energy efficiency aspects of the building.

Response 1-35:Screening Tables scores were calculated for various sample projects and the results were compared with the corresponding CalEEMod modeling results for each sample project. The Screening Tables conservatively estimate the amount of emissions that will be reduced by the measures and are, on average, consistent with the reductions calculated using CalEEMod and the mitigation measures provided in the CAPCOA local government resource document "*Quantifying Greenhouse*

*Gas Mitigation Measures, August 2010.*" CalEEMod incorporates the mitigation measures provided by CAPCOA in its document. Because there are some differences in the methodology and data sources between CalEEMod and the Screening Tables, the County will continue to work with SCAQMD in calibrating the point values for the Screening Tables. The commenter is referred to Appendix F of the GHG Reduction Plan for an expanded discussion on the County's Screening Table and point system.

Response 1-36: Yes a project can take credit for improvements in energy efficiency and anticipated state action in determining whether it is 31% better than unmitigated levels. To do this you will need to use the CAPCOA and CARB emissions reduction calculations. These are built into the CalEEMod model, and therefore, a project should be modeled in CalEEMod if this method is applied. According to CAPCOA, a project will achieve a 0.29% reduction in electricity and a 0.66% reduction in natural gas for each percentage above Title 24 standards for the building envelope. The Emfac Post-Processor tool provided by CARB estimates an 18% reduction in GHG in these vehicle classes by 2020 due to the requirements of AB 1493.

Response 1-37: The commenter is referred to Response 1-20.

Response 1-38: The GHG Reduction Plan has a benchmark year of 2007. This is not the same as a project's CEQA baseline which is the environmental conditions at the time of the environmental review (in the case of an EIR, it is usually at the time of Notice of Preparation). The GHG Reduction Plan overall is seeking to reduce GHG emissions by 15 percent from 2007 levels by 2020. As part of a multi-pronged approach, new development, subject to County discretionary permit authority, will be required to reduce emissions by 31 percent compared to unmitigated conditions through the County's Development Review Process (DRP). Based on the calculations in the GHG Reduction Plan, the County's target will be met by new development reducing emissions collectively by 31 percent (including the effect of state and project actions) between 2007 and 2020 and by the projected reductions from existing development through state and local measures. Project emissions, in most cases, will be an increase over project-level baseline conditions which are often zero if there are no GHG emission sources on the project site. The GHG Plan's identification of a 31 percent reduction target for the new development sector is not a significance threshold designed for project-level review – it is a GHG reduction target overall for the aggregate of new development .

Response 1-39: The commenter is referred to Responses 1-16 and 1-17. As noted in these responses, the GHG Reduction Plan does include the required mechanism to monitor the plan's progress.

Response 1-40: As explained in section 4.3 of the SEIR, the SEIR evaluated additional alternatives based upon the additional impacts that were identified in the SEIR analysis of the impacts of adopting the proposed GHG Reduction Plan. In the County's view, based upon those identified impacts, the SEIR evaluates a reasonable range of alternatives. As noted below, the

commenters' comments on this topic appear to relate to the alternatives previously evaluated in the General Plan EIR.

Response 1-41: This comment purports to challenge the range of alternatives evaluated in this SEIR, but then mentions the alternatives that were evaluated in the earlier General Plan EIR. As noted in section 2.2 of the SEIR, the General Plan EIR was certified in 2007. The commenter and other organizations filed a lawsuit challenging that EIR, and that lawsuit was dismissed following the County's settlement with the Attorney General. The adequacy of the range of alternatives in the General Plan EIR is thus no longer at issue. As explained in Chapter 4.1 of the SEIR, the alternatives analysis in the SEIR includes two sections. The first section evaluates whether changes to the General Plan associated with the adoption of the GHG Reduction Plan would alter the conclusions of the General Plan EIR regarding those previously evaluated alternatives. The second section evaluates additional alternatives based upon the identification of impacts associated with the GHG Reduction Plan. The comment relates to the analysis of alternatives in the earlier General Plan EIR, and not the SEIR. The comment does not raise any environmental issues relating to the analysis in this EIR.

Response 1-42: As the comment is referring to the County General Plan EIR only and not the SEIR, the comment does not raise any environmental issues relating to the analysis in this EIR.

Response 1-43: This comment also relates to the alternatives analysis in the General Plan EIR, not this SEIR.

Response 1-44: The comment is noted. The commenter is on the notice lists for this project.

# Letter 2

SOUTHERN CALIFORNIA EDISON
An EDISON International Company

Beverly Powell
Region Manager
Public Affairs

May 20, 2011

Mr. Doug Feremenga
County of San Bernardino
Land Use Services Department
385 N. Arrowhead Avenue, First Floor
San Bernardino, CA 92415

RE: Draft Supplemental Program Environmental Impact Report (SEIR) for the San Bernardino County General Plan Amendment and Greenhouse Gas Reduction Plan

Dear Mr. Feremenga:

Southern California Edison (SCE) appreciates the opportunity to comment on the above-referenced project. SCE commends San Bernardino County for developing a plan to reduce greenhouse gases and for creating standards to facilitate the orderly development of wind and solar energy facilities.

The California Public Utilities Commission (CPUC) has jurisdiction over SCE's electric transmission and distribution system. In General Order 131-D, the CPUC stated that "local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the Commission's jurisdiction." *See* G.O. 131-D § XIV (B) (attached). The CPUC further stated that public utilities "shall consult with local agencies regarding land use matters." *Id.* Consequently, the General Plan Amendment and Greenhouse Gas Reduction Plan would not control the construction and operation of SCE's transmission and distribution system, which are subject to the CPUC's exclusive jurisdiction. However, SCE values its obligation to consult with local agencies, and offers the following comments in that context. **2-1**

Although the mitigation measures are not applicable to SCE, SCE recommends revisions to two mitigation measures inDevelopment Code Chapter 84.29 relating to bird safety and agriculture usage. Mitigation Measure 3.4.2 should be amended to include the underlined, italicized text: "transmission lines and all electrical components shall be designed, installed, and maintained to reduce the likelihood of large bird electrocutions *and each line will be evaluated for potential collision risks*." SCE typically designs and builds avian safe structures using the Avian Power Line Interaction Committee (APLIC) manual *Suggested Practices* **2-2**

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Redlands, CA 92373
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# Letter 2 Continued

*for Avian Protection on Power lines: State of the Art 2006*. Transmission lines are inherently electrocution-safe for birds. Thus, measures to prevent bird collisions should be required only in specific areas that pose high risk, such as around water bodies or feeding grounds.

**2-2 cont.**

Mitigation Measure 3.2.1 should be amended to include the underlined, italicized text: "Work with transmission line providers and developers to design and site supporting off-site facilities such as transmission lines, in a manner that will allow for continued use of adjoining agricultural operations *as long as the agricultural operations do not interfere with the transmission right-of-way*." SCE's property (both fee-owned and easement) is reserved exclusively for the operation and maintenance of the electrical system. Any other proposed use will be reviewed by SCE on a case-by-case basis.

**2-3**

Once again, SCE appreciates the opportunity to comment on the San Bernardino County General Plan Amendement and Green House Gas Reduction Plan. If you have any questions regarding this letter, do not hesitate to contact me at (909) 307-6742.

**2-4**

Sincerely,

Beverly Powell
Local Public Affairs Region Manager
Southern California Edison Company

**LETTER 2** SOUTHERN CALIFORNIA EDISON

Response 2-1: The comment is noted and no further response is required. The comment does not raise any substantial issues regarding the adequacy of the SEIR under CEQA.

Response 2-2: The commenter recommends revisions to two mitigation measures related to bird safety and agriculture usage. The commenter is referred to Section 3.0, Minor Revisions to the Draft EIR, for the revised text to these mitigation measures.

Response 2-3: The comment is noted and no further response is required. The comment does not raise any substantial issues regarding the adequacy of the SEIR under CEQA.

Response 2-4: The comment is noted and no further response is required. The comment does not raise any substantial issues regarding the adequacy of the SEIR under CEQA.

# 3.0 MINOR REVISIONS TO THE DRAFT SEIR

## 3.1 INTRODUCTION

This section includes minor edits to the Draft SEIR. These modifications resulted in response to comments received during the Draft SEIR public review period as well as staff-initiated changes.

Revisions herein do not result in new significant environmental impacts, do not constitute significant new information, nor do they alter the conclusions of the environmental analysis. Changes are provided in revision marks (underline for new text and ~~strike out~~ for deleted text).

## 3.2 MINOR CHANGES AND EDITS TO THE DRAFT SEIR

### SECTION 2.0 PROJECT DESCRIPTION

***Pages 2.0-6 is revised as follows:***

#### 2.4.1 General Plan Amendment

The County proposes to amend its General Plan to include a policy and programs addressing the County's intent to reduce GHG emissions that are reasonably attributable to: (1) the County's internal activities, services, and facilities; and (2) private industry and development that is located within the area subject to the County's land use and building permit authority.

The General Plan Amendment would add a policy (Policy CO 4.13) to the General Plan Air Quality Section of the Conservation Element specifically calling for the reduction of greenhouse gas emissions. Policy CO 4.13 is proposed as follows:

**CO 4.13** Reduce greenhouse gas (GHG) emissions within the County boundaries.

1. Emission Inventories. The County will prepare GHG emissions inventories produced by: (1) the County's operational activities, services, and facilities, over which the County has direct responsibility and control; and (2) private industry and development that is located within the area subject to the County's discretionary land use authority, including:

    a) An ~~baseline~~ inventory of current GHG emissions based on year 2007 conditions;

    b) A projected inventory for year 2020.

***Pages 2.0-13 through 2.0-15 are revised as follows:***

**Emissions Reduction Measures**

The GHG emissions reduction measures identified in the GHG Plan include existing and proposed state, regional, county, and other local measures that would reduce GHG emission in the internal and external categories. Reduction measures have been organized into a classification system that recognizes both the origin of the measures, i.e., state, regional, or local, and also whether the measure is quantifiable in terms of calculating a volume of emission reduction. The emissions reduction measures are organized as follows, for each sector:

- Reduction Class 1 (R1) includes adopted, implemented, and proposed state and regional measures that do not require additional County action and that will result in GHG reductions for the County's land use authority area and internal operations. These

measures may require County action to achieve the GHG reductions, but that action is limited and compulsory.

- Reduction Class 2 (R2) includes all quantifiable measures that have been implemented or will be implemented by the County, as well as any additional quantifiable measures that require County action and will further reduce the GHG emissions for the County's LUA area and internal operations. R2 also includes any state and regional measures that require substantial action by the County to achieve the expected GHG reductions. ~~includes measures currently implemented or in the process of implementation by the County, as well as any additional quantifiable measures that require County action and will further reduce the GHG emissions for the County's land use authority area and internal operations. R2 also includes any state and regional measures that require substantial action by the County to achieve the expected GHG reductions.~~

  ~~The R2 measures include specific quantifiable measures as well as reductions achieved through the development review process.~~

  ~~Measurable reductions of GHG emissions will be achieved through the County's development review process (DRP) by applying appropriate reduction requirements as part of the discretionary approval of new development projects. Through the DRP, the County will implement CEQA requiring new development projects to quantify project GHG emissions and adopt feasible mitigation to reduce project emissions below a level of significance. Mitigation of GHG emissions impacts through the Development Review Process provides one of the most substantial reduction strategies for reducing External Emissions. The CEQA process for evaluating GHG impacts and determining significance will be achieved through a streamlined process as follows:~~

  ~~a. Exemptions. Projects determined to be exempt from CEQA will not require further environmental review.~~
  ~~b. Regulatory Agency Performance Standards. When, and if, the South Coast Air Quality Management District or the Mojave Basin Air Quality Management District adopts standards, the County may use such standards as a threshold of significance, if appropriate to do so. The County anticipates that it will use this approach with smaller development projects so that projects that fall below the air districts' thresholds will not require further evaluation.~~

  ~~c. Projects Using Screening Table. The County has developed a screening table as a tool to assist with calculating GHG reduction measures and the determination of a significance finding. Projects that garner a specified number of points (e.g., 100) or greater would not require quantification of project-specific GHG emissions. The point system will be devised to correspond to a reduction of GHG emissions for new development of 31 percent compared to unmitigated emissions. Consistent with the CEQA Guidelines, such projects will be determined to have a less than significant individual and cumulative impact for GHG emissions. It is expected that energy efficiency will be a likely strategy that many project proponents will include in their reduction strategy to meet the County requirements because energy efficiency is often the most cost-effective approach to reducing GHG emissions.~~

  ~~d. Projects Not Using Screening Table. Projects that do not garner the specified number of points with use of the screening table will be required to quantify project-specific GHG emissions or otherwise demonstrate that project-specific GHG emissions will be reduced or mitigated by at least (a specified percentage) compared to unmitigated~~

~~emissions. Consistent with the CEQA Guidelines, such projects will be determined to have a less than significant individual and cumulative impact for GHG emissions.~~

~~e. Projects Requiring an EIR. This process shall not be construed as limiting the County's authority to require an EIR, if needed, and adopt a statement of overriding considerations for projects with significant GHG impacts. The County will monitor the emissions reductions from new development, calculate those *emissions, and make any needed modifications to the County's reduction strategies to enable the* County to reach its 2020 target.~~

The R2 measures include specific quantifiable measures as well as reductions achieved through the development review process.

Measurable reductions of GHG emissions will be achieved through the County's GHG Development Review Process (DRP) by applying appropriate reduction requirements as part of the discretionary approval of new development projects. Through its development review process, the County will implement CEQA by requiring new development projects to quantify project GHG emissions and adopt feasible mitigation to reduce project emissions below a level of significance.

Mitigation of GHG emissions impacts through the DRP provides one of the most substantial reduction strategies for reducing external emissions. The DRP procedures for evaluating GHG impacts and determining significance for CEQA purposes will be streamlined by (1) applying a uniform set of performance standards to all development projects, and (2) utilizing Screening Tables to mitigate project GHG emissions. Projects will have the option of preparing a project-specific technical analysis to quantify and mitigate GHG emissions. A review standard of 3,000 metric tons per years (MTY) will be used to identify projects that require the use of Screening Tables or a project-specific technical analysis to quantify and mitigate project emissions. The review standard of 3,000 MTY and the Screening Tables are described in Appendix F.

As part of the implementation of the County GHG Plan, a uniform set of performance standards will be applied to development projects. These performance standards will be added to the County Development Code to ensure consistent application during development review. The complete Development Review Process, including the use of performance standards, for assessing and mitigating GHG emissions is outlined below.

a) County Performance Standards. All development projects, including those otherwise determined to be exempt from CEQA will be subject to applicable Development Code provisions, including the GHG performance standards, and state requirements, such as the California Building Code requirements for energy efficiency. With the application of the GHG performance standards, projects that are exempt from CEQA and small projects that do not exceed 3,000 MTCO2e per year will be considered to be consistent with the Plan and determined to have a less than significant individual and cumulative impact for GHG emissions. (See Appendix F for a full description of the Performance Standards and the methodology relating to the 3,000 MTCO2e per year level.)

b) Regulatory Agency Performance Standards. When, and if, South Coast Air Quality Management District or Mojave Basin Air Quality Management District adopts standards, the County will consider such guidance and incorporate all applicable standards.

c) Projects Using Screening Table. For projects exceeding 3,000 MTCO2e per year of GHG emissions, the County will use Screening Tables as a tool to assist with calculating GHG reduction measures and the determination of a significance finding. Projects that garner a 100 or greater points would not require quantification of project specific GHG emissions. The point system was devised to ensure project compliance with the reduction measures in the GHG Plan such that the GHG emissions from new development, when considered together with those from existing development, will allow the County to meet its 2020 target and support longer-term reductions in GHG emissions beyond 2020. Consistent with the CEQA Guidelines, such projects are consistent with the Plan and therefore will be determined to have a less than significant individual and cumulative impact for GHG emissions. (See Appendix F for a full description of the Screening Tables and methodology.)

d) Projects Not Using Screening Tables. Projects exceeding 3,000 MTY of GHG emissions that do not use the Screening Tables, will be required to quantify project-specific GHG emissions or otherwise demonstrate that project specific GHG emissions achieve the equivalent level of GHG emissions efficiency as a 100-point project. Consistent with the CEQA Guidelines, such projects are consistent with the Plan and therefore will be determined to have a less than significant individual and cumulative impact for GHG emissions. (See Appendix F for a full description of this alternative GHG mitigation analysis and methodology.)

e) Residential Projects Located Outside City Sphere of Influence. Residential Projects (or mixed use projects with a residential component) in excess of 250 dwelling units that are located in unincorporated area not within a City Sphere of Influence (SOI) will not be eligible to use the Screening Tables or rely on the Plan for a determination of less than significant on individual or cumulative impact for GHG emissions. These projects must perform an independent project-specific evaluation of GHG emissions and present project-specific conclusions regarding significance of GHG emissions impacts. (See Appendix F for a full description of the mitigation analysis and methodology for these projects)

f) Projects Requiring EIR. This process shall not be construed as limiting the County's authority to require an EIR and if needed to adopt a statement of overriding consideration for projects with significant GHG Impacts.

The County will monitor the emissions reductions from new development, calculate those emissions and make any needed modifications to the County's reduction strategies to enable the County to reach its 2020 target.

- Reduction Class 3 (R3) includes additional measures that were not used to demonstrate achievement of the proposed County 2020 GHG emissions reduction target. For these measures, emissions reductions have either not been quantified due to a lack of available data or protocols required for quantification or because of uncertainty regarding the County's jurisdictional control over relevant emissions sources. Some of these measures are quantifiable but require additional refinement and are therefore not included in R1 or R2.

***Pages 2.0-36 through 2.0-38 are revised as follows:***

### 2.4.3 Development Code Amendment

The project to be considered in the Draft SEIR will also include an amendment to the Development Code codifying the process for evaluating GHG emissions reduction as part of the development review process for new development projects. Chapter 85.03 of Division 5, Permit Application and Review Procedure of the Development Code (specifically Section 85.03.040) is proposed to be amended to include the following language:

(a) **Applications subject to CEQA.** All land use applications that are subject to the California Environmental Quality Act (CEQA) shall be reviewed by the Department in compliance with the County Environmental Review Guidelines.

(b) **Environmental findings required.** Before taking an action to approve a land use application that is subject to CEQA, the Planning Agency shall make one or more environmental findings. The environmental finding(s) is required in addition to the findings specified in this Development Code for each application type.

(c) ***Greenhouse Gas (GHG) Emissions Review.*** *All land use applications that are subject to CEQA review shall have the potential impacts of the project's GHG emissions evaluated pursuant to the procedures entitled Review of GHG Emissions, Land Use Service Department Standard Policy/Procedures Manual, Section 9 (Environmental Review Guidelines).* [proposed amendment in italic text]

<u>In addition, the Development Code will be amended in Chapter 84.29 and 84.30 of Division 4, Standards for Specific Land Uses and Activities, to incorporate the mitigation measures identified in this SEIR and GHG Performance Standards, respectively. Chapter 84.29 will incorporate additional mitigation measures, as revised in the FSEIR, as specific standards for various renewal energy generating facilities. Chapter 84.30 is being added as a new chapter of standards for GHG emissions reductions.</u>

## 2.5 REGULATORY REQUIREMENTS, PERMITS, AND APPROVALS

Concurrent with the adoption of the General Plan Amendment and the GHG Plan, the County will amend its General Plan to incorporate the above identified policy to reflect the County's intent to reduce GHG emissions that are reasonably attributable to the County's discretionary land use decisions and the County's internal governmental operations. The project to be considered in the Draft SEIR also includes an amendment to the Development Code implementing GHG emissions reduction measures, as part of the development review process for new development projects.

Adoption of the General Plan Amendment and the associated GHG Plan and Development Code amendments does not require action by any other agencies.

## 2.6 APPLICATION OF THE GHG PLAN TO FUTURE CEQA REVIEWS AND SPECIFIC PROJECTS

One of the objectives of the proposed Project is to adopt a GHG Plan that satisfies the requirements of Section 15183.5 of the CEQA Guidelines, which sets forth standards for using a greenhouse gas reduction plan to address the GHG emissions of specific projects. Under this Guideline, compliance with the GHG Plan can be used in appropriate situations to determine

the significance of a project's effects relating to greenhouse gas emissions, thus providing streamlined CEQA analysis of future projects that are consistent with the approved GHG Plan.

Guideline section 15183.5(b) reads as follows:

(b) Plans for the Reduction of Greenhouse Gas Emissions. Public agencies may choose to analyze and mitigate significant greenhouse gas emissions in a plan for the reduction of greenhouse gas emissions or similar document. A plan to reduce greenhouse gas emissions may be used in a cumulative impacts analysis as set forth below. Pursuant to sections 15064(h)(3) and 15130(d), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances.

(1) Plan Elements. A plan for the reduction of greenhouse gas emissions should:

(A) Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;

(B) Establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable;

(C) Identify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area;

(D) Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;

(E) Establish a mechanism to monitor the plan's progress towards achieving the level and to require amendment if the plan is not achieving specified levels;

(F) Be adopted in a public process following environmental review.

(2) Use the Later Activities. A plan for the reduction of greenhouse gas emissions, once adopted following certification of an EIR or adoption of an environmental document, may be used in the cumulative impacts analysis of later projects. An environmental document that relies on a greenhouse gas reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project. If there is substantial evidence that the effects of a particular project may be cumulative considerable, notwithstanding the project's compliance with the specified requirements in the plan for the reduction of greenhouse gas emissions, an EIR must be prepared for the project.

~~The provisions of the GHG Plan and the appendices that support the Plan comply with these provisions by providing a quantified inventory of greenhouse gas emissions, and by providing a level based on substantial evidence below which activities subject to the plan will not make a cumulatively considerable contribution to greenhouse gas impacts. That level is based on the State's AB 32 goals. The GHG Plan and associated documents also identify and analyze the~~

~~emissions associated with specific actions, and set forth performance standards to achieve the specified emissions goals. The analysis in the GHG Plan and the supporting documents demonstrates that this level will be achieved by these measures. Finally, the GHG Plan including monitoring, and the Plan will be adopted in a public process following environmental review.~~

~~The County intends to use the GHG Plan to streamline the review of future projects by using the GHG Emissions Screening Tables, included as Appendix F in the GHG Plan. The Screening Tables will serve as a tool to assist with calculating GHG reduction and aid in the determination of a significance finding. Projects that garner a specified number of points (e.g.100) or greater would not require quantification of project specific GHG emissions. The point system is devised to correspond to a reduction of GHG emissions for new development of 31 percent compared to unmitigated emissions. Consistent with the CEQA Guidelines Sections 15064(h)(3) and 15064.4, such projects will be determined to have a less than significant individual and cumulative impact for GHG emissions.~~

~~Projects that do not use the screening table, will be required to quantify project specific GHG emissions or otherwise demonstrate that project specific GHG emissions will be reduced or mitigated by at least 31% compared to unmitigated emissions. Consistent with the CEQA Guidelines, projects that can provide this demonstration will be determined to have a less than significant individual and cumulative impact for GHG emissions. In some cases, projects may not be able to demonstrate a 31 percent reduction, thus resulting in a preliminary determination of a significant impact on GHG emissions that will require preparation of an EIR to analyze the project's impacts and possible mitigation.~~

The provisions of the GHG Plan and the appendices that support the Plan comply with these provisions by providing a quantified inventory of currently existing and projected greenhouse gas emissions resulting from activities within a defined geographic area of the County. The GHG Plan and associated documents also identify and analyze the emissions associated with specific actions, and set forth performance standards to achieve the specified emissions goals. The GHG Plan establishes a GHG emissions reduction target for 2020 of 15% below 2007 emissions, consistent with AB 32 and sets the County on a path to achieve more substantial long term reduction in the post-2020 period. Achieving this level of emissions will ensure that the contribution to greenhouse gas emissions from activities covered by the GHG Plan will not be cumulatively considerable. The analysis in the GHG Plan and the supporting documents demonstrates that this level will be achieved by the identified mitigation measures. The Plan also includes requirements to monitor progress towards achieving the specified emissions goals, and provisions for amendment of the Plan if it is not making sufficient progress towards reaching those goals. Finally, the GHG Plan, including monitoring, will be adopted in a public process following environmental review.

Screening Tables, in the form presented in Appendix F of the GHG Plan, will serve as a tool to assist with implementing applicable mitigation based on calculated GHG reduction and they will aid in the determination of a significance finding. The Screening Tables incorporate a point system that is based on calculated emission reductions for various GHG mitigation using accepted emission factors. The point system is designed to ensure compliance with the reduction measures in the GHG Plan such that the GHG emissions from new development, when considered together with those from existing development, will allow the County to meet its GHG emissions reduction target. Consistent with the CEQA Guidelines Sections 15064(h)(3) and 15064.4, such projects are consistent with the Plan and therefore will be determined to have a less than significant individual and cumulative impact for GHG emissions.

Projects that do not use the Screening Tables, will be required to quantify project specific GHG emissions or otherwise demonstrate that project specific GHG emissions will be consistent with the reduction measures in the GHG Plan and achieve the equivalent level of GHG emissions efficiency reduction as a 100-point project, which will allow the County to achieve the GHG reduction targets in the GHG Plan. Consistent with the CEQA Guidelines, projects that can demonstrate this level of reduction or greater, will be determined to have a less than significant individual and cumulative impact for GHG emissions. In some cases, projects may not be able to achieve sufficient reductions in GHG emissions (identified through the use of the Screening Tables or through project-specific quantification), thus resulting in a preliminary determination of a significant impact on GHG emissions that will require preparation of an EIR to analyze the project's impacts and possible mitigation.

Monitoring of Plan implementation in order to track progress, to determine whether emissions are being reduced as forecasted, and to provide a platform for future revisions to the plan, if necessary, is a critical activity. In order to retain the benefits of CEQA streamlining and tiering of the analysis of greenhouse gas emissions for future projects as described in the CEQA Guidelines Section 15183.5 above, the Plan must include a mechanism to monitor the plan's progress towards achieving the level of proposed emissions reductions and to require amendment if the plan is not achieving specified levels. Monitoring is more fully described in section GHG 5.7 below and the process for amending the Plan is described in section GHG 5.9.

Consequently, the County, through CEQA and the County Development Code, will ensure that new development within the County's LUA area meets the requirements set forth in this Plan. This Plan represents a local plan to reduce GHG emissions 15% below 2007 emissions by 2020 consistent with AB 32, and constitutes an "adopted list of regulations and requirements to implement a local plan" as specified in the CEQA Guidelines. Furthermore, the Plan contains an analysis that extends beyond 2020 to 2030 with consideration of the trajectory of reductions needed to provide substantial reductions by 2050 (see Appendix E), consistent with CARB's recommendations for looking forward in its Scoping Plan.

The Plan does not allow larger residential or mixed-use projects outside a City Sphere of Influence (SOI) to use the Screening Tables or rely on this Plan for a determination that the project's individual or cumulative GHG impacts are less than significant. This provision ensures land use commitments outside of SOIs do not impede the expected emissions trajectory to mid-century and are not likely to conflict with the long term goal of substantial reductions through 2050. This provision is an interim procedure that will be re-examined in a major Plan update and amendment anticipated to occur in 2015 following a new emissions inventory and incorporation of the SCS and Regional GHG reduction measures.

Residential projects (or mixed use projects with a residential component) that exceed 250 dwellings units that are located in unincorporated areas not within a City SOI will not be eligible to use the Screening Tables or rely on this Plan for a determination of less than significant on individual or cumulative GHG impacts. (See Appendix F for a full description of the limitations and uses of the Screening Table)

Residential Projects outside of a City SOI that exceed 250 dwelling units will be required to prepare a project specific GHG emissions analysis that includes a robust assessment of emissions, appropriate mitigation measures, and analysis of the issues associated with land use intensification and VMT generation on a project and regional basis. The analysis must produce an assessment that allows for a determination of whether the specific project causes cumulatively considerable GHG impacts. These projects will not qualify for the tiering and streamlining benefits otherwise provided by this Plan as allowed by CEQA Guidelines Section

15183.5 due to the inability to adequately analyze and incorporate programmatic mitigation that comprehensively addresses the issues of GHG emissions for regionally significant residential projects beyond the 2020 analysis horizon. It is anticipated that upon completion of the Sustainable Communities Strategy (SCS) by Southern California Association of Governments (SCAG) and the Regional GHG Reduction Plan currently under preparation by the San Bernardino County Association of Governments (SANBAG), adequate methodology for quantification of regional VMT and more comprehensive mitigation will provide suitable planning tools that can be incorporated into this Plan through a future amendment. Both the SCS and the Regional GHG Reduction Plan are intended to satisfy the requirements of SB 375 and allow better forecasts of GHG emissions for future years as well as providing a regional strategy for reducing GHG emissions.

## SECTION 3.2 AGRICULTURAL RESOURCES

***Page 3.2.15 is revised as follows:***

**MM 3.2.1** Development Code Chapter 84.29 (Renewable Energy Generation Facilities) shall be amended to include the following standard:

- Work with transmission line providers and developers to design and cite supporting off-site facilities such as transmission lines, in a manner that will allow for continued use of adjoining agricultural operations as long as the agricultural operations do not interfere with the transmission right-or-way.

## SECTION 3.4 BIOLOGICAL RESOURCES

***Page 3.4.20 is revised as follows:***

**MM 3.4.1a** Development Code Chapter 84.29 (Renewable Energy Generation Facilities) shall be amended to include the following standard for transmission line design:

- Transmission lines and all electrical components shall be designed, installed, and maintained to reduce the likelihood of large bird electrocutions and collisions and each line will be evaluated for potential collision risks.

## SECTION 3.11 CLIMATE CHANGE

***Pages 3.11-18 through 3.11-20 are revised as follows:***

### Emissions Reduction Measures

The GHG emissions reduction measures identified in the GHG Plan include existing and proposed state, regional, county, and other local measures that would reduce GHG emission in the internal and external categories. Reduction measures have been organized into a classification system that recognizes both the origin of the measures, i.e., state, regional, or local, and also whether the measure is quantifiable in terms of calculating a volume of emission reduction. The emissions reduction measures are organized as follows, for each sector:

- Reduction Class 1 (R1) includes adopted, implemented, and proposed state and regional measures that do not require additional County action and that will result in GHG reductions for the County's land use authority area and internal operations. These measures may require County action to achieve the GHG reductions, but that action is limited and compulsory.

- Reduction Class 2 (R2) includes all quantifiable measures that have been implemented or will be implemented by the County, as well as any additional quantifiable measures that require County action and will further reduce the GHG emissions for the County's LUA area and internal operations. R2 also includes any state and regional measures that require substantial action by the County to achieve the expected GHG reductions. ~~includes measures currently implemented or in the process of implementation by the County, as well as any additional quantifiable measures that require County action and will further reduce the GHG emissions for the County's land use authority area and internal operations. R2 also includes any state and regional measures that require substantial action by the County to achieve the expected GHG reductions.~~

  ~~The R2 measures include specific quantifiable measures as well as reductions achieved through the development review process.~~

  ~~Measurable reductions of GHG emissions will be achieved through the County's development review process (DRP) by applying appropriate reduction requirements as part of the discretionary approval of new development projects. Through the DRP, the County will implement CEQA requiring new development projects to quantify project GHG emissions and adopt feasible mitigation to reduce project emissions below a level of significance. Mitigation of GHG emissions impacts through the Development Review Process provides one of the most substantial reduction strategies for reducing External Emissions. The CEQA process for evaluating GHG impacts and determining significance will be achieved through a streamlined process as follows:~~

  ~~a. Exemptions. Projects determined to be exempt from CEQA will not require further environmental review.~~

  ~~b. Regulatory Agency Performance Standards. When, and if, the South Coast Air Quality Management District or the Mojave Basin Air Quality Management District adopts standards, the County may use such standards as a threshold of significance, if appropriate to do so. The County anticipates that it will use this approach with smaller development projects so that projects that fall below the air districts' thresholds will not require further evaluation.~~

  ~~c. Projects Using Screening Table. The County has developed a screening table as a tool to assist with calculating GHG reduction measures and the determination of a significance finding. Projects that garner a specified number of points (e.g., 100) or greater would not require quantification of project-specific GHG emissions. The point system will be devised to correspond to a reduction of GHG emissions for new development of 31 percent compared to unmitigated emissions. Consistent with the CEQA Guidelines, such projects will be determined to have a less than significant individual and cumulative impact for GHG emissions. It is expected that energy efficiency will be a likely strategy that many project proponents will include in their reduction strategy to meet the County requirements because energy efficiency is often the most cost-effective approach to reducing GHG emissions.~~

~~d. Projects Not Using Screening Table. Projects that do not garner the specified number of points with use of the screening table will be required to quantify project-specific GHG emissions or otherwise demonstrate that project specific GHG emissions will be reduced or mitigated by at least (a specified percentage) compared to unmitigated emissions. Consistent with the CEQA Guidelines, such projects will be determined to have a less than significant individual and cumulative impact for GHG emissions.~~

~~e. Projects Requiring an EIR. This process shall not be construed as limiting the County's authority to require an EIR, if needed, and adopt a statement of overriding considerations for projects with significant GHG impacts. The County will monitor the emissions reductions from new development, calculate those *emissions, and make any needed modifications to the County's reduction strategies to enable the* County to reach its 2020 target.~~

The R2 measures include specific quantifiable measures as well as reductions achieved through the development review process.

Measurable reductions of GHG emissions will be achieved through the County's GHG Development Review Process (DRP) by applying appropriate reduction requirements as part of the discretionary approval of new development projects. Through its development review process, the County will implement CEQA by requiring new development projects to quantify project GHG emissions and adopt feasible mitigation to reduce project emissions below a level of significance.

Mitigation of GHG emissions impacts through the DRP provides one of the most substantial reduction strategies for reducing external emissions. The DRP procedures for evaluating GHG impacts and determining significance for CEQA purposes will be streamlined by (1) applying a uniform set of performance standards to all development projects, and (2) utilizing Screening Tables to mitigate project GHG emissions. Projects will have the option of preparing a project-specific technical analysis to quantify and mitigate GHG emissions. A review standard of 3,000 metric tons per years (MTY) will be used to identify projects that require the use of Screening Tables or a project-specific technical analysis to quantify and mitigate project emissions. The review standard of 3,000 MTY and the Screening Tables are described in Appendix F.

As part of the implementation of the County GHG Plan, a uniform set of performance standards will be applied to development projects. These performance standards will be added to the County Development Code to ensure consistent application during development review. The complete Development Review Process, including the use of performance standards, for assessing and mitigating GHG emissions is outlined below.

a) County Performance Standards. All development projects, including those otherwise determined to be exempt from CEQA will be subject to applicable Development Code provisions, including the GHG performance standards, and state requirements, such as the California Building Code requirements for energy efficiency. With the application of the GHG performance standards, projects that are exempt from CEQA and small projects that do not exceed 3,000 MTCO2e per year will be considered to be consistent with the Plan and determined to have a less than significant individual and cumulative impact for GHG emissions. (See Appendix F for a full description of the Performance Standards and the methodology relating to the 3,000 MTCO2e per year level.)

b) Regulatory Agency Performance Standards. When, and if, South Coast Air Quality Management District or Mojave Basin Air Quality Management District adopts standards, the County will consider such guidance and incorporate all applicable standards.

c) Projects Using Screening Table. For projects exceeding 3,000 MTCO2e per year of GHG emissions, the County will use Screening Tables as a tool to assist with calculating GHG reduction measures and the determination of a significance finding. Projects that garner a 100 or greater points would not require quantification of project specific GHG emissions. The point system was devised to ensure project compliance with the reduction measures in the GHG Plan such that the GHG emissions from new development, when considered together with those from existing development, will allow the County to meet its 2020 target and support longer-term reductions in GHG emissions beyond 2020. Consistent with the CEQA Guidelines, such projects are consistent with the Plan and therefore will be determined to have a less than significant individual and cumulative impact for GHG emissions. (See Appendix F for a full description of the Screening Tables and methodology.)

d) Projects Not Using Screening Tables. Projects exceeding 3,000 MTY of GHG emissions that do not use the Screening Tables, will be required to quantify project-specific GHG emissions or otherwise demonstrate that project specific GHG emissions achieve the equivalent level of GHG emissions efficiency as a 100-point project. Consistent with the CEQA Guidelines, such projects are consistent with the Plan and therefore will be determined to have a less than significant individual and cumulative impact for GHG emissions. (See Appendix F for a full description of this alternative GHG mitigation analysis and methodology.)

e) Residential Projects Located Outside City Sphere of Influence. Residential Projects (or mixed use projects with a residential component) in excess of 250 dwelling units that are located in unincorporated area not within a City Sphere of Influence (SOI) will not be eligible to use the Screening Tables or rely on the Plan for a determination of less than significant on individual or cumulative impact for GHG emissions. These projects must perform an independent project-specific evaluation of GHG emissions and present project-specific conclusions regarding significance of GHG emissions impacts. (See Appendix F for a full description of the mitigation analysis and methodology for these projects)

f) Projects Requiring EIR. This process shall not be construed as limiting the County's authority to require an EIR and if needed to adopt a statement of overriding consideration for projects with significant GHG Impacts.

The County will monitor the emissions reductions from new development, calculate those emissions and make any needed modifications to the County's reduction strategies to enable the County to reach its 2020 target.

- Reduction Class 3 (R3) includes additional measures that were not used to demonstrate achievement of the proposed County 2020 GHG emissions reduction target. For these measures, emissions reductions have either not been quantified due to a lack of available data or protocols required for quantification or because of uncertainty regarding the County's jurisdictional control over relevant emissions sources. Some of these measures are quantifiable but require additional refinement and are therefore not included in R1 or R2.

# APPENDIX A - REVISIONS TO COUNTY OF SAN BERNARDINO DRAFT GREENHOUSE GAS EMISSIONS REDUCTION PLAN

# REVISIONS TO GHG REDUCTION PLAN
# CHAPTER 4

## RELATIONSHIP OF REDUCTION STRATEGY TO REDUCTION MEASURES

The reduction strategies discussed in the GHG Plan (reduction strategies) correspond to the reduction measures described in Appendix A for the External Inventory and Appendix B for the Internal Inventory (reduction measures). For purposes of this GHG Plan, the term ―reduction strategy" and ―duction measure" have the same meaning. Following the description of each County implemented GHG Plan reduction strategy, is a specific reference to the corresponding reduction measure found in the Appendices. Where the reduction strategy is quantified, the amount of emissions reduction and methodology is set forth in the Appendices A and B.

The reduction strategies are consistent with one or more existing County General Plan policies and programs and/or Development Code requirements. Relevant County General Plan policies are identified under each sector and listed in Appendix C.

## REDUCTION MEASURE CLASSIFICATION

The emission reduction measures included in this Plan include existing and proposed state, regional, county, and other local measures that will result in GHG emissions reductions in the County's External and Internal inventories. The emission reduction measures are organized as follows, for each sector:

1. *Reduction Class 1* (R1) includes all adopted, implemented, and proposed state and regional measures that do not require additional County action and that will result in quantifiable GHG reductions for the County's LUA [3] area and internal operations. These measures may require County action to achieve the GHG reductions, but that action is limited and compulsory.

2. *Reduction Class 2* (R2) includes all quantifiable measures that have been implemented or will be implemented by the County, as well as any additional quantifiable measures that require County action and will further reduce the GHG emissions for the County's LUA area and internal operations. R2 also includes any state and regional measures that require substantial action by the County to achieve the expected GHG reductions.

   The R2 measures include specific quantifiable measures as well as reductions achieved through the development review process.

Measurable reductions of GHG emissions will be achieved through the County's GHG Development Review Process (DRP) by applying appropriate reduction requirements as part of the discretionary approval of new development projects. Through its development review process, the County will implement CEQA requiring new development projects to quantify project GHG emissions and adopt feasible mitigation to reduce project emissions below a level of significance. Mitigation of GHG emissions impacts through the DRP

[3] The County's discretionary land use authority as well as its ministerial building permit authority are collectively referred to herein as ―Land Use Authority" or ―LUA."

provides one of the most substantial reduction strategies for reducing external emissions. The ~~CEQA process~~ DRP procedures for evaluating GHG impacts and determining significance for CEQA purposes will be streamlined by~~as follows:~~ (1) applying a uniform set of performance standards to all development projects, and (2) utilizing Screening Tables to mitigate project GHG emissions. Projects will have the option of preparing a project-specific technical analysis to quantify and mitigate GHG emissions. A review standard of 3,000 metric tons per years (MTY) will be used to identify projects that require the use of Screening Tables or a project-specific technical analysis to quantify and mitigate project emissions. The review standard of 3,000 MTY and the Screening Tables are described in Appendix F.

As part of the implementation of the County GHG Plan, a uniform set of performance standards will be applied to development projects. These performance standards will be added to the County Development Code to ensure consistent application during development review. The complete Development Review Process, including the use of performance standards, for assessing and mitigating GHG emissions is outlined below.

a) County Performance Standards. All development projects, including those otherwise determined to be exempt from CEQA will be subject to applicable Development Code provisions, including the GHG performance standards, and state requirements, such as the California Building Code requirements for energy efficiency. With the application of the GHG performance standards, projects that are exempt from CEQA and small projects that do not exceed 3,000 MTCO2e per year will be considered to be consistent with the Plan and determined to have a less than significant individual and cumulative impact for GHG emissions. (See Appendix F for a full description of the Performance Standards and the methodology relating to the 3,000 MTCO2e per year level.)

~~a) Exemptions. Projects determined to be exempt from CEQA will not require further environmental review. (However, exempt projects will be subject to applicable Development Code provisions and state requirements, such as the California Building Code requirements for energy efficiency.)~~

b) Regulatory Agency Performance Standards. When, and if, South Coast Air Quality Management District or Mojave Basin Air Quality Management District adopts standards, the County will consider such guidance and incorporate all applicable standards~~, the County may use such standard as a threshold of significance, if appropriate to do so. The County anticipates that it will use this approach with smaller development projects so that projects that fall below the air districts threshold will not require further evaluation~~.

c) Projects Using Screening Tables. For projects exceeding 3,000 MTCO2e per year of GHG emissions, ~~T~~the County will develop ~~a~~ Screening Tables as a tool to assist with calculating GHG reduction measures and the determination of a

significance finding[4]. Projects that garner a 100 or greater points would not require quantification of project specific GHG emissions. The point system will be devised to ensure project compliance with the reduction measures in the GHG Plan such that the GHG emissions from new development, when considered together with those from existing development, will allow the County to meet its 2020 target and support longer-term reductions in GHG emissions beyond 2020~~correspond to a reduction of GHG emissions for new development of 31 percent compared to unmitigated emissions~~. Consistent with the CEQA Guidelines, such projects are consistent with the Plan and therefore will be determined to have a less than significant individual and cumulative impact for GHG emissions. ~~It is expected that energy efficiency will be a likely strategy that many project proponents will include in their reduction strategy to meet the County requirements because energy efficiency is often the most cost-effective approach to reducing GHG emissions.~~(See Appendix F for a full description of the Screening Tables and methodology.)

d) Projects Not Using Screening Tables. Projects exceeding 3,000 MTY of GHG emissions that do not use the ~~screening~~ Screening ~~table~~Tables, will be required to quantify project specific GHG emissions or otherwise demonstrate that project specific GHG emissions achieve the equivalent level of GHG emissions efficiency as a 100-point project.~~will be reduced or mitigated by at least 31% compared to unmitigated emissions.~~ Consistent with the CEQA Guidelines, such projects are consistent with the Plan and therefore will be determined to have a less than significant individual and cumulative impact for GHG emissions. (See Appendix F for a full description of the Screening Tables.)

~~d)~~e) Residential Projects Located Outside City Sphere of Influence. Residential Projects (or mixed use projects with a residential component) in excess of 250 dwelling units that are located in unincorporated area not within a City Sphere of Influence (SOI) will not be eligible to use the Screening Tables or rely on the Plan for a determination of less than significant on individual or cumulative impact for GHG emissions. These projects must perform an independent project-specific evaluation of GHG emissions and present project-specific conclusions regarding significance of GHG emissions impacts. (See Appendix F for a full description of the mitigation analysis and methodology for these projects.)

~~e)~~f) Projects Requiring EIR. This process shall not be construed as limiting the County's authority to require an EIR and if needed to adopt a statement of overriding consideration for projects with significant GHG Impacts.

[4] The Screening Tables attached as Appendix F to this Plan, ~~is~~ are substantially similar to the Screening Tables to be used by the County.

The County will monitor the emissions reductions from new development, calculate those emissions and make any needed modifications to the County's reduction strategies to enable the County to reach its 2020 target.

3. *Reduction Class 3* (R3) includes all other measures that have been implemented or will be implemented by the County which were not quantified, but are included in the County's GHG Plan. These measures are either facilitative in nature or there are methodological issues that prevent their quantification at this time. The R3 measures were not used to demonstrate achievement of the proposed County 2020 GHG emissions reduction target. Some of these measures (such as education or financing programs) are necessary to facilitate their success, but do not have separately quantifiable benefit from the R2 measures they support. Other measures may contribute to additional GHG reductions, but lack data or protocols for quantification.

No federal measures were relied upon to achieve the reduction targets included in this plan due to the uncertainty surrounding federal action at this time.

(Measure R3E1, Appendix A)

b. Solar Hot Water Incentives. The County will participate in the California Solar Initiative (CSI) Thermal Program established in January 2010 by the California Public Utilities Commission to provide incentives for the installation of solar water heating systems in new and existing homes and business in the territories of Southern California Edison, Southern California Gas Company, and Pacific Gas and Electric Company. In accordance with AB 1470, the statewide incentive program to encourage the installation of 200,000 solar water-heating systems will run through 2017, or until the program funds are exhausted. The County will facilitate participation in this program by providing access to information about the program and waiving permit fees[6].

(Measure R2E5, Appendix A)

8. **Funding for Retrofits – Energy Efficiency Financing.** The County will pursue grants and financing options for energy efficiency retrofits and renewable energy improvements and increase community awareness of these options.

a. AB 811-Type Program. The County will pursue implementation of a Property Assessed Clean Energy (PACE) type financing program, providing capital for energy efficient retrofits and renewable energy improvements that are permanently fixed to real property. With the adoption of AB 811 in September 2008, the California Legislature authorized local governments to create programs providing an option whereby property owners can finance renewable energy generation and energy efficiency improvements through low-interest loans that would be repaid as an item on the property owner's tax bill. One advantage of the program for a homeowner is that the payments stay with the property and not with the owner if the property is sold prior to the repayment of the retrofit lien.[7]

(Measure R3E4, R3E12, Appendix A)

b. Other Financing Options. The County will continue to explore additional financing options for energy efficiency and renewable energy retrofits.

(Measure R3E4, R3E12, Appendix A)

[6] The waiver of permit fees is limited to a maximum of $5,000 per project and a maximum total of $45,000 per fiscal year for the entire program.

[7] AB 811 financing districts for residential retrofits are currently constrained by Fannie Mae and Freddie Mac mortgage requirements. It is presumed that this constraint can be lifted in the future and/or other alternative financing mechanisms will be available to implement this GHG Reduction Plan for residential retrofits. There is no current constraint for AB 811 type programs for commercial mortgages; as such the County can commence toward developing such a program upon adoption of this plan.

portfolio standard, transmission and distribution support systems, or the use of feed-in tariffs. These measures are more specifically described in Appendix A.

### GHG 4.2.2.4 Summary of Reduction Measures relating to Building Energy Use

Total estimated GHG percent reductions and quantities from the energy efficiency and renewable energy reduction measures (both R1 and R2) are presented below in **Table 4-3**. Emission reductions for each measure are applied to the 2020 unmitigated projected emissions for the appropriate emission quantity affected by that measure. Reductions attributed to these measures from the unmitigated 2020 building energy use emissions will be 33.3 percent.

**Table 4-3:** External GHG Emission Reductions from Implementation of Building Energy (Energy Efficiency & Renewable Energy) Strategies

| Reduction Classification and Reduction Measure | GHG reductions | |
|---|---|---|
| | **Emission Reduction from 2020 unmitigated levels** | **Percent Reduction from 2020 unmitigated levels** |
| **R1: Existing and proposed state and regional building energy measures that do not require County action** | | |
| R1E1: RPS – 33 percent by 2020 | 104,236 | 7.0 |
| R1E2: AB 1109 Residential Lighting | 23,473 | 1.6 |
| R1E3: AB 1109 Commercial/Outdoor Lighting | 14,814 | 1.0 |
| R1E4: Electricity Energy Efficiency (AB 32) | 106,925 | 7.2 |
| R1E5: Natural Gas Energy Efficiency (AB 32) | 9,429 | 0.6 |
| R1E6: Increased Combined Heat and Power (AB 32) | 63,881 | 4.3 |
| R1E7: Industrial ~~Boiler~~ Efficiency Measures (AB 32) | 12,488 | 0.8 |
| **R2: Existing and new building energy measures that require County action** | | |
| R2E1: Residential Energy Efficiency Retrofits | 17,350 | 1.2 |
| R2E2: Commercial Energy Efficiency Retrofits | 8,540 | 0.6 |
| R2E3: Residential Renewable Energy Incentives | 21,351 | 1.4 |
| R2E4: Warehouse Renewable Incentive Program | 6,786 | 0.5 |
| R2E5: Solar Hot Water Incentives | 11,907 | 0.8 |
| R2E6: New Residential Energy Efficiency (through DRP) | 9,460 | 0.6 |
| R2E7: New Commercial Energy Efficiency (though DRP) | 35,342 | 2.4 |
| R2E8: New Home Renewable Energy (through DRP) | 2,239 | 0.2 |
| R2E9: New Commercial/Industrial Renewable Energy (through DRP) | 25,392 | 1.7 |
| R2E10: Commercial/Industrial Rehabilitation/Expansion Renewable Energy (through DRP) | 21,086 | 1.4 |
| **Total** | **494,699** | **33.3** |
| **R3: Existing and new building energy measures— reductions not quantified or relied upon to achieve reduction goal** | | |

### GHG 4.2.4.1 BACKGROUND

The County's General Plan and Development Code contain policies and programs that guide development and also support the County's efforts to reduce GHG emissions reductions. The following General Plan (GP) policies, while not specifically quantifiable in terms of the amount of GHG reduction, effectively contribute to the County's reduction efforts.

The County is committed to ensuring good air quality for its residents, businesses, and visitors to reduce impacts on human health and the economy. In addition to continued coordination with the South Coast Air Quality Management District and Mojave Desert Air Quality Management District to improve air quality through reduction in pollutants from the region (CO 4.2), the County is committed to establishing special performance standards for industrial uses to control industrial odors, air pollution, dust, and other nuisances (LU1.2(2)).

### GHG 4.2.4.2 STATIONARY SOURCE GHG GOALS, OBJECTIVES AND STRATEGIES

In addition to the General Plan policies described above, new industrial developments subject to County discretionary review authority, will be required to mitigate GHG emissions through the Development Review Process.

### GHG 4.2.4.3 SUMMARY OF STATE ACTIONS TO REDUCE GHG EMISSIONS RELATING TO STATIONARY (INDUSTRIAL) SOURCES

The State Legislature took action relative to stationary sources through the adoption of AB 32 in 2006. The actions directed through adoption of AB 32 included reducing combustion emissions from oil and gas extraction, replacing internal combustion engines over 50 horsepower with electric motors, adoption of a cap and trade program including the cement sector which will help to reduc~~ing~~ GHG emissions from cement production at cement manufacturing facilities ~~by reducing the carbon intensity standard, reducing process emissions from cement production in California,~~ and adoption of a per capita water use reduction goal to comply with the governors Executive Order S-14-08. These and other measures are more specifically described in Appendix A. Reduced emissions in 2020 would be approximately 26 percent lower than 2007 emissions.

### 4.2.4.4 SUMMARY OF REDUCTIONS RELATING TO STATIONARY SOURCES

With implementation of all State GHG reduction strategies the total emissions reductions related to Stationary Sources are projected to decrease by 1,049,067 $MTCO_2e$, which is a 33 percent reduction from 2020 business as usual projections.

Total estimated GHG percent reductions and quantities from the reduction measures included in Reduction Classifications R1 and R2 are presented below in **Table 4-6**.

**Table 4-6:** External GHG Emission Reductions from Implementation of Stationary Source Strategies

| Reduction Classification and Reduction Measure | GHG Reductions from 2020 unmitigated Industrial Stationary Source Emissions ($MTCO_2e$) | |
|---|---|---|
| | **Emission Reduction from 2020 unmitigated** | **Percent Reduction from 2020 unmitigated** |
| **R1: Existing and proposed state and regional stationary source measures that do not require County action** | | |
| R1I1: Oil and Gas Extraction Combustion Related GHG Emission Reduction | 49 | 0.002 |
| R1I2: Stationary Internal Combustion Engine electrification | 736 | 0.02 |
| R1I3: Reduce Carbon Intensity ~~Standard for~~at Cement Plants (Through Cap and Trade Program) | 69,909 | 2.2 |
| R1I4: Reduce Carbon Intensity ~~Standard for~~at Concrete Batch Plants (Through Cap and Trade Program) | 732,086 | 23.1 |
| R1I5: Waste Reduction in Concrete Use (Through Cap and Trade Program) | 246,288 | 7.8 |
| **R2: Existing and new stationary source measures that require County action** | | |
| Development Review Process for new industrial and commercial projects | N/A | N/A |
| **Total** | **1,049,067** | **33.1** |

With the implementation of these emission reduction strategies included in this Plan, by 2020 stationary source emissions will be approximately 28 percent lower than 2007 emissions. **Figure 4-6** below, graphically depicts this reduction.

# REVISIONS TO GHG REDUCTION PLAN
# CHAPTER 5

### GHG 5.5.2 Other Regional Cooperation Opportunities

There are other substantial opportunities for regional collaboration that will be essential to implementation of this Reduction Plan. These opportunities include, but are by no means limited to the following:

- *Energy Efficiency*. There may be opportunities for regional energy efficiency programs that can reduce program implementation and administration costs and that could leverage combined sources of financing to the benefit of the County and the San Bernardino cities.
- *Alternative Energy*. There may be opportunities for cross-jurisdictional cooperation on community-scale alternative energy installations (wind, solar, etc.).
- *Land Use and Transportation*. The County already coordinates with the San Bernardino cities in planning for their spheres of influence, and works with regional transportation planning agencies and providers. In order to fully implement General Plan policies promoting transit and mixed use development, continued coordination will be necessary to promote transit-oriented development throughout the region by supporting transit funding and development, by promoting adequate densities to support transit in those portions of the County where it is feasible, and to coordinate land use planning with the cities. With SB 375 and its linkage to transportation funding, it will be crucial for the San Bernardino cities and the County to develop a shared vision of how land use and transportation can be consistent with the next Regional Transportation Plan and the required Sustainable Communities Strategy.
- *Waste/Landfills*. As described above and in Appendix A, this Plan includes the adoption of a 75 percent diversion goal by the cities in San Bernardino in addition to County adoption of such a goal. The County and the cities need to coordinate to provide the facilities, programs, and incentives so that these goals could be achieved by 2020 and to avoid inefficiencies in implementation
- *Water*. While the County can continue to influence water efficiency through requirements for new development, as well as cooperation with water purveyors to promote conservation in indoor and outdoor water use from existing developments.

## GHG 5.6 DEVELOPMENT PROJECT REVIEW

The County will establish procedures to implement the Development Review Process (DRP) for evaluating new projects (as defined by CEQA) in the County's LUA area for consistency with this Plan, CEQA guidelines, and any applicable state, regional and local plans to reduce GHG emissions. The CEQA Guidelines encourages programmatic GHG mitigation strategies including reliance on adopted regional blueprint plans, GHG reduction plans, and general plans that meet regional and local GHG emissions targets and that have also undergone CEQA review. The County, as lead agency, determines significance of a project's generation of GHG emissions

and has the authority to make this determination based upon a project's compliance with this Plan.

An important administrative objective of the County in adopting a GHG Plan is that it satisfies the requirements of Section 15183.5 of the CEQA Guidelines, which sets forth standards for using a greenhouse gas reduction plan to address the GHG emissions of specific projects. Under this Guideline, compliance with the GHG Plan can be used in appropriate situations to determine the significance of a project's effects relating to greenhouse gas emissions, thus providing streamlined CEQA analysis of future projects that are consistent with the approved GHG Plan.

Guideline section 15183.5(b) reads as follows:

> *(b) Plans for the Reduction of Greenhouse Gas Emissions. Public agencies may choose to analyze and mitigate significant greenhouse gas emissions in a plan for the reduction of greenhouse gas emissions or similar document. A plan to reduce greenhouse gas emissions may be used in a cumulative impacts analysis as set forth below. Pursuant to sections 15064(h)(3) and 15130(d), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances.*
>
> *(1) Plan Elements. A plan for the reduction of greenhouse gas emissions should:*
>
> *(A) Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;*
>
> *(B) Establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable;*
>
> *(C) Identify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area;*
>
> *(D) Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;*
>
> *(E) Establish a mechanism to monitor the plan's progress towards achieving the level and to require amendment if the plan is not achieving specified levels;*
>
> *(F) Be adopted in a public process following environmental review.*
>
> *(2) Use the Later Activities. A plan for the reduction of greenhouse gas emissions, once adopted following certification of an EIR or adoption of an environmental document, may be used in the cumulative impacts analysis of later projects. An environmental document that relies on a greenhouse gas reduction plan for a cumulative impacts*

*analysis must identify those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project. If there is substantial evidence that the effects of a particular project may be cumulative considerable, notwithstanding the project's compliance with the specified requirements in the plan for the reduction of greenhouse gas emissions, an EIR must be prepared for the project.*

The provisions of the GHG Plan and the appendices that support the Plan comply with these provisions by providing a quantified inventory of currently existing and projected greenhouse gas emissions resulting from activities within a defined geographic area of the County. The GHG Plan and associated documents also identify and analyze the emissions associated with specific actions, and set forth performance standards to achieve the specified emissions goals. The GHG Plan establishes a GHG emissions reduction target for 2020 of 15% below 2007 emissions, consistent with AB 32 and sets the County on a path to achieve more substantial long term reduction in the post-2020 period. Achieving this level of emissions will ensure that the contribution to greenhouse gas emissions from activities covered by the GHG Plan will not be cumulatively considerable. The analysis in the GHG Plan and the supporting documents demonstrates that this level will be achieved by the identified mitigation measures. The Plan also includes requirements to monitor progress towards achieving the specified emissions goals, and provisions for amendment of the Plan if it is not making sufficient progress towards reaching those goals. Finally, the GHG Plan, including monitoring, will be adopted in a public process following environmental review.

Screening Tables, in the form presented in Appendix F, will serve as a tool to assist with implementing applicable mitigation based on calculated GHG reduction and aid in the determination of a significance finding. The Screening Tables incorporate a point system that is based on calculated emission reductions for various GHG mitigation using accepted emission factors. The point system is designed to ensure compliance with the reduction measures in the GHG Plan such that the GHG emissions from new development, when considered together with those from existing development, will allow the County to meet its GHG emissions reduction target. Consistent with the CEQA Guidelines Sections 15064(h)(3) and 15064.4, such projects are consistent with the Plan and therefore will be determined to have a less than significant individual and cumulative impact for GHG emissions.

Projects that do not use the Screening Tables, will be required to quantify project specific GHG emissions or otherwise demonstrate that project specific GHG emissions will be consistent with the reduction measures in the GHG Plan and achieve the equivalent level of GHG emissions efficiency as a 100-point project, which will allow the County to achieve the GHG reduction targets in the GHG Plan. Consistent with the CEQA Guidelines, projects that can demonstrate this level of reduction or greater will be determined to have a less than significant individual and cumulative impact for GHG emissions. In some cases, projects may not be able to achieve sufficient reductions in GHG emissions (identified through the use of the Screening Tables or through project-specific quantification), thus resulting in a preliminary determination of a significant impact on GHG emissions that will require preparation of an EIR to analyze the

project's impacts and possible mitigation.

Monitoring of Plan implementation in order to track progress, to determine whether emissions are being reduced as forecasted, and to provide a platform for future revisions to the plan, if necessary, is a critical activity. In order to retain the benefits of CEQA streamlining and tiering of the analysis of greenhouse gas emissions for future projects as described in the CEQA Guidelines Section 15183.5 above, the Plan must include a mechanism to monitor the plan's progress towards achieving the level of proposed emissions reductions and to require amendment if the plan is not achieving specified levels. Monitoring is more fully described in section GHG 5.7 below and the process for amending the Plan is described in section GHG 5.9.

Consequently, the County, through CEQA and the County Development Code, will ensure that new development within the County's LUA area meets the requirements set forth in this Plan. This Plan represents a local plan to reduce GHG emissions 15% below 2007 emissions by 2020 consistent with AB 32, and constitutes an ~~"a~~dopted list of regulations and requirements to implement a local plan" as specified in the CEQA Guidelines. Furthermore, the Plan contains an analysis that extends beyond 2020 to 2030 with consideration of the trajectory of reductions needed to provide substantial reductions by 2050 (see Appendix E), consistent with CARB's recommendations for looking forward in its Scoping Plan.

The Plan does not allow larger residential or mixed-use projects outside a City Sphere of Influence (SOI) to use the Screening Tables or rely on this Plan for a determination that the project's individual or cumulative GHG impacts are less than significant. This provision ensures land use commitments outside of SOIs do not impede the expected emissions trajectory to mid-century and are not likely to conflict with the long term goal of substantial reductions through 2050. This provision is an interim procedure that will be re-examined in a major Plan update and amendment anticipated to occur in 2015 following a new emissions inventory and incorporation of the SCS and Regional GHG reduction measures.

Residential projects (or mixed use projects with a residential component) that exceed 250 residential units that are located in unincorporated areas not within a City SOI will not be eligible to use the Screening Tables or rely on this Plan for a determination of less than significant on individual or cumulative GHG impacts. (See Appendix F for a full description of the limitations and uses of the Screening Table.)

Residential Projects outside of a City SOI that exceed 250 residential units will be required to prepare a project specific GHG emissions analysis that includes a robust assessment of emissions, appropriate mitigation measures, and analysis of the issues associated with land use intensification and VMT generation on a project and regional basis. The analysis must produce an assessment that allows for a determination of whether the specific project causes cumulatively considerable GHG impacts. These projects will not qualify for the tiering and streamlining benefits otherwise provided by this Plan as allowed by CEQA Guidelines Section 15183.5 due to the inability to adequately analyze and incorporate programmatic mitigation that comprehensively addresses the issues of GHG emissions for regionally significant residential projects beyond the 2020 analysis horizon.

It is anticipated that upon completion of the Sustainable Communities Strategy (SCS) by Southern California Association of Governments (SCAG) and the Regional GHG Reduction Plan currently under preparation by the San Bernardino County Association of Governments (SANBAG), adequate methodology for quantification of regional VMT and more comprehensive mitigation will provide suitable planning tools that can be incorporated into this Plan through a future amendment. Both the SCS and the Regional GHG Reduction Plan are intended to satisfy the requirements of SB 375 and allow better forecasts of GHG emissions for future years as well as providing a regional strategy for reducing GHG emissions.

~~According to the CEQA Guidelines, new projects must be considered by the County with regards to their potential environmental impacts from GHG emissions. Based on the discretion of the lead agency, CEQA documents must characterize the environmental impacts associated with GHG emissions resulting from the project, compare GHG emissions to a threshold of significance, and ensure that the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. This Plan represents a local plan to reduce GHG emissions by 2020 pursuant to AB 32, and constitutes an adopted list of regulations and requirements to implement this local plan. Consequently, the County, through CEQA and the County Development Code, will ensure that new development within the County's LUA area meets the requirements set forth in this Plan.~~

~~The County will partner with CARB, local air districts, and other local, state, and federal agencies to implement the reduction measures and programs specified in this Plan. In addition, some air quality management districts have created programs to ensure local GHG reduction projects can be used as CEQA mitigation, and CEQA Guidelines support the use of GHG reduction plans as mitigation of GHG emissions under CEQA.~~

## GHG 5.7 MONITORING AND INVENTORYING AND REPORTING

The GRT will establish a process ~~for~~ of monitoring the implementation of the GHG Reduction Plan and ~~adjusting~~ amending the plan as opportunities arise. The Land Use Services Department (LUSD) will compile the monitoring results and report to the Board of Supervisors on Plan implementation progress. The LUSD ~~anticipates~~ will incorporat~~e~~ing annual monitoring results with the required annual reporting procedures for implementation of the County General Plan. The County will conduct periodic comprehensive reviews on a four year schedule that will involve an appropriate level of re-inventorying emissions sources in order to get a more complete understanding of GHG conditions at that time and the results of the GHG Emissions Reduction program. (See Section GHG 5.3) A four year interval for ~~"re~~-inventorying" will be synchronized with the reduction measure phasing. Phases 1 and 2 will be concluded in 2014 and thus, re-inventorying (the inventory will be completed in 2015) at this point will provide an important milestone assessment in the progress that the County is making with Plan implementation. The next inventory would be completed to coincide with the 2020 target date and implementation of the Phase 3 reduction measures. This inventory will provide a more comprehensive assessment of the Plan's success while providing a basis for adjusting the Plan for the 2030 target. As the GHG Plan is implemented and as technology changes, for example,

energy consumption, vehicle efficiency, waste diversion amounts, and methane recovery amounts will change. If promising new strategies emerge, the County will evaluate how to incorporate these strategies into the GHG Reduction Plan. Further, state and federal action will also result in changes which will influence the level of the County emissions.

**Monitoring the Development Review Process**: As noted in Section GHG 5.6 above, monitoring of Plan implementation in order to track progress, to determine whether emissions are being reduced as forecasted, and to provide a platform for future revisions to the plan, if necessary, is essential to retain the benefits of CEQA streamlining and tiering of the analysis of greenhouse gas emissions as described in the CEQA Guidelines Section 15183.5. The LUSD will use development permit tracking to monitor and evaluate the utility and effectiveness of the Screening Tables as the tables are applied to new development permits. Use of the Screening Tables will facilitate calculation of project GHG emissions, with and without mitigation. The quantified emissions can be recorded and tracked with the County's permit tracking software. As part of the Department's annual monitoring review an assessment will be made as to the function of the Screening Tables and the effectiveness of mitigation. Recommendations for changes to the DRP process will be made by the Department Director and approved by the CEO. These changes will be part of the amendment process for the GHG Emissions Reduction Plan described in section GHG 5.9.

## GHG 5.8 ADDITIONAL PLANNING ACTIVITIES

### GHG 5.8.1 Addressing SB 375

Senate Bill 375 (SB 375) (codified at Government Code Sections 65080, 65400, 65583, 65584.01, 65584.01, 65584.04, 65584.04, 65587, 65588, 14522.1, 14522.2, 65080.01 and Public Resources Code Sections 21061.3, 21159.28, and Chapter 4.2), signed in September 2008, aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS), which will prescribe land use allocation in that MPO's Regional Transportation Plan (RTP). CARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years, but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects would not be eligible for funding programmed after January 1, 2012. For the southern California region, the Southern California Association of Governments (SCAG) is the MPO responsible for preparing the SCS.

One of the challenges in addressing the reduction of GHG emissions in response to SB 375 is the regional interconnectedness of various emission sources. On road transportation emissions are particularly hard to reduce because of that regional interconnectedness. Most of the vehicle trips and vehicle miles traveled within Unincorporated San Bernardino County originate and/or terminate in the cities within the County. To address this issue and provide additional GHG reduction opportunities, the County proposed to the San Bernardino County Association of Governments (SANBAG) that a collaborative regional effort in reducing GHG emissions be undertaken. The proposal was to collaborate with the cities within the County, SANBAG and SCAG in addressing regional sources of GHG emissions. The result is the SANBAG Regional GHG Reduction Plan. One aspect of the SANBAG Regional GHG Reduction Plan is the regional traffic modeling effort being coordinated with SCAG in the demonstration of sustainable community strategies (SCS) for the region. The regional traffic modeling effort includes all of San Bernardino Valley as well as the Victor Valley area of the High Desert region of San Bernardino County.

The regional collaborative approach to analyzing and reducing on road transportation related emissions provides quantification of GHG reductions due to County land use policies focusing

land use development and increased densities within the cities' spheres of influence (SOI) that was not possible during the drafting of the San Bernardino County GHG Reduction Plan. In addition, this regional approach allows for quantification of reductions associated with transit oriented development (TOD) and mixed land use intensification along transit lines within the cities and proposed transit lines in the unincorporated areas of the County (see GHG Reduction Measure R3T4); regional employment based trip reduction programs (see GHG Reduction Measure R3T5); Intelligent Transportation Systems (ITS) applications (see GHG Reduction Measure R3T8); and others.

The SANBAG Regional GHG Reduction Plan will be able to quantify many of the R3 measures in the San Bernardino County GHG Reduction Plan that were unquantifiable at the time the San Bernardino County Plan was drafted. Once on road transportation reductions are quantified in the SANBAG Regional GHG Reduction Plan, additional reduction quantification will be possible as an update to the San Bernardino County GHG Reduction Plan.

Additionally, the SANBAG regional effort looks past 2020 toward achieving the 2035 reduction target in SB 375, which will yield additional on road transportation reduction quantification related to our region's portion of the SCAG SCS. The SCS for SCAG is anticipated to be adopted in March 2012. The SANBAG Regional GHG Reduction Plan is proposed to be adopted this fall, in 2011. However, the draft SCS will be out in September 2011. The SANBAG Regional GHG Reduction Plan will include elements of the SCS that pertain to our region through coordination with SCAG even though the SANBAG Plan precedes the adoption of that SCS strategy. Both regional programs will provide protocols and mitigation measures that will be needed to fully implement GHG Reduction Measure R3T10 (Land Use Strategies to Reduce Reliance on Automobile Use).

The County anticipates that both the SCAG SCS and SANBAG Regional GHG Reduction Plan will have implications for land use and land use designations in the unincorporated area of San Bernardino County under the County's LUA. The SANBAG GHG Plan is expected to focus on VMT reduction and travel scheduling, while the SCS is anticipated to emphasize Smart Growth concepts such transit oriented development, compact development, mixed use development that positions residential land uses closer to job centers, and walkable community design. While the current County General Plan embraces all of these smart growth principles and aspirations for VMT reduction, the land use designations may require substantial analysis and modification to affect the GHG reduction strategies that may emerge from the SANBAG GHG Plan. Land use designations and zoning changes were not part of the 2007 General Plan Update, however, they will likely need to be re-assessed in the next update to respond to the SCAG and SANBAG programs. When the regional strategies are completed by SCAG and SANBAG, the County will engage in re-evaluating the County General Plan from a land use standpoint with focused consideration of its implications for amending the GHG Plan. The County believes that from a cost-effective and efficiency perspective, a land use analysis and prospective GHG Plan

amendment to include the regional strategies should occur in conjunction with the first emissions re-inventorying effort to be completed within four years of Plan adoption provided the regional strategies have been finalized and adopted by the time of that first emissions re-inventory.

## GHG 5.8.~~1~~ 2 Beyond 2020

In order to assess whether implementing this plan achieves the State's long-term climate goals, one must look beyond 2020 to see whether the emissions reduction measures set the County on a trajectory needed to comply with State mandates. Governor Schwarzenegger's Executive Order S-3-05 calls for an 80 percent reduction below 1990 GHG emissions levels by 2050. This results in a 2050 statewide target of about 85 $MMTCO_2e$ (total emissions), as compared to the 1990 level (also the 2020 target) of 427 $MMTCO_2e$. Assuming that San Bernardino County's 2020 goal of 15% below 2007 levels (approximately 5.3 $MMTCO_2e$, for External Emissions and 0.3 $MMTCO_2e$ for Internal Emissions) is roughly equivalent to 1990 levels, the 2050 County goal to match the S-3-05 goals would be approximately 1 $MMTCO_2e$ in 2050.

Full implementation of CARB's Scoping Plan and the County's GHG Reduction Plan will put the County on a path toward these required long-term reductions. Figure E-1, Appendix E, depicts what an emissions trajectory might look like; assuming San Bernardino County follows a linear path from the 2020 reduction target to a 2050 goal matching that in S-03-05. While the measures needed to meet the 2050 goal are too far in the future to define in detail, one can examine the policies needed to keep us on track through at least 2030.

To stay on course toward the 2050 target, the County's greenhouse gas emissions need to be reduced to approximately 3.9 $MMTCO_2e$ by 2030. This translates to an average reduction of 2.7 percent per year between 2020 and 2030. An additional challenge comes from the fact that the population in unincorporated San Bernardino County will grow further between 2020 and 2030.

To counteract this trend, per-capita emissions must decrease at an average rate of slightly less than 3.1 percent per year during the 2020 to 2030 period. These reductions are possible. The measures needed are logical expansions of the programs recommended in the CARB Scoping Plan at the state level and the measures included in the San Bernardino GHG Reduction Plan at the local level that get the County to the 2020 goal.

As described above under the discussion of GHG Reduction Goals, 2020 is only a milestone in GHG reduction planning. Executive Order S-03-05 calls for a reduction of GHG emissions to a level 80 percent below 1990 levels by 2050. The 2050 target is consistent with the estimated reductions needed to stabilize atmospheric levels of $CO_2$ at 450 parts per million (ppm). Thus, there will be a need to start planning ahead for the post-2020 period. The County will commence planning for the post-2020 period starting in 2017, at the approximate midway point between plan implementation and the reduction target and after development of key ordinances and implementation of cost-effective measures. At that point, the County will have implemented the

first two phases of this GHG Plan and will have a better understanding of the effectiveness and efficiency of different reduction strategies and approaches. Further, the state's regulations under AB 32 would have been fully in force since 2012; federal programs and policies for the near term are likely to be well underway; market mechanisms like a cap and trade system are likely to be in force and will be influencing energy and fuel prices; and continuing technological change in the fields of energy efficiency, alternative energy generation, vehicles, fuels, methane capture, and other areas will have occurred. The County will then be able to take the local, regional, state, and federal context into account. Further, starting in 2017 will allow for development of the post-2020 plan so that it can be ready for full implementation, including potential new policies, revisions to the General Plan (as necessary), programs, ordinances, and financing by 2020.

The new plan will include a specific target for GHG reductions for 2030, 2040, and 2050. The targets will be consistent with broader state and federal reduction targets and with the scientific understanding of the needed reductions by 2050. The County will target adoption of the new plan by January 1, 2020.

## GHG 5.9 Amending the GHG Plan

The GHG Emissions Reduction Plan is viewed by the County as a dynamic program that requires implementation, monitoring, evaluation and adaptation. A critical provision of any dynamic program anticipates amendments that will result in adaptation based on the experience gained from the evaluation of implementation and monitoring. The County GHG Plan will be amended as needed to achieve the 2020 reduction target of 15% below 2007 emission levels and to incorporate future reduction strategies, such as those that are anticipated to result from regional scale reduction planning required by SB 375. Amendments will also be necessary to incorporate new or improved methodologies and protocols for measuring emission generation and mitigation reductions. The County anticipates that both major and minor amendments will be needed as Plan implementation progresses over time. Major amendments will require review by the County GRT (GHG Reduction Team), Planning Commission and adoption by the Board of Supervisors. Minor amendments can be accomplished upon review and recommendation by the GRT and approval by the CEO.

The GHG model for the County GHG Plan forecasts that GHG emissions in the jurisdictional area addressed in this Plan will be reduced by 260,692 metric tons of carbon dioxide equivalent (MTCO2e) for the Internal Inventory and 2,290,874 metric tons of carbon dioxide equivalent (MTCO2e) for the External Inventory compared to the unmitigated projections in 2020. Based on comprehensive updates to the GHG inventory, the County will evaluate whether the actual GHG emissions from activities over which the County has jurisdictional and operational control reflect the reductions anticipated by the model. If sufficient reductions are not achieved by the 2015 re-inventory, the County will reevaluate and adjust the measures and overall targets to

reach the established 2020 target. A second re-inventory is planned to coincide with an evaluation in 2020 as to Plan success. A second major amendment may be necessary at this point to ensure that emission reductions are on track to maintain a trajectory post 2020, to provide substantial reductions by 2050.

Minor Amendments are anticipated as part of the Department's annual monitoring review of the Development Review Process (DRP). An assessment will be made as to the function of the Screening Table and the effectiveness of mitigation. Recommendations for changes to the DRP process will be made by the Department Director, reviewed by the GRT and approved by the CEO.

Major Amendments will be more comprehensive and are anticipated to occur in conjunction with the four year interval for re-inventorying that will be synchronized with the reduction measure phasing. At a minimum, two major amendments are anticipated to be required between the date of Plan adoption and 2020. Implementation Phases 1 and 2 (described in section GHG 5.3) will be concluded in 2014 with re-inventorying completed in 2015. At this point, an important milestone assessment in the progress that the County is making with Plan implementation will occur. By this time, regional emissions reduction strategies resulting from SB 375 should be completed. Results from monitoring, re-inventorying and new regional reduction strategies will provide the appropriate data for a comprehensive amendment in.

The next inventory is intended to be completed at a point that coincides with the 2020 target date and implementation of the Phase 3 reduction measures. This inventory will provide a more comprehensive assessment of the Plan's success while providing a basis for adjusting the Plan for the 2035 target.

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# Update to Appendix A

# APPENDIX A

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# APPENDIX A - External Inventory/Reduction Measures Methodology

Prepared By:

## ICF INTERNATIONAL

# Methodology for Estimating External Reduction Measures GHG Effectiveness

## *Introduction*

The GHG Reduction Plan relies on a multiple sector multiple measure approach to support reduction of GHG emissions in the County. Both state and local emission reduction measures are taken into account. For the local measures, the County has identified a variety of reduction approaches and strategies including mandatory measures, incentive-based measures, a Development Review Process, outreach, education, and regional cooperation.

This section provides information on calculations of GHG emissions reductions for the following sectors in the County's GHG Reduction Plan for the External Inventory: residential, commercial, and industrial energy use; Transportation (on-road and off-road) and Land Use; Solid Waste Management; industrial fuel combustion; Agriculture; and Water Conservation. External emission reductions are defined in relation to the 2020 unmitigated emissions level for the County's LUA area. In the text that follows, LUA area and ~~"~~External" are used interchangeably to describe emissions from sources in or associated with the unincorporated County.

Emission reductions for the R1 measures were based on CARB methodology, as presented in the AB 32 Scoping Plan. In certain cases, CARB's calculations were modified to better estimate reductions for the unincorporated County, as described below. R2 measures were calculated using County-specific assumptions, where available, and custom methodologies for each sector of emission reductions presented below. The reduction methodologies for each emissions sector are based on a combination of widely accepted protocols established by USEPA, CCAR, CARB, and other relevant protocols, as appropriate, or on scientific studies. The following section presents the major assumptions and calculation methodologies used to estimate emission reductions for the GHG Reduction Plan.

## *Development Review Process*

For existing development, the GHG Reduction Plan relies on state measures that are mandatory and local measures that are primarily incentives-based. In some cases, the County and other agencies will be implementing state mandates, such as for urban water use efficiency through regional cooperation and incentives and other measures for existing development.

In the aggregate, new development, subject to County discretionary permit authority, will reduce emissions by 31 percent compared to unmitigated conditions through the County's Development Review Process (DRP). With this 31 percent GHG reduction and the GHG reduction effectiveness of all other measures in the GHG Reduction Plan, the County will reach its reduction target. The County will develop a screening table with a point system that takes into account a wide range of potential measures that new development could implement in order to achieve the overall 31 percent reduction level (Screening Table)[7]. The state measures and mandatory local measures (such as water conservation requirements) and other local action (such

[7] The Screening Table attached as Appendix F to the GHG Reduction Plan is substantially similar to the Screening Table that will be utilized by the County.

as the County's municipal waste measures) will be included in the Screening Table such that where these measures apply to a specific development; they can be counted toward the 31 percent requirement. The County's Screening Table will be based on a 100 point system that corresponds to a 31 percent reduction in GHG emissions.

Beyond the state measures and the mandatory local measures, the County intends to leave the specific choice of reduction measures to the individual project proponent to facilitate the adoption of the most feasible, effective, and cost efficient measures relevant to each specific project. Through the County's Development Review Process each new project will be reviewed in order to assure that the identified measures are feasible, relevant to the project, committed to by the proponent, funded, and have a definite schedule for their implementation. Using this approach, the precise amount of GHG emissions reductions cannot be estimated for new development on a measure by measure basis. Rather, the analysis examined feasible scenarios of reductions that would result from new development utilizing different reduction strategies relating to energy efficiency, and alternative energy features.

The County will monitor the emissions reductions from new development, calculate those emissions and make any needed modifications to the County's reduction strategies to enable the County to reach its 2020 target.

Residential projects (or mixed use projects with a residential component) of 250 dwelling units or greater that are located in unincorporated area not within a City Sphere of Influence will not be eligible to use the Screening Table. Residential Projects outside of a City Sphere of Influence must perform an independent project-specific evaluation of GHG emissions as described below. (See Appendix F for a full description of the limitations and uses of the Screening Tables)

Residential Projects of 250 dwelling units or greater that are located outside of a City Sphere of Influence will be required to prepare a project specific GHG emissions analysis that includes a robust assessment of emissions, appropriate mitigation measures, and the issues associated with land use intensification and VMT generation on a project and regional basis. The analysis must produce an assessment that allows for a determination of whether the specific project causes cumulatively considerable GHG impacts. Residential Projects of 250 dwelling units or greater that are located outside of a City Sphere of Influence will not qualify for the tiering and streamlining benefits otherwise provided by this Plan as allowed by CEQA Guidelines Section 15183.5 due to the inability to adequately analyze and incorporate programmatic mitigation that comprehensively addresses the issues of GHG emissions regionally significant residential projects beyond the 2020 analysis horizon. It is anticipated that upon completion of the Sustainable Communities Strategy (SCS) by Southern California Association of Governments (SCAG) and the Regional GHG Reduction Plan currently under preparation by the San Bernardino County Association of Governments (SANBAG), adequate methodology for quantification of regional VMT and more comprehensive mitigation will provide suitable planning tools that can be incorporated into this Plan through a future amendment. Both the SCS and the Regional GHG Reduction Plan are intended to satisfy the requirements of SB 375 and allow better forecasts of GHG emissions to 2035 as well as providing a regional strategy for reducing GHG emissions.

## *Building Energy Reduction Measures*

This section provides information on calculations of GHG emission reductions attributable to R1 and R2 measures for building energy use for the County. Total estimated GHG percent reductions and quantities from the reduction measures included in Reduction Scenarios R1 and R2 are presented below in **Table A-18**. Emission reductions for each measure are applied to the 2020 unmitigated projected emissions for the appropriate emission quantity affected by that measure. Reductions attributed to these measures from the 2020 unmitigated building energy use emissions will be 27 percent by year 2020. .

**Table A-18: External GHG Emission Reductions from Building Energy Measures**

| Reduction Classification and Reduction Measure | GHG reductions | |
|---|---|---|
| | **Emission Reduction from 2020 Unmitigated** | **Percent Reduction from 2020 Unmitigated** |
| **R1: Existing and proposed state and regional building energy measures that do not require County action** | | |
| RE1B: RPS – 33 percent by 2020 | 104,236 | 7.0 |
| R1E2: AB 1109 Residential Lighting | 23,473 | 1.6 |
| R1E3: AB 1109 Commercial/Outdoor Lighting | 14,814 | 1.0 |
| R1E4: Electricity Energy Efficiency (AB 32) | 106,925 | 7.2 |
| R1E5: Natural Gas Energy Efficiency (AB 32) | 9,429 | 0.6 |
| R1E6: Increased Combined Heat and Power (AB 32) | 63,881 | 4.3 |
| R1E7: Industrial ~~Boiler~~ Efficiency Measures (AB 32) | 12,488 | 0.8 |
| **R2: Existing and new building energy measures that require County action** | | |
| R2E1: Residential Energy Efficiency Retrofits | 17,350 | 1.2 |
| R2E2: Commercial Energy Efficiency Retrofits | 8,540 | 0.6 |
| R2E3: Residential Retrofit Renewable Energy Incentives | 21,351 | 1.4 |
| R2E4: Warehouse Renewable Energy Incentive Program | 6,786 | 0.5 |
| R2E5: Solar Hot Water Incentives | 11,907 | 0.8 |
| R2E6: New Residential Energy Efficiency (through DRP) | 9,460 | 0.6 |
| R2E7: New Commercial Energy Efficiency (though DRP) | 35,342 | 2.4 |
| R2E8: New Home Renewable Energy (though DRP) | 2,239 | 0.2 |
| R2E9: New Commercial/Industrial Renewable Energy (through DRP) | 25,392 | 1.7 |
| R2E10: Commercial/Industrial Rehabilitation/Expansion Renewable Energy (through DRP) | 21,086 | 1.4 |
| ***Total*** | ***494,699*** | ***33.3*** |
| **R3: Existing and new building energy measures—reductions not quantified or relied upon to achieve reduction goal** | | |
| R3E1: Green Building Development Facilitation and Streamlining | | |
| R3E2: Green Building Training | | |
| R3E3: Community Building Energy Efficiency & Conservation for Existing Buildings | | |
| R3E4: Energy Efficiency Financing | | |
| R3E5: Heat Island Mitigation Plan | | |

This measure would result in a 0.6 percent reduction from total 2020 unmitigated building sector emissions.

***R1E6: Increased Combined Heat and Power (AB32)***

This measure captures the reduction in building electricity emissions associated with the increase of combined heat and power activities, as outlined in CARB's AB32 Scoping Plan. The Scoping Plan suggests that increased combined heat and power systems, which capture ~~–~~waste heat" produced during power generation for local use, will offset 30,000 GWh State-wide in 2020. Approaches to lowering market barriers include utility-provided incentive payments, a possible CHP portfolio standard, transmission and distribution support systems, or the use of feed-in tariffs. By 2020, this requirement will reduce emissions in California by approximately 6.7 $MMTCO_2e$, representing 7.6 percent of emissions from all electricity in the State.[17]

The following assumptions were used to calculate emission reductions attributed to this measure:

- The percent reduction of the State's emissions from increased combined heat and power is equal to the percent reduction of the County's emissions from this measure (7.6 percent).

This measure would result in a 4.3 percent reduction in total 2020 unmitigated building sector emissions.

***R1E7: Industrial Efficiency Measures (AB32)***

This measure captures the reduction in industrial building energy emissions associated with the energy efficiency measures for industrial sources included in CARB's AB32 Scoping Plan. ~~CARB proposes the following possible State-wide measures:~~

~~Oil and gas extraction~~

~~GHG leak reduction from oil and gas transmission~~

~~Refinery flare recovery process improvements~~

~~Removal of methane exemption from existing refinery regulations~~

By 2020, this requirement will reduce emissions in California by approximately 1.0 $MMTCO_2e$, representing 3.9 percent of emissions from all industrial natural gas combustion in the State[18].

The following assumptions were used to calculate emission reductions attributed to this measure:

- The percent reduction of the State's emissions from industrial efficiency measures is equal to the percent reduction of the County's industrial emissions from this measure (3.9 percent).

This measure would result in a 3.9 percent reduction from 2020 unmitigated industrial natural gas emissions, or a 0.8 percent reduction in total 2020 unmitigated building sector emissions.

## *R2 Building Energy Reduction Measures*

This section describes the methodology used to calculate GHG emission reductions for the R2 measures that have been implemented or will be implemented by the County resulting in quantifiable GHG reductions for residential, commercial, or industrial building energy usage.

[17] California Air Resources Board 2008a, 2009a.
[18] California Air Resources Board 2008a, 2009a.

Each measure accounts for emission reductions achieved with R1 Building Energy measures and any preceding R2 Building Energy measures, thereby eliminating any potential double counting of emission reductions. For example the reductions due to the state Title 24 Energy Efficiency Standards were subtracted from 2020 unmitigated emissions before analyzing the effects of the proposed measures below.

As discussed above, the County will also be implementing the DRP that will result in a total reduction of 31 percent of those emissions attributable to the new development that occurs within the County's LUA area, compared to projected 2020 unmitigated emissions. The County's approach will not mandate that new development implement specific energy efficiency features beyond the State's Title 24 or renewable energy measures in order to meet the 31 percent requirement, but it is likely that many new development projects will select these features to achieve their reductions given that they are feasible using current technology and are under the direct control of a project proponent. For purposes of this analysis, Measures R2E6, R2E7, R2E8, R2E9, and R2E10, or their equivalent (in terms of energy savings and GHG emission reductions, are collectively referred to as ~~"~~DRP Measures"), are assumed to be implemented as part of the Development Review Process. The County is not mandating a specific level of energy efficiency; however, to calculate emission reductions specific assumptions were assumed for each DRP Measures as described below. Many of the DRP Measures, including the specific assumptions used to calculate emissions are feasible and highly cost-effective. Consequently, it is likely that new development will meet or exceed the level of energy efficiency predicted below. These actions would occur *in addition to* all other Building/Energy reduction measures presented in the Building/Energy sector.

GHG emission reductions for the majority of the following measures are estimated based on their estimated energy savings. A description of each measure is followed by the resulting GHG reductions.

***R2E1: Residential Energy Efficiency Retrofits***

This measure involves a County program for residential energy efficient retrofits. Retrofits would include various energy efficiency upgrades, including improvements to HVAC systems, water heating systems, or the building envelope (windows/insulation). This measure will be implemented through a combination of County permitting for major renovations and incentives for homeowners to voluntarily retrofit their properties. The incentives will include financing mechanisms, such as AB 811 type programs[19], ~~and~~ grants, ~~;~~ such as Energy Efficiency Conservation Block Grant funding[20]~~;~~ and, the County's Green County program, for waiving permit fees. The County will also increase community awareness of retrofit potential, engage in efforts to encourage a qualified retrofit workforce and remove regulatory and procedural barriers, if any, to implementing green building practices.

[19] AB 811 financing programs ~~districts~~ for residential retrofits are currently impracticable due to Fannie Mae and Freddie Mac mortgage constraints. However, if these constraints are removed, then the County intends to create an AB 811 program~~district~~, likely in concert with a regional or state-wide group of municipalities, for residential retrofits.

[20] ~~AB 811 financing districts for residential retrofits are currently impracticable due to Fannie Mae and Freddie Mac mortgage constraints. However, if these constraints are removed, then the County intends to create an AB 811 district, likely in concert with a regional or state-wide group of municipalities, for residential retrofits.~~

Improving energy efficiency by 15 percent may be achieved through a menu of options including, but not limited to, the following.

- Replace old, inefficient appliances with new, more efficient ones.
- Replace inefficient air conditioning and heating units with more efficient ones.
- Replace old, inefficient insulation and windows with new, efficient insulation and top-quality and insulating windows.
- Install solar panels and solar water heaters.
- Replace inefficient and incandescent lighting with compact fluorescent and LED lighting.
- Weatherize existing buildings to improve energy efficiency.

The amount of residences retrofit by 2020 was estimated based on the methodology of the *Green Building in North America* report from the Commission for Environmental Cooperation[21]. This report examined a ~~"D~~Deep Green" scenario: an aggressive yet technically achievable retrofit scenario based on a ~~"d~~defensible, robust modeling platform." In this scenario 90 percent of the existing residential buildings in 2005 undergo a retrofit or major renovation by 2030. Using a linear regression to determine their retrofit rate, and then applying this rate to the County's timespan (2007 to 2020), determines that 47 percent of residential buildings will be retrofit by 2020. Because this measure is voluntary, a reduced penetration rate was also incorporated into the calculation, reducing the percent of residential buildings retrofit from 47 to 20 percent.

- Twenty (20) percent of residential dwellings existing in 2007 will be retrofit or renovated by 2020.
- All residential buildings affected by this measure would be 20 percent more energy efficient, resulting in a 20 percent decrease in energy use and associated GHG emissions.

This measure would result in a 1.2 percent reduction in total 2020 unmitigated building sector emissions.

***R2E2: Commercial Energy Efficiency Retrofits***

This measure involves a program for commercial energy efficient retrofits. Retrofits would include various energy efficiency upgrades, including improvements to HVAC systems, water heating systems, or the building envelope (windows/insulation). This measure will be implemented through a combination of County permitting for major renovations and incentives for building owners to voluntarily retrofit their commercial properties. The incentives will include the availability of financing mechanisms, such as an AB 811 type program[22] and Energy Efficiency Conservation Block Grant funding~~,~~;~~[23]~~ and ~~,~~ ~~the~~ the County's Green County program~~,~~ for waiving permit fees. The County will also increase community awareness of retrofit potential, engage in efforts to encourage a qualified retrofit workforce and remove regulatory and procedural barriers, if any, to implementing green building practices.

Improving energy efficiency may be achieved through a menu of options including, but not

[21] Commission for Environmental Cooperation 2008.

[22] ~~Assuming mortgage financing constraints can be overcome.~~Current mortgage constraints with Fannie Mae/ Freddie Mac do not apply to commercial mortgages. As such, the County can pursue establishment of an AB 811-type program upon program adoption.

[23] ~~AB 811 financing districts are currently impracticable due to Fannie Mae and Freddie Mac mortgage constraints.~~

limited to, the options listed under measure R2E1 above.

The amount of commercial buildings retrofit by 2020 was estimated based on the methodology of the *Green Building in North America* report from the Commission for Environmental Cooperation[24]. This report examined a ~~"D~~Deep Green" scenario: an aggressive yet technically achievable retrofit scenario based on a ~~"d~~defensible, robust modeling platform." In this scenario 90 percent of the existing commercial buildings in 2005 undergo a retrofit or major renovation by 2030. Using a linear regression to determine their retrofit rate, and then applying this rate to the County's timespan (2007 to 2020), determines that 47 percent of commercial buildings will be retrofit by 2020. Because this measure is voluntary, a reduced penetration rate was also incorporated into the calculation, reducing the percent of residential buildings retrofit from 47 to 20 percent.

The following assumptions were used to calculate emission reductions attributed to this measure:

- Twenty (20) percent of commercial buildings existing in 2007 will be retrofit or renovated by 2020.
- All commercial buildings affected by this measure would be 20 percent more energy efficient, resulting in a 20 percent decrease in energy use and associated GHG emissions.
- This measure would result in a 0.6 percent reduction in total 2020 unmitigated building sector emissions.

***R2E3: Residential Retrofit Renewable Energy Incentives***

This measure involves the installation of solar photovoltaic panels, during a retrofit or major renovation of residential dwellings. The retrofit rate for residential buildings was determined using the *Green Building in North America* methodology, as described above for measure R2E1. Incentives are available to homeowners through the California Energy Commission's California Solar Initiative; new incentives would come from renewable energy financing (see discussion of R3E12 below). The County's incentives to a building owner who voluntarily retrofits his building will also include: the availability of financing mechanisms, such as an AB 811 type program[25] and Energy Efficiency Conservation Block Grant funding;[26] incentives from the CEC's Solar Initiative, possible partnership with Southern California Edison and the CPUC, and~~,~~ the County's Green County program, for waiving permit fees. The County will also increase community awareness of retrofit potential, engage in efforts to encourage a qualified retrofit workforce and remove regulatory and procedural barriers, if any, to implementing green building practices.

The following assumptions were used to calculate emission reductions attributed to this measure:

- Twenty (20) percent of residential dwellings existing in 2007 will be retrofit or renovated by 2020.
- Solar energy would reduce the homes projected electricity use by 51 percent.

[24] Commission for Environmental Cooperation 2008.
[25] Assuming mortgage financing constraints can be overcome.
[26] ~~AB 811 financing districts are currently impracticable due to Fannie Mae and Freddie Mac mortgage constraints but the County intends to pursue an AB 811 type program once these constraints are removed.~~.

- Energy emission reductions from the Development Review Process occur consistent with the estimates for strategy R2E6.
- This measure would result in a 1.4 percent reduction in total 2020 unmitigated building sector emissions.

***R2E4: Warehouse Renewable Energy Incentive Program***

The County will promote and encourage participation in an incentive program, for installation of solar photovoltaic panels on new warehouse development projects. Possible approaches to the incentive program include~~, to be~~ developing~~ed~~ ~~through~~ a partnership between Southern California Edison and California Public Utilities Commission, or establishing a separate program through leveraging other private or public funding sources.

This program would require that the solar photovoltaic panels offset at least 50 percent of a warehouse's electricity use.

The following assumptions were used to calculate emission reductions attributed to this measure:

- This measure would only affect emissions from commercial warehouse space electricity use. Based on CBECS warehousing data, this was calculated to be 40 percent of the County's external electricity emissions associated with buildings[27].
- Twenty-five (25) percent of unmitigated 2020 emissions from commercial warehousing would be affected by this program.
- Installation of solar photovoltaic panels will offset 50 percent of a warehouse's electricity use.
- Reductions consistent with that estimated for strategy R2E7 and measure R2E2 have been implemented.

This program would result in a 0.5 percent reduction in total 2020 unmitigated building sector emissions.

***R2E5: Solar Hot Water Incentives***

The County will encourage participation in the California Solar Initiative (CSI) Thermal Program established in January 2010 by the California Public Utilities Commission to provide incentives for the installation of solar water heating systems in new and existing homes and business in the territories of Southern California Edison, Southern California Gas Company, and Pacific Gas and Electric Company. In accordance with AB 1470, the statewide incentive program to encourage the installation of 200,000 solar water-heating systems will run through 2017, or until the program funds are exhausted. The County will facilitate participation in this program by providing access to information about the program and waiving permit fees.

The following assumptions were used to calculate emission reductions attributed to this measure:

- This measure would affect all emissions from water heating. However, industrial water heating emissions were not included in this measure due to the lack of a detailed breakdown of emissions by energy usage (e.g., heating, lighting, water heating, etc.) for industrial emissions.

[27] Energy Information Administration 2003.

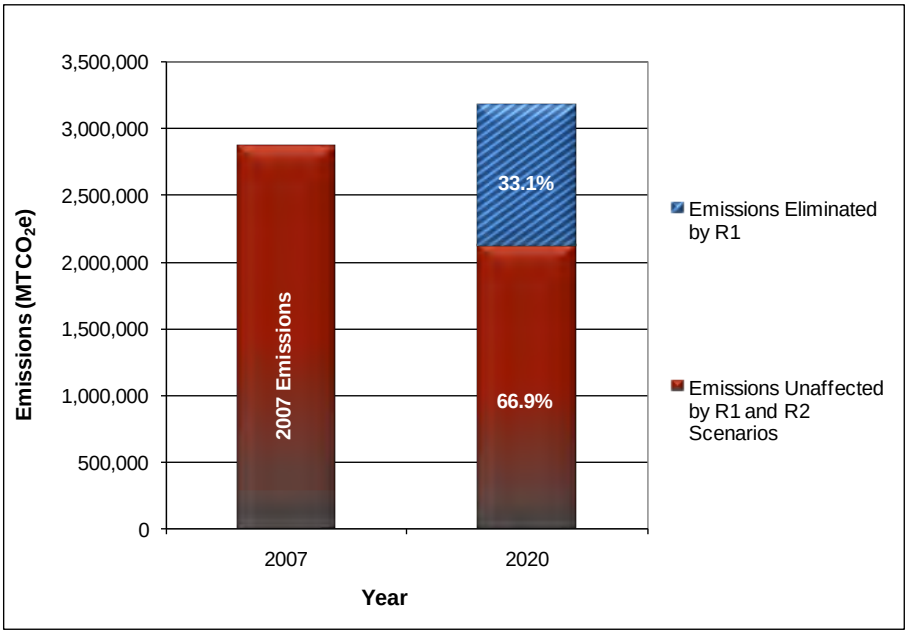
## *Stationary Source Measures*

This section provides information on calculations of GHG emission reductions related to R1 and R2 for industrial fuel combustion for the County. These emission reductions do not include measures that reduce natural gas combustion in the industrial sector; they only include reductions attributed to combustion associated with other fuels, such as diesel and propane, and reduction in fugitive process emissions, such as $CO_2$ released during cement manufacture Total estimated GHG percent reductions and quantities from the reduction measures included in Reduction Classifications R1 and R2 are presented below in **Table A-21**.

**Table A-21. External GHG Emission Reductions from Stationary Source Measures**

| Reduction Classification and Reduction Measure | GHG Reductions ($MTCO_2e$) | |
|---|---|---|
| | **Emission Reduction from 2020 Unmitigated** | **Percent Reduction from 2020 Unmitigated** |
| **R1: Existing and proposed state and regional stationary source measures that do not require County action** | | |
| R1I1: Oil and Gas Extraction Combustion Related GHG Emission Reduction | 49 | 0.002 |
| R1I2: Stationary Internal Combustion Engine electrification | 736 | 0.02 |
| R1I3: Reduction in Carbon Intensity ~~Standard for~~at Cement Plants (Through Cap and Trade Program) | 69,909 | 2.2 |
| R1I4: Reduction in Carbon Intensity ~~Standard for~~ at Concrete Batch (Through Cap and Trade Program)~~Plants~~ | 732,086 | 23.1 |
| R1I5: Waste Reduction in Concrete Use (Through Cap and Trade Program) | 246,288 | 7.8 |
| **R2: Existing and new stationary source measures that require County action** | | |
| N/A | | |
| **Total** | **1,049,067** | **33.1** |

**Figure A-8. External GHG Emission Reductions from Stationary Sources**




With the implementation of the emission reduction measures included in this Plan, stationary source emissions will be reduced by 33 percent from 2020 unmitigated projections. Reduced emissions in 2020 will be approximately 28 percent lower than 2007 emissions.

## *R1 Stationary Source Measures*

This section describes the methodology used to calculate GHG emission reductions for the *existing and proposed* national, state, or regional industrial fuel combustion measures that will result in future GHG reductions for the stationary source sector and do not require significant County action.

The cement facility reductions evaluated in this plan include reductions in the cement/concrete sector expected due to the ~~ARB's proposed carbon intensity factor and improved energy efficiency~~state cap and trade program (R1I3, ~~and~~ R1I4, R 1I5). ~~These reduction measures were evaluated as part of ARB's proposed cap and trade program. Similar versions of these measures were included in CARB's Final Early Action List adopted in 2007, with a schedule for implementation of the two cement items in 2009 and 2010. Volume 2 of the Scoping Plan states that the cement industry is susceptible to leakage, or shifting of source emissions to outside California, and intends to regulate the industry under cap and trade or a complementary measure:~~

~~The cement industry is an example of a sector that may be susceptible to this type of leakage, and the Scoping Plan included consideration of a measure to institute an intensity standard at concrete batch plants that would consider this type of life-cycle emissions. ARB will evaluate whether this type of intensity standard could be incorporated into the cap and trade program or instituted as a complementary measure during the cap and trade rulemaking.~~

### *R1I1: Oil and Gas Extraction Combustion Related GHG Emission Reduction*

This AB 32 measure would reduce combustion emissions from oil and gas extraction. By 2020, this requirement will reduce emissions in California by approximately 1.8 $MMTCO_2e$, representing 13 percent of combustion emissions from oil and gas extraction in the State[83]. San Bernardino County has very little Oil and Gas production and reductions are minor.

This regulation will result in a 13 percent reduction from 2020 unmitigated combustion emissions from oil and gas extraction and a 0.001 percent reduction of total 2020 unmitigated industrial stationary source emissions.

### *R1I2: Stationary Internal Combustion Engine Electrification*

This AB 32 measure would affect owners and operators of industrial and commercial engines over 50 horsepower used as primary power sources by replacing internal combustion engines with electric motors. By 2020, this requirement will reduce emissions in California by approximately 0.3 $MMTCO_2e$, representing 0.5 percent of combustion emissions from industrial sources (non-coal) in the State[84].

This regulation will result in a 0.5 percent reduction from 2020 unmitigated combustion emissions from industrial sources and a 0.02 percent reduction of total 2020 unmitigated industrial stationary source emissions.

### *R1I3:Reduction in Carbon Intensity ~~Standard~~ for Cement Manufacturingers*

~~This AB 32~~ARB is planning to implement a cap and trade program that will include the cement sector and will incentivize reduction in carbon intensity in cement manufacturing. ~~measure would reduce emissions from cement production at cement manufacturing facilities in California.~~

During development of the AB 32 Scoping Plan, ARB originally evaluated an approach to mandate reduction in carbon intensity at cement plants. ~~–~~By 2020, this requirement would have~~will~~ reduced emissions in California by approximately 1.55 $MMTCO_2e$; representing 10.6 percent of total emissions for California cement plants in 2020[85]. This requirement~~measure~~ would have ~~d~~s a carbon intensity standard (CIF) of 0.8 metric ton $CO_2$ per metric ton of cement used in California. The unmitigated CIF for cement produced in California is 0.895. Reduction of carbon intensity would be ~~The reduction in the CIF is achieved~~ through use of alternative fuels or energy efficiency measures.

Based on data from ~~C~~ARB, the CIF for cement produced in the County is 0.819, which is slightly above the originally proposed standard.

ARB ultimately decided that reducing greenhouse gas emissions from the wide variety of sources could be best be accomplished though a cap-and-trade program along with a mix of complementary strategies that combine market-based regulatory approaches, other regulations, voluntary measures, fees, policies, and programs. Thus, ARB decided to address cement manufacturing emissions through the cap and trade program instead of via a specific mandate. ARB will monitor cement manufacturing emissions and other emissions to ensure that the State

[83] California Air Resources Board 2008a, 2009a. CARB assumes a 2 percent growth rate in cement production from 2004 (11.92 MMT) to 2020. Projected 2020 emissions were calculated as follows: 0.895 * (11.92) * $(1.02)^{16}$ = 14.65 $MMTCO_2e$.
[84] California Air Resources Board 2008a, 2009a.
[85] California Air Resources Board 2008a, 2009a.

meets the 2020 limit on greenhouse gas emissions. Thus, cap-and-trade will be the first approach to promoting reductions in the cement industry, but ARB will retain the authority (given to it by AB32) to later evaluate whether specific cement industry GHG regulation (such as a cement intensity standard like that mentioned above) should be instituted as a complementary measure. Thus, although it is difficult to precisely predict the changes in the cement carbon intensity that will occur due to cap-and-trade, change something along the lines of that assumed in the original cement intensity standard would be necessary to support reaching the overall AB 32 reduction target.

Thus it was assumed that cap and trade would result in a reduction in cement manufacturing emissions equivalent to that which would have resulted from implementation of a fixed carbon intensity standard which is ~~This regulation will result in~~ a 2.3 percent reduction from 2020 unmitigated cement plant emissions and a 2.1 percent reduction of total 2020 unmitigated industrial stationary source emissions.

***R1I4: Reduction in Carbon Intensity ~~Standard~~ for Concrete Batch Plants***

CARB is planning to implement a cap and trade program that will include the concrete sector and will incentivize reduction in carbon intensity for concrete production.

During development of the AB 32 Scoping Plan, ARB originally evaluated an approach to mandate reduction in carbon intensity at concrete batch plants. ~~This AB 32 measure would reduce process emissions from cement production in California.~~ By 2020, this requirement would have~~ill~~ reduced emissions in California by approximately 3.3 $MMTCO_2e$; representing 22.3 percent of total emissions for California cement plants in 2020[86]. This measure would have required~~s~~ a CIF of 0.6 metric ton $CO_2$ per metric ton of cementious material used. As noted above, ARB had originally proposed a separate~~The unmitigated~~ CIF for cement produced in California ~~i~~of~~s~~ 0.8 ~~after implementation of the above measure.~~ Further reductions ~~The reduction i~~in the CIF for concrete batch plants can be achieved by using alternative fuels, increasing energy efficiency in the cement production process, or by adding materials such as supplementary cementious materials (SCMs) to replace cement in the concrete blend. ~~This measure also requires that cement used to manufacture concrete must meet a 25 percent blend of by 2015.~~

As noted above, ARB decided to include the concrete sector in the cap and trade program instead of proposing a fixed CIF standard for concrete production. ARB will monitor concrete production emissions and other emissions to ensure that the State meets the 2020 limit on greenhouse gas emissions. Thus, cap-and-trade will be the first approach to promoting reductions in concrete production, but ARB will retain the authority (given to it by AB32) to later evaluate whether specific regulation (such as a cement intensity standard like that described above) should be instituted as a complementary measure. Thus, although it is difficult to precisely predict the changes in the concrete production carbon intensity that will occur due to cap-and-trade, change something along the lines of that assumed in the carbon intensity standard would be necessary to support reaching the overall AB 32 reduction target.

Thus it was assumed that cap and trade would result in a reduction in cement manufacturing emissions equivalent to that which would have resulted from implementation of a fixed carbon intensity standard which ~~The following assumptions were used to calculate emission reductions attributed to this measure:~~

[86] California Air Resources Board 2008a, 2009a.

~~The CIF for cement produced in the County is 0.8, equivalent to that assumed by ARB in the Scoping Plan for State-wide cement production after measure R1I3 is implemented.~~

~~This regulation will~~would result in a 25.0 percent reduction from 2020 unmitigated cement plant emissions and a 21.8 percent reduction of total 2020 unmitigated industrial stationary source emissions.

***R1I5: Waste Reduction in Concrete Use***

As noted, above, CARB is planning to implement a cap and trade program that will include the cement sector and will incentivize reduction in carbon intensity for cement production.

During development of the AB 32 Scoping Plan, ARB originally evaluated an approach to mandate waste reduction for cement production. This ~~AB 32~~ measure would reduce emissions from cement production at cement plants in California. By 2020, this requirement would have~~ill~~ reduced emissions in California by approximately 1.2 $MMTCO_2e$; representing eight (8) percent of emissions from cement production in the State[87]. According to the ARB, approximately five (5) to eight (8) percent of concrete made in California each year is returned to the cement plant waste. This measure requires a 100 percent reduction in wasted cement, which is equivalent to an eight (8) percent reduction in cement manufacturing.

As noted above, ARB decided to include the cement sector in the cap and trade program instead of proposing a fixed waste reduction mandate. ARB will monitor cement manufacturing emissions and other emissions to ensure that the State meets the 2020 limit on greenhouse gas emissions. Thus, cap-and-trade will be the first approach to promoting reductions in cement production, but ARB will retain the authority (given to it by AB32) to later evaluate whether specific regulation (such as a waste reduction mandate described above) should be instituted as a complementary measure. Thus, although it is difficult to precisely predict the changes in the cement carbon intensity that will occur due to cap-and-trade, change something along the lines of that assumed in the originally proposed waste reduction measure would be necessary to support reaching the overall AB 32 reduction target.

~~The following assumptions were used to calculate emission reductions attributed to this measure:~~

- ~~The current amount of wasted cement in the County is eight (8) percent, equivalent to that assumed by ARB in the Scoping Plan for State-wide cement production.~~
- ~~In 2020, there will be a 100 percent reduction in wasted cement, which will result in an eight (8) percent decrease in cement production, equivalent to that assumed by ARB in the Scoping Plan for State-wide cement production.~~

Thus it was assumed that cap and trade would result in a reduction in cement manufacturing emissions equivalent to that which would have resulted from implementation of a waste reduction mandate which would ~~This regulation will~~ result in an eight (8) percent reduction from 2020 unmitigated cement plant emissions and a 7.2 percent reduction of total 2020 unmitigated industrial stationary source emissions.

[87] California Air Resources Board 2008a, 2009a.

## *R2 Stationary Source Measures*

There are currently no R2 measures that were evaluated for industrial fuel combustion, because the County may have limited control over this sector, other than its land use authority over new Stationary Source development projects. Emission reductions related to new stationary source development will be accomplished through the County's DRP.

## *R3 Stationary Source Measures*

No R3 measures are identified for this sector.

# List of Preparers

This analysis was a collaborative effort of San Bernardino County, ICF International and PBS &J. The key personnel involved are noted below.

## *ICF International*

Working with the County, ICF developed the Internal GHG emissions inventory, forecasting, and quantification of reduction measures presented in this appendix. The following ICF personal were involved in this analysis.

- Rich Walter, Project Director
- Rebecca Rosen, Technical Director
- Tony Held, Senior Reviewer
- Brian Schuster, Lead Technical Analyst
- Phil Groth, Building Energy Analyst
- Aaron Burdick, Building Energy Analyst
- Carrah Bullock, Technical Analyst
- John Durnan, Graphic Artist
- Ralph Torrie, Former Project Director

## *San Bernardino County*

San Bernardino County staff provided direction on the overall program, input on current County programs, data for the GHG inventory, and worked with multiple County departments to develop and evaluate the GHG reduction program. The following County staff and consultants were the primary staff involved in this effort for the County:

- ~~Jim Squire~~Christine Kelly, ~~Assistant~~ Director, Land Use Services Department
- Doug Feremenga, Project Manager
- Chris Warrick, Senior Planner
- Robin Cochran, Deputy County Counsel
- Staff from various County departments
- Randy Scott, Consultant to the County
- Michael Hendrix, ~~PBS &J~~Atkins, Consultant to the County
- Jim Squire, Former Assistant Director, Land Use Services Department
- Julie Rynerson-Rock, Former Land Use Services Director

# Update to Appendix F

UPDATE TO APPENDIX F

**THERE HAVE BEEN SUBSTANTIVE CHANGES TO APPENDIX F AND HAS BEEN REPLACED IN ITS ENTIRETY**

# GREENHOUSE GAS EMISSIONS

## Development Review Processes
## County of San Bernardino, California

August 2011

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# CONTENTS



# ATTACHMENTS



# TABLES

# Introduction

The San Bernardino County GHG Emissions Reduction Plan (GHG Plan) includes reducing 159,423 Metric Tons of Carbon Dioxide Equivalents ($MTCO_2e$) per year from new development by 2020 as compared to the 2020 unmitigated conditions.

Mitigation of GHG emissions impacts through the GHG Development Review Process (DRP) provides one of the most substantial reduction strategies for reducing external emissions. The DRP procedures for evaluating GHG impacts and determining significance for CEQA purposes will be streamlined by (1) applying a uniform set of performance standards to all development projects, and (2) utilizing Screening Tables to mitigate project GHG emissions. Projects will have the option of preparing a project-specific technical analysis to quantify and mitigate GHG emissions. A review standard of 3,000 $MTCO_2e$ per year will be used to identify projects that require the use of Screening Tables or a project-specific technical analysis to quantify and mitigate project emissions. The review standard of 3,000 $MTCO_2e$ per year and the performance standard are described in Attachment 1, and the Screening Tables & methodology are described in Attachment 2, the methodology for determining unmitigated and mitigated emission is described in Attachment 3.

As part of the implementation of the County GHG Plan, a uniform set of performance standards will be applied to development projects. These performance standards will be added to the County Development Code to ensure consistent application during development review. The complete Development Review Process, including the use of performance standards, for assessing and mitigating GHG emissions is outlined below.

a) County Performance Standards. All development projects, including those otherwise determined to be exempt from CEQA will be subject to applicable Development Code provisions, including the GHG performance standards, and state requirements, such as the California Building Code requirements for energy efficiency. With the application of the GHG performance standards, projects that are exempt from CEQA and small projects that do not exceed 3,000 $MTCO_2e$ PER YEAR will be considered to be consistent with the Plan and determined to have a less than significant individual and cumulative impact for GHG emissions. (See Attachment 1 hereto, for description of the performance standards and the methodology relating to the 3,000 $MTCO_2e$ per year level)

b) Regulatory Agency Performance Standards. When, and if, South Coast Air Quality Management District or Mojave Basin Air Quality Management District adopts standards, the County will consider such guidance and incorporate all applicable standards.

c) Projects Using Screening Table. For projects exceeding 3,000 $MTCO_2e$ per year of GHG emissions, the County will use Screening Tables as a tool to assist with calculating GHG reduction measures and the determination of a significance finding. Projects that garner a 100 or greater points would not require quantification of project specific GHG emissions. The point system was devised to ensure to Project compliance with the reduction measures in the GHG Plan such that the GHG emissions from new development, when considered together with those existing development, will allow the County to meet its 2020 target and support reductions in GHG emissions beyond 2020. Consistent with the CEQA Guidelines, such projects are consistent with the Plan and therefore will be determined to have a less than significant individual and cumulative impact for GHG emissions. (See Attachment 2 hereto, for a full description of the Screening Tables and methodology.)

d) Projects Not Using Screening Tables. Projects exceeding 3,000 MTY of GHG emissions that do not use the Screening Tables, will be required to quantify project-specific GHG emissions and achieve the equivalent level of GHG emissions efficiency as a 100-point project. Consistent with the CEQA Guidelines, such projects are consistent with the Plan and therefore will be determined to have a less than significant individual and cumulative impact for GHG emissions. (See Attachment 3 hereto for a description of this alternative GHG mitigation analysis and methodology.)

e) Residential Projects Located Outside City Sphere of Influence. Residential Projects (or mixed use projects with a residential component) in excess of 250 residential dwelling units that are located in unincorporated area not within a City Sphere of Influence (SOI) will not be eligible to use the Screening Tables or rely on the Plan for a determination of less than significant on individual or cumulative impact for GHG emissions. These projects must perform an independent project-specific evaluation of GHG emissions as described in Attachments 1 and 3 hereto, and present project-specific conclusions regarding significance of GHG emissions impacts. (See Attachments 1 and 3 hereto for a full description of the mitigation analysis and methodology for these projects.)

## Summary

In total, Projects that emit 3,000 $MTCO_2e$ or more per year are anticipated to reduce a total of approximately 150,600 $MTCO_2e$ per year as compared to the 2020 unmitigated scenario. To summarize the GHG Reductions:

| | |
|---|---|
| Performance Standards are expected to reduce | 5,282.3 $MTCO_2e$ per year |
| Small accessory renewable energy projects are expected to reduce | 8,628.0 $MTCO_2e$ per year |
| Projects demonstrating consistency with the GHG Plan will reduce | 150,600.0 $MTCO_2e$ per year |
| Total: | **164,510.3 $MTCO_2e$ per year** |

Note the anticipated reductions, including those attributable to small accessory renewable energy projects described in Attachment 4 hereto, exceed the GHG Plan reductions required for new development by approximately 5,088 $MTCO_2e$ per year.

# ATTACHMENT 1:

**a. Performance Standards**

**b. Projects Emitting 3,000 MTCO2e Per Year or Less**

**c. Residential Projects Outside of City Spheres of Influence**

# PERFORMANCE STANDARDS

The GHG reducing performance standards were developed by the County to improve the energy efficiency, water conservation, vehicle trip reduction potential, and other GHG reducing impacts from all new development approved within the unincorporated portions of San Bernardino County. As such, the following Performance Standards establish the minimum level of compliance that development must meet to assist in meeting the 2020 GHG reduction target identified in the in the County GHG Emissions Reduction Plan. These Performance Standards apply to all Projects, including those that are exempt under CEQA, and will be included as Conditions of Approval for development projects.

The following are the Performance Standards (Conditions of Approval) used for Industrial, Commercial and Residential projects in the County:

**COMMERCIAL AND INDUSTRIAL PROJECTS**

1. *GHG – Operational Standards. The developer shall implement the following as greenhouse gas (GHG) mitigation during the operation of the approved project:*
   *a) Waste Stream Reduction. The "developer" shall provide to all tenants and project employees County-approved informational materials about methods and need to reduce the solid waste stream and listing available recycling services.*
   b) Vehicle Trip Reduction. The "developer" shall provide to all tenants and project employees County-approved informational materials about the need to reduce vehicle trips and the program elements this project is implementing. Such elements may include: participation in established ride-sharing programs, creating a new ride-share employee vanpool, designating preferred parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading for ride sharing vehicles with benches in waiting areas, and/or providing a web site or message board for coordinating rides.
   c) Provide Educational Materials. The developer shall provide to all tenants and staff education materials and other publicity about reducing waste and available recycling services. The education and publicity materials/program shall be submitted to County Planning for review and approval. The developer shall also provide to all tenants and require that the tenants shall display in their stores current transit route information for the project area in a visible and convenient

location for employees and customers. The specific transit routes displayed shall include Omni Trans Route 8, San Bernardino-Mentone-Yucaipa.

d) Landscape Equipment. The developer shall require in the landscape maintenance contract and/or in onsite procedures that a minimum of 20% of the landscape maintenance equipment shall be electric-powered.

2. *GHG – Construction Standards. The "developer" shall submit for review and obtain approval from County Planning of a signed letter agreeing to include as a condition of all construction contracts/subcontracts requirements to reduce GHG emissions and submitting documentation of compliance. The developer/construction contractors shall do the following:*

*a) Implement the approved Coating Restriction Plans.*

*b) Select construction equipment based on low GHG emissions factors and high-energy efficiency. All diesel/gasoline-powered construction equipment shall be replaced, where possible, with equivalent electric or CNG equipment.*

*c) Grading contractor shall provide the implement the following when possible:*

1) training operators to use equipment more efficiently.
2) identifying the proper size equipment for a task can also provide fuel savings and associated reductions in GHG emissions
3) replacing older, less fuel-efficient equipment with newer models
*4)* use GPS for grading to maximize efficiency

*d) Grading plans shall include the following statements:*

- *"All construction equipment engines shall be properly tuned and maintained in accordance with the manufacturers specifications prior to arriving on site and throughout construction duration."*
- *"All construction equipment (including electric generators) shall be shut off by work crews when not in use and shall not idle for more than 5 minutes."*

e) *Schedule construction traffic ingress/egress to not interfere with peak-hour traffic and to minimize traffic obstructions. Queuing of trucks on and off site shall be firmly discouraged and not scheduled. A flagperson shall be retained to maintain efficient traffic flow and safety adjacent to existing roadways.*

*f) Recycle and reuse construction and demolition waste (e.g. soil, vegetation, concrete, lumber, metal, and cardboard) per County Solid Waste procedures.*

*g) The construction contractor shall support and encourage ridesharing and transit incentives for the construction crew and educate all construction workers about the required waste reduction and the availability of recycling services.*

3. *GHG – Design Standards. The developer shall submit for review and obtain approval from County Planning that the following measures have been incorporated into the design of the project. These are intended to reduce potential project greenhouse gas (GHGs) emissions. Proper installation of the approved design features and equipment shall be confirmed by County Building and Safety prior to final inspection of each structure.*

   a) *Title 24 + 5%. The Developer shall document that the design of the proposed structures exceeds the current Title 24 energy-efficiency requirements by a minimum of five percent. County Planning shall coordinate this review with the County Building and Safety. Any combination of the following design features may be used to fulfill this mitigation, provided that the total increase in efficiency meets or exceeds the cumulative goal (105%+ of Title 24) for the entire project (Title 24, Part 6 of the California Code of Regulations; Energy Efficiency Standards for Residential and Non Residential Buildings, as amended October 1, 2005; Cool Roof Coatings performance standards as amended September 11, 2006):*

      - *Incorporate dual paned or other energy efficient windows,*
      - *Incorporate energy efficient space heating and cooling equipment,*
      - *Incorporate energy efficient light fixtures, photocells, and motion detectors,*
      - *Incorporate energy efficient appliances,*
      - *Incorporate energy efficient domestic hot water systems,*
      - *Incorporate solar panels into the electrical system,*
      - *Incorporate cool roofs/light colored roofing,*
      - *Incorporate other measures that will increase energy efficiency.*
      - *Increase insulation to reduce heat transfer and thermal bridging.*
      - *Limit air leakage throughout the structure and within the heating and cooling distribution system to minimize energy consumption.*

   b) *Plumbing. All plumbing shall incorporate the following:*

      - *All showerheads, lavatory faucets, and sink faucets shall comply with the California Energy Conservation flow rate standards.*
      - *Low flush toilets shall be installed where applicable as specified in California State Health and Safety Code Section 17921.3.*
      - *All hot water piping and storage tanks shall be insulated. Energy efficient boilers shall be used.*

   c) *Lighting. Lighting design for building interiors shall support the use of:*

      - *Compact fluorescent light bulbs or equivalently efficient lighting.*

- *Natural day lighting through site orientation and the use of reflected light.*
- *Skylight/roof window systems.*
- *Light colored building materials and finishes shall be used to reflect natural and artificial light with greater efficiency and less glare.*
- *A multi-zone programmable dimming system shall be used to control lighting to maximize the energy efficiency of lighting requirements at various times of the day.*
- *Provide a minimum of 2.5 percent of the project's electricity needs by on-site solar panels.*

d) *Building Design. Building design and construction shall incorporate the following elements:*

- *Orient building locations to best utilize natural cooling/heating with respect to the sun and prevailing winds/natural convection to take advantage of shade, day lighting and natural cooling opportunities.*
- *Utilize natural, low maintenance building materials that do not require finishes and regular maintenance.*
- *Roofing materials shall have a solar reflectance index of 78 or greater.*
- *All supply duct work shall be sealed and leak-tested. Oval or round ducts shall be used for at least 75 percent of the supply duct work, excluding risers.*
- *Energy Star or equivalent appliances shall be installed.*
- *A building automation system including outdoor temperature/humidity sensors will control public area heating, vent, and air conditioning units*

e) *Landscaping. The developer shall submit for review and obtain approval from County Planning of landscape and irrigation plans that are designed to include drought tolerant and smog tolerant trees, shrubs, and groundcover to ensure the long-term viability and to conserve water and energy. The landscape plans shall include shade trees around main buildings, particularly along southern and western elevations, where practical.*

f) *Irrigation. The developer shall submit irrigation plans that are designed, so that all common area irrigation areas shall be capable of being operated by a computerized irrigation system, which includes either an on-site weather station, ET gauge or ET-based controller capable of reading current weather data and making automatic adjustments to independent run times for each irrigation valve based on changes in temperature, solar radiation, relative humidity, rain and wind. In addition, the computerized irrigation system shall be equipped with flow sensing capabilities, thus*

*automatically shutting down the irrigation system in the event of a mainline break or broken head. These features will assist in conserving water, eliminating the potential of slope failure due to mainline breaks and eliminating over-watering and flooding due to pipe and/or head breaks.*

g) *Recycling. Exterior storage areas for recyclables and green waste shall be provided. Where recycling pickup is available, adequate recycling containers shall be located in public areas. Construction and operation waste shall be collected for reuse and recycling.*

h) *Transportation Demand Management (TDM) Program. The project shall include adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience. Preferred carpool/vanpool spaces shall be provided and, if available, mass transit facilities shall be provided (e.g. bus stop bench/shelter). The developer shall demonstrate that the TDM program has been instituted for the project or that the buildings will join an existing program located within a quarter mile radius from the project site* that provides a cumulative 20% reduction in unmitigated employee commute trips*. The TDM Program shall publish ride-sharing information for ride-sharing vehicles and provide a website or message board for coordinating rides. The Program shall ensure that appropriate bus route information is placed in each building.*

4. *GHG – Installation/Implementation Standards. The developer shall submit for review and obtain approval from County Planning of evidence that all applicable GHG performance standards have been installed, implemented properly and that specified performance objectives are being met to the satisfaction of County Planning and County Building and Safety. These installations/ procedures include the following:*

   a) *Design features and/or equipment that cumulatively increases the overall compliance of the project to exceed Title 24 minimum standards by five percent.*

   b) *All interior building lighting shall support the use of fluorescent light bulbs or equivalent energy-efficient lighting.*

   c) *Installation of both the identified mandatory and optional design features or equipment that have been constructed and incorporated into the facility/structure.*

**RESIDENTIAL PROJECTS**

1. *GHG – Operational Standards. The developer shall implement the following as greenhouse gas (GHG) mitigation during the operation of the approved project:*
    a) *Waste Stream Reduction. The "developer" shall provide to all tenants and project employees County-approved informational materials about methods and need to reduce the solid waste stream and listing available recycling services.*
    b) Vehicle Trip Reduction. The "developer" shall provide to all tenants and homeowners County-approved informational materials about the need to reduce vehicle trips and the program elements this project is implementing. Such elements may include: participation in established ride-sharing programs, creating a new ride-share employee vanpool, and/or providing a web site or message board for coordinating rides.
    c) Provide Educational Materials. The developer shall provide to all tenants and employees education materials and about reducing waste and available recycling services. The education materials shall be submitted to County Planning for review and approval.
    d) Landscape Equipment. The developer shall require in the landscape maintenance contract and/or in onsite procedures that a minimum of 20% of the landscape maintenance equipment shall be electric-powered.

2. *GHG – Construction Standards. The developer shall submit for review and obtain approval from County Planning of a signed letter agreeing to include as a condition of all construction contracts/subcontracts requirements to reduce impacts to GHG and submitting documentation of compliance. The developer/construction contractors shall do the following:*
    a) *Implement both the approved Coating Restriction Plans.*
    b) *Select construction equipment based on low-emissions factors and high-energy efficiency. All diesel/gasoline-powered construction equipment shall be replaced, where possible, with equivalent electric or CNG equipment.*
    c) *Grading plans shall include the following statements:*
        - *"All construction equipment engines shall be properly tuned and maintained in accordance with the manufacturers specifications prior to arriving on site and throughout construction duration."*
        - *"All construction equipment (including electric generators) shall be shut off by work crews when not in use and shall not idle for more than 5 minutes."*

d) *Schedule construction traffic ingress/egress to not interfere with peak-hour traffic and to minimize traffic obstructions. Queuing of trucks on and off site shall be firmly discouraged and not scheduled. A flagperson shall be retained to maintain efficient traffic flow and safety adjacent to existing roadways.*

*e) Recycle and reuse construction and demolition waste (e.g. soil, vegetation, concrete, lumber, metal, and cardboard) per County Solid Waste procedures.*

*f) The construction contractor shall support and encourage ridesharing and transit incentives for the construction crew and educate all construction workers about the required waste reduction and the availability of recycling services.*

3. *<u>GHG – Design Standards</u>. The developer shall submit for review and obtain approval from County Planning that the following measures have been incorporated into the design of the project. These are to reduce potential project impacts on green house gases (GHGs): Proper installation of the approved design features and equipment shall be confirmed by County Building and Safety prior to final inspection of each structure.*

   *a) <u>Title 24 + 5%</u>. The Developer shall document that the design of the proposed structures exceeds the current Title 24 requirements by a minimum of five percent. County Planning shall coordinate this review with the County Building and Safety. Any combination of the following design features may be used to fulfill this mitigation, provided that the total increase in efficiency meets or exceeds the cumulative goal (105%+ of Title 24) for the entire project (Title 24, Part 6 of the California Code of Regulations; Energy Efficiency Standards for Residential and Non Residential Buildings, as amended October 1, 2005; Cool Roof Coatings performance standards as amended September 11, 2006):*

   - *Incorporate dual paned or other energy efficient windows,*
   - *Incorporate energy efficient space heating and cooling equipment,*
   - *Incorporate energy efficient light fixtures, photocells, and motion detectors,*
   - *Incorporate energy efficient appliances,*
   - *Incorporate energy efficient domestic hot water systems,*
   - *Incorporate solar panels into the electrical system,*
   - *Incorporate cool roofs/light colored roofing,*
   - *Incorporate other measures that will increase energy efficiency.*
   - *Increase insulation to reduce heat transfer and thermal bridging.*
   - *Limit air leakage throughout the structure and within the heating and cooling distribution system to minimize energy consumption.*

b) *Plumbing. All plumbing shall incorporate the following:*
   - *All showerheads, lavatory faucets, and sink faucets shall comply with the California Energy Conservation flow rate standards.*
   - *Low flush toilets shall be installed where applicable as specified in California State Health and Safety Code Section 17921.3.*
   - *All hot water piping and storage tanks shall be insulated. Energy efficient boilers shall be used.*
   - *If possible, utilize grey water systems and dual plumbing for recycled water.*

c) *Lighting. Lighting design for building interiors shall support the use of:*
   - *Compact fluorescent light bulbs or equivalently efficient lighting.*
   - *Natural day lighting through site orientation and the use of reflected light.*
   - *Skylight/roof window systems.*
   - *Light colored building materials and finishes shall be used to reflect natural and artificial light with greater efficiency and less glare.*
   - *A multi-zone programmable dimming system shall be used to control lighting to maximize the energy efficiency of lighting requirements at various times of the day.*
   - *The developer shall ensure that a minimum of 2.5 percent of the project's electricity needs is provided by on-site solar panels.*

d) *Building Design. Building design and construction shall incorporate the following elements:*
   - *Orient building locations to best utilize natural cooling/heating with respect to the sun and prevailing winds/natural convection to take advantage of shade, day lighting and natural cooling opportunities.*
   - *Utilize natural, low maintenance building materials that do not require finishes and regular maintenance..*
   - *Roofing materials shall have a solar reflectance index of 78 or greater.*
   - *All supply duct work shall be sealed and leak-tested. Oval or round ducts shall be used for at least 75 percent of the supply duct work, excluding risers.*
   - *Energy Star or equivalent equipment shall be installed.*
   - *A building automation system including outdoor temperature/humidity sensors will control public area heating, vent, and air conditioning units*

e) *Landscaping. The developer shall submit for review and obtain approval from County Planning of landscape and irrigation plans that are designed to include drought tolerant and smog tolerant trees, shrubs, and groundcover to ensure the*

*long-term viability and to conserve water and energy. The landscape plans shall include shade trees around main buildings, particularly along southern and western elevations, where practical.*

f) *Irrigation. The developer shall submit irrigation plans that are designed, so that all common area irrigation areas shall be capable of being operated by a computerized irrigation system, which includes either an on-site weather station, ET gauge or ET-based controller capable of reading current weather data and making automatic adjustments to independent run times for each irrigation valve based on changes in temperature, solar radiation, relative humidity, rain and wind. In addition, the computerized irrigation system shall be equipped with flow sensing capabilities, thus automatically shutting down the irrigation system in the event of a mainline break or broken head. These features will assist in conserving water, eliminating the potential of slope failure due to mainline breaks and eliminating over-watering and flooding due to pipe and/or head breaks.*

g) *Recycling. Exterior storage areas for recyclables and green waste shall be provided. Adequate recycling containers shall be located in public areas. Construction and operation waste shall be collected for reuse and recycling.*

h) *Transportation Demand Management (TDM) Program. The project shall include adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience. If available, mass transit facilities shall be provided (e.g. bus stop bench/shelter). The developer shall publish ride-sharing information for ride-sharing vehicles and provide a website or message board for coordinating rides. The Program shall ensure that appropriate bus route information is available to tenants and homeowners.*

4. *GHG – Installation/Implementation Standards. The developer shall submit for review and obtain approval from County Planning of evidence that all applicable GHG performance standards have been installed, implemented properly and that specified performance objectives are being met to the satisfaction of County Planning and County Building and Safety. These installations/ procedures include the following:*

   a) *Design features and/or equipment that cumulatively increases the overall compliance of the project to exceed Title 24 minimum standards by five percent.*

   b) *All interior building lighting shall support the use of fluorescent light bulbs or equivalent energy-efficient lighting.*

   c) *Installation of both the identified mandatory and optional design features or equipment that have been constructed and incorporated into the facility/structure.*

# 3,000 MTCO2e Emission Level

The County determined the size of development that is too small to be able to provide the level of GHG emission reductions expected from the Screening Tables or alternate emission analysis method (described in Attachment D) based upon the 90$^{th}$ percentile capture rate concept. To do this the County determined the GHG emission amount allowed by a project such that 90 percent of the emissions on average from projects would exceed that level and be "captured" by the Screening Table or alternate emission analysis method.

In determining this level of emissions the County used the database of Projects kept by the Governor's Office of Planning and Research (OPR). That database contained 798 Projects, 60 of which were extremely large General Plan Updates, Master Plans, or Specific Plan Projects. The 60 very large projects were removed from the database in order not to skew the emissions value, leaving a net of 738 Projects. In addition, 27 projects were found to be outliers that would skew the emission value to high, leaving 711 as the sample population to use in determining the 90$^{th}$ percentile capture rate. Note that while the OPR database is a statewide database and may not exactly reflect emissions within the County, this method was considered conservative because development projects within unincorporated San Bernardino County tend to have higher energy consumption rates and have longer commute distances than the statewide average. As such, using the statewide database may produce an emissions value for the 90$^{th}$ percentile capture rate that may capture more than 90 percent of emissions.

The analysis of the 738 Projects within the sample population combined commercial, residential, and mixed use projects. Also note that the sample of projects included warehousing and other industrial land uses but did not include industrial processes (i.e. oil refineries, heavy manufacturing, electric generating stations, mining operations, etc.). Emissions from each of these Projects were calculated by SCAQMD and provide a consistent method of emissions calculations across the sample population further reducing potential errors in the statistical analysis. In calculating the emissions from Projects within the sample population, construction period GHG emissions were amortized over 30-years (the average economic life of a development project). Direct GHG emissions were calculated using URBEMIS and indirect electricity/water use GHG emissions calculated separately and added to the URBEMIS output.

This analysis determined that the 90$^{th}$ percentile ranged from 2,983-3,143 $MTCO_2e$ per year. The **3,000 $MTCO_2e$ per year** value was chosen as the medial value within that range and is used in defining small projects that must include the Performance Standards as described in this Attachment B, but do not need to use the Screening Tables or alternative GHG mitigation analysis described in Attachment D. The database is summarized in the spreadsheet shown on the following pages.

Insert OPR Spreadsheet here

# Large Residential Projects Located Outside a City Sphere of Influence

Residential Projects outside of a City Sphere of Influence that exceed 250 residential units will be required to prepare a project-specific GHG emissions analysis that includes a robust assessment of emissions, appropriate mitigation measures, and the issues associated with land use intensification and VMT generation on a project and regional basis. The analysis must produce an assessment that allows for a determination of whether the specific project causes cumulatively considerable GHG impacts. Residential Projects outside of a City Sphere of Influence that exceed 250 residential units will not qualify for the tiering and streamlining benefits otherwise provided by this Plan as allowed by CEQA Guidelines Section 15183.5 due to the inability to adequately analyze and incorporate programmatic mitigation that comprehensively addresses the issues of GHG emissions for regionally significant residential projects beyond the 2020 analysis horizon. It is anticipated that upon completion of the Sustainable Communities Strategy (SCS) by Southern California Association of Governments (SCAG) and the Regional GHG Reduction Plan currently under preparation by the San Bernardino County Association of Governments (SANBAG), adequate methodology for quantification of regional VMT and more comprehensive mitigation will provide suitable planning tools that can be incorporated into this Plan through a future amendment. Both the SCS and the Regional GHG Reduction Plan are intended to satisfy the requirements of SB 375 and allow better forecasts of GHG emissions in future years, as well as providing a regional strategy for reducing GHG emissions. This provision provides a mechanism to ensure that these types of land use commitments outside of SOIs do not impede the expected emissions trajectory to mid-century and are not likely to conflict with the long term goal of GHG emissions reductions through 2050. This provision is an interim procedure that will be re-examined in a major Plan update and amendment anticipated to occur in 2015 following a new emissions inventory and incorporation of the SCS and Regional GHG reduction measures.

(Insert table here)

# ATTACHMENT 2:

## a. Screening Tables

## b. Methodology for the Development and Application of the Screening Tables

# Screening Tables

The purpose of the Screening Tables is to provide guidance in measuring the reduction of greenhouse gas emissions attributable to certain design and construction measures incorporated into development projects. The analysis, methodology is based upon the GHG Plan, which includes GHG emission inventories, a year 2020 emission reduction target, the goals and policies to reach the target, together with the Programmatic EIR prepared for the GHG Plan.

# Instructions for Residential, Commercial, or industrial Projects

The Screening Table assigns points for each option incorporated into a project as mitigation or a project design feature (collectively referred to as "feature"). The point values correspond to the minimum emissions reduction expected from each feature. The menu of features allows maximum flexibility and options for how development projects can implement the GHG reduction measures. Projects that garner at least 100 points will be consistent with the reduction quantities anticipated in the County's GHG Plan. As such, those projects that garner a total of 100 points or greater would not require quantification of project specific GHG emissions reductions. Consistent with CEQA Guidelines, such projects would be determined to have a less than significant individual and cumulative impact for GHG emissions.

# Instructions for Mixed Use Projects

Mixed use projects provide additional opportunities to reduce emissions by combining complimentary land uses in a manner that can reduce vehicle trips. Mixed use projects also have the potential to complement energy efficient infrastructure in a way that reduces emissions. For mixed use projects fill out both Screening Table 1 and Table 2, but proportion the points identical to the proportioning of the mix of uses. As an example, a mixed use project that is 50% commercial uses and 50% residential uses will show ½ point for each assigned point value in Table 1 and Table 2. Add the points from both tables. Mixed use projects that garner at least 100 points will be consistent with the reduction quantities in the County's GHG Plan and are considered less than significant for GHG emissions.

# Instructions for All Projects

Those Projects that garner 100 points using the Screening Tables have provided the “fair share” contribution of reductions and are considered consistent with the GHG Plan.

Those Projects that do not garner 100 points using the screening tables will need to provide additional analysis to determine the significance of GHG emissions. The following tables provide a menu of performance standards/options related to GHG mitigation measures and design features that can be used to demonstrate consistency with the reduction measures and GHG reduction quantities in the GHG Plan.

## Table 1: Screening Table for Implementation of GHG Reduction Measures for Residental Development

| Feature | Description | Assigned Point Values | Project Points |
|---|---|---|---|
| **Reduction Measure R2E6: Energy Efficiency for New Residential** | | | |
| **Building Envelope** | | | |
| Insulation | Title 24 standard (required) | 0 points | |
| | Modestly Enhanced Insulation (5% > Title 24) | 3 points | |
| | Enhanced Insulation (15%> Title 24) | 7 points | |
| | Greatly Enhanced Insulation (20%> Title 24) | 9 points | |
| Windows | Title 24 standard (required) | 0 points | |
| | Modestly Enhanced Window Insulation (5% > Title 24) | 3 points | |
| | Enhanced Window Insulation (15%> Title 24) | 7 points | |
| | Greatly Enhanced Window Insulation (20%> Title 24) | 9 points | |
| Doors | Title 24 standard (required) | 0 points | |
| | Modestly Enhanced Insulation (5% > Title 24) | 3 points | |
| | Enhanced Insulation (15%> Title 24) | 7 points | |
| | Greatly Enhanced Insulation (20%> Title 24) | 9 points | |
| Air Infiltration | Minimizing leaks in the building envelope is as important as the insulation properties of the building. Insulation does not work effectively if there is excess air leakage. | | |
| | Title 24 standard (required) | 0 points | |
| | Modest Building Envelope Leakage (5% > Title 24) | 3 points | |
| | Reduced Building Envelope Leakage (15%> Title 24) | 7 points | |
| | Minimum Building Envelope Leakage (20% > Title 24) | 9 points | |
| Thermal Storage of Building | Thermal storage is a design characteristic that helps keep a constant temperature in the building. Common thermal storage devices include strategically placed water filled columns, water storage tanks, and thick masonry walls. | | |
| | Thermal storage designed to reduce heating/cooling by 5$^{o}$F within the building | 5 points | |
| | Thermal storage to reduce heating/cooling by 10$^{o}$F within the building | 10 points | |
| | Note: Engineering details must be provided to substantiate the efficiency of the thermal storage device. | | |

| Feature | Description | Assigned Point Values | Project Points |
|---|---|---|---|
| **Indoor Space Efficiencies** | | | |
| Heating/ Cooling Distribution System | Title 24 standard (required) | 0 points | |
| | Modest Distribution Losses (5% > Title 24) | 3 points | |
| | Reduced Distribution Losses (15%> Title 24) | 7 points | |
| | Greatly Reduced Distribution Losses (20%> Title 24) | 9 points | |
| Space Heating/ Cooling Equipment | Title 24 standard (required) | 0 points | |
| | Efficiency HVAC (5% > Title 24) | 3 points | |
| | High Efficiency HBAC (15%> Title 24) | 7 points | |
| | Very High Efficiency HBAC (20%> Title 24) | 9 points | |
| **Building Envelope** | | | |
| Water Heaters | Title 24 standard (required) | 0 points | |
| | Efficiency Water Heater (Energy Star conventional that is 5% > Title 24) | 3 points | |
| | High Efficiency Water Heater (Conventional water heater that is 15%> Title 24) | 7 points | |
| | High Efficiency Water Heater (Conventional water heater that is 20%> Title 24) | 9 points | |
| | Solar Water Heating System (this option also implements R2E5) | 12 points | |
| Daylighting | Daylighting is the ability of each room within the building to provide outside light during the day reducing the need for artificial lighting during daylight hours. | | |
| | All peripheral rooms within the living space have at least one window (required) | 0 points | |
| | All rooms within the living space have daylight (through use of windows, solar tubes, skylights, etc.) such that each room has at least 800 lumens of light during a sunny day | 3 points | |
| | All rooms daylighted to at least 1,000 lumens | 5 points | |
| Artificial Lighting | Title 24 standard (required) | 0 points | |
| | Efficient Lights (5% > Title 24) | 3 points | |
| | High Efficiency Lights (LED, etc. 15%> Title 24) | 7 points | |
| | Very High Efficiency Lights (LED, etc. 20%> Title 24) | 9 points | |
| Appliances | Title 24 standard (required) | 0 points | |
| | Efficient Appliances (5% > Title 24) | 3 points | |
| | High Efficiency Energy Star Appliances (15%> Title 24) | 7 points | |
| | Very High Efficiency Appliances (20%> Title 24) | 9 points | |

| Feature | Description | Assigned Point Values | Project Points |
|---|---|---|---|
| **Miscellaneous Residential Building Efficiencies** | | | |
| Building Placement | North/South alignment of building or other building placement such that the orientation of the buildings optimizes natural heating, cooling, and lighting. | 3 point | |
| Independent Energy Efficiency Calculations | Provide point values based upon energy efficiency modeling of the Project. Note that engineering data will be required documenting the energy efficiency and point values based upon the proven efficiency beyond Title 24 Energy Efficiency Standards. | TBD | |
| Other | This allows innovation by the applicant to provide design features that increases the energy efficiency of the project not provided in the table. Note that engineering data will be required documenting the energy efficiency of innovative designs and point values given based upon the proven efficiency beyond Title 24 Energy Efficiency Standards. | TBD | |
| Existing Residential Retrofits | The applicant may wish to provide energy efficiency retrofit projects to existing residential dwelling units to further the point value of their project. Retrofitting existing residential dwelling units within the unincorporated County is a key reduction measure that is needed to reach the reduction goal. The potential for an applicant to take advantage of this program will be decided on a case by case basis and must have the approval of the San Bernardino County Land Use Services Department. The decision to allow applicants to ability to participate in this program will be evaluated based upon, but not limited to the following;<br>Will the energy efficiency retrofit project benefit low income or disadvantaged residents?<br>Does the energy efficiency retrofit project fit within the overall assumptions in Reduction Measure R2E3?<br>Does the energy efficiency retrofit project provide co-benefits important to the County?<br>Point value will be determined based upon engineering and design criteria of the energy efficiency retrofit project. | TBD | |
| **Reduction Measure R2E8: New Home Renewable Energy** | | | |
| Photovoltaic | Solar Photovoltaic panels installed on individual homes or in collective neighborhood arrangements such that the total power provided augments: | | |
| | Solar Ready Homes (sturdy roof and electric hookups) | 2 points | |
| | 10 percent of the power needs of the project | 7 points | |
| | 20 percent of the power needs of the project | 12 points | |
| | 30 percent of the power needs of the project | 17 points | |
| | 40 percent of the power needs of the project | 23 points | |
| | 50 percent of the power needs of the project | 28 points | |
| | 60 percent of the power needs of the project | 34 points | |
| | 70 percent of the power needs of the project | 40 points | |
| | 80 percent of the power needs of the project | 46 points | |
| | 90 percent of the power needs of the project | 52 points | |
| | 100 percent of the power needs of the project | 58 points | |

| Feature | Description | Assigned Point Values | Project Points |
|---|---|---|---|
| Wind turbines | Some areas of the County lend themselves to wind turbine applications. Analysis of the areas capability to support wind turbines should be evaluated prior to choosing this feature.<br>Individual wind turbines at homes or collective neighborhood arrangements of wind turbines such that the total power provided augments: | | |
| | 10 percent of the power needs of the project | 7 points | |
| | 20 percent of the power needs of the project | 12 points | |
| | 30 percent of the power needs of the project | 17 points | |
| | 40 percent of the power needs of the project | 23 points | |
| | 50 percent of the power needs of the project | 28 points | |
| | 60 percent of the power needs of the project | 34 points | |
| | 70 percent of the power needs of the project | 40 points | |
| | 80 percent of the power needs of the project | 46 points | |
| | 90 percent of the power needs of the project | 52 points | |
| | 100 percent of the power needs of the project | 58 points | |
| Off-site renewable energy project | The applicant may submit a proposal to supply an off-site renewable energy project such as renewable energy retrofits of existing homes that will help implement R2E6, or the Warehouse Renewable Energy Incentive Program (R2E3).<br>These off-site renewable energy retrofit project proposals will be determined on a case by case basis and must be accompanied by a detailed plan that documents the quantity of renewable energy the proposal will generate. Point values will be determined based upon the energy generated by the proposal. | TBD | |
| Other Renewable Energy Generation | The applicant may have innovative designs or unique site circumstances (such as geothermal) that allow the project to generate electricity from renewable energy not provided in the table. The ability to supply other renewable energy and the point values allowed will be decided based upon engineering data documenting the ability to generate electricity. | TBD | |
| **Reduction Measure R2WC1: Per Capita Water Use Reduction Goal** | | | |
| **Irrigation and Landscaping** | | | |
| Water Efficient Landscaping | Limit conventional turf to < 20% of each lot (required) | 0 points | |
| | Eliminate conventional turf from landscaping | 3 points | |
| | Eliminate turf and only provide drought tolerant plants | 4 points | |
| | Xeroscaping that requires no irrigation | 6 points | |

| Feature | Description | Assigned Point Values | Project Points |
|---|---|---|---|
| Water Efficient irrigation systems | Drip irrigation<br>Smart irrigation control systems combined with drip irrigation (demonstrate 20 reduced water use) | 1 point<br>5 points | |
| Recycled Water | Graywater (purple pipe) irrigation system on site | 5 points | |
| Storm water Reuse Systems | Innovative on-site stormwater collection, filtration and reuse systems are being developed that provide supplemental irrigation water and provide vector control. These systems can greatly reduce the irrigation needs of a project. Point values for these types of systems will be determined based upon design and engineering data documenting the water savings. | TBD | |
| **Potable Water** | | | |
| Showers | Title 24 standard (required)<br>EPA High Efficiency Showerheads (15% > Title 24) | 0 points<br>3 points | |
| Toilets | Title 24 standard (required)<br>EPA High Efficiency Toilets (15% > Title 24) | 0 points<br>3 points | |
| Faucets | Title 24 standard (required)<br>EPA High Efficiency faucets (15% > Title 24) | 0 points<br>3 points | |
| **Reduction Measure R2T5: Renewable Fuel/Low Emissions Vehicles** | | | |
| Electric Vehicle Recharging | Provide circuit and capacity in garages of residential units for installation of electric vehicle charging stations<br>Install electric vehicle charging stations in the garages of residential units | 1 point<br>8 points | |
| **Reduction Measure R2T7: Bicycle/Pedestrian Infrastructure** | | | |
| Sidewalks | Provide sidewalks on one side of the street (required)<br>Provide sidewalks on both sides of the street<br>Provide pedestrian linkage between residential and commercial uses within 1 mile | 0 points<br>1 point<br>3 points | |
| Bicycle paths | Provide bicycle paths within project boundaries<br>Provide bicycle path linkages between residential and other land uses<br>Provide bicycle path linkages between residential and transit | TBD<br>2 points<br>5 points | |

| Feature | Description | Assigned Point Values | Project Points |
|---|---|---|---|
| **Reduction Measure R2T6: Vehicle Trip Reduction Measures** | | | |
| Mixed Use | Mixes of land uses that complement one another in a way that reduces the need for vehicle trips can greatly reduce GHG emissions. The point value of mixed use projects will be determined based upon a TIA demonstrating trip reductions and/or reductions in vehicle miles traveled. Suggested ranges:<br>Diversity of land uses complementing each other (2-28 points)<br>Increased destination accessibility other than transit (1-18 points)<br>Increased transit accessibility (1-25 points)<br>Infill location that reduces vehicle trips or VMT beyond the measures described above (points TBD based on traffic data). | TBD | |
| Residential Near Local Retail (Residential only Projects) | Having residential developments within walking and biking distance of local retail helps to reduce vehicle trips and/or vehicle miles traveled.<br>The point value of residential projects in close proximity to local retail will be determined based upon traffic studies that demonstrate trip reductions and/or reductions in vehicle miles traveled (VMT) | TBD | |
| Other Trip Reduction Measures | Other trip or VMT reduction measures not listed above with TIA and/or other traffic data supporting the trip and/or VMT for the project. | TBD | |
| **Reduction Measure R2W5: Construction and Demolition Debris Diversion Program** | | | |
| Recycling of Construction/ Demolition Debris | Recycle 2% of debris (required)<br>Recycle 5% of debris<br>Recycle 8 % of debris<br>Recycle 10% of debris<br>Recycle 12% of debris<br>Recycle 15% of debris<br>Recycle 20% of debris | 0 points<br>1 point<br>2 points<br>3 points<br>4 points<br>5 points<br>6 points | |
| **Reduction Measure R2W6: 75 Percent Solid Waste Diversion Program** | | | |
| Recycling | County initiated recycling program diverting 75% of waste requires coordination in neighborhoods to realize this goal. The following recycling features will help the County fulfill this goal:<br>Provide greenwaste composing bins at each residential unit<br>Multi-family residential projects that provide dedicated recycling bens separated by types of recyclables combined with instructions/education program explaining how to use the bens and the importance or recycling. | <br>3 points<br>2 points | |
| **Total Points Earned by Residential Project:** | | | |

## Table 2: Screening Table for Implementation of GHG Reduction Measures for Commercial Development

| Feature | Description | Assigned Point Values | Project Points |
|---|---|---|---|
| **Reduction Measure R2E7: Energy Efficiency for Commercial Development** | | | |
| **Building Envelope** | | | |
| Insulation | Title 24 standard (required) | 0 points | |
| | Modestly Enhanced Insulation (5% > Title 24) | 4 points | |
| | Enhanced Insulation (15%> Title 24) | 8 points | |
| | Greatly Enhanced Insulation (20%> Title 24) | 12 points | |
| Windows | Title 24 standard (required) | 0 points | |
| | Modestly Enhanced Window Insulation (5% > Title 24) | 4 points | |
| | Enhanced Window Insulation (15%> Title 24) | 8 points | |
| | Greatly Enhanced Window Insulation (20%> Title 24) | 12 points | |
| Doors | Title 24 standard (required) | 0 points | |
| | Modestly Enhanced Insulation (5% > Title 24) | 4 points | |
| | Enhanced Insulation (15%> Title 24) | 8 points | |
| | Greatly Enhanced Insulation (20%> Title 24) | 12 points | |
| Air Infiltration | Minimizing leaks in the building envelope is as important as the insulation properties of the building. Insulation does not work effectively if there is excess air leakage. | | |
| | Title 24 standard (required) | 0 points | |
| | Modest Building Envelope Leakage (5% > Title 24) | 4 points | |
| | Reduced Building Envelope Leakage (15%> Title 24) | 8 points | |
| | Minimum Building Envelope Leakage (20% > Title 24) | 12 points | |
| Thermal Storage of Building | Thermal storage is a design characteristic that helps keep a constant temperature in the building. Common thermal storage devices include strategically placed water filled columns, water storage tanks, and thick masonry walls. | | |
| | Thermal storage designed to reduce heating/cooling by 5$^{o}$F within the building | 6 points | |
| | Thermal storage to reduce heating/cooling by 10$^{o}$F within the building | 12 points | |
| | Note: Engineering details must be provided to substantiate the efficiency of the thermal storage device. | | |

| Feature | Description | Assigned Point Values | Project Points |
|---|---|---|---|
| **Indoor Space Efficiencies** | | | |
| Heating/ Cooling Distribution System | Title 24 standard (required) | 0 points | |
| | Modest Distribution Losses (5% > Title 24) | 4 points | |
| | Reduced Distribution Losses (15%> Title 24) | 8 points | |
| | Greatly Reduced Distribution Losses (15%> Title 24) | 12 points | |
| Space Heating/ Cooling Equipment | Title 24 standard (required) | 0 points | |
| | Efficiency HVAC (5% > Title 24) | 4 points | |
| | High Efficiency HBAC (15%> Title 24) | 8 points | |
| | Very High Efficiency HBAC (20%> Title 24) | 12 points | |
| **Building Envelope** | | | |
| Commercial Heat Recovery Systems | Heat recovery strategies employed with commercial laundry, cooking equipment, and other commercial heat sources for reuse in HVAC air intake or other appropriate heat recovery technology. Point values for these types of systems will be determined based upon design and engineering data documenting the energy savings. | TBD | |
| Water Heaters | Title 24 standard (required) | 0 points | |
| | Efficiency Water Heater (Energy Star conventional that is 5% > Title 24) | 4 points | |
| | High Efficiency Water Heater (Conventional water heater that is 15%> Title 24) | 8 points | |
| | High Efficiency Water Heater (Conventional water heater that is 20%> Title 24) | 12 points | |
| | Solar Water Heating System (commercial only-this reduction feature also implements R2E10 | 14 points | |
| Daylighting | Daylighting is the ability of each room within the building to provide outside light during the day reducing the need for artificial lighting during daylight hours. | | |
| | All peripheral rooms within building have at least one window or skylight | 1 points | |
| | All rooms within building have daylight (through use of windows, solar tubes, skylights, etc.) such that each room has at least 800 lumens of light during a sunny day | 5 points | |
| | All rooms daylighted to at least 1,000 lumens | 7 points | |
| Artificial Lighting | Title 24 standard (required) | 0 points | |
| | Efficient Lights (5% > Title 24) | 4 points | |
| | High Efficiency Lights (LED, etc. 15%> Title 24) | 6 points | |
| | Very High Efficiency Lights (LED, etc. 20%> Title 24) | 8 points | |

| Feature | Description | Assigned Point Values | Project Points |
|---|---|---|---|
| Appliances | Title 24 standard (required)<br>Efficient Appliances (5% > Title 24)<br>High Efficiency Energy Star Appliances (15%> Title 24)<br>Very High Efficiency Appliances (20%> Title 24) | 0 points<br>4 points<br>8 points<br>12 points | |
| **Miscellaneous Commercial Building Efficiencies** | | | |
| Building Placement | North/South alignment of building or other building placement such that the orientation of the buildings optimizes conditions for natural heating, cooling, and lighting. | 4 point | |
| Other | This allows innovation by the applicant to provide design features that increases the energy efficiency of the project not provided in the table. Note that engineering data will be required documenting the energy efficiency of innovative designs and point values given based upon the proven efficiency beyond Title 24 Energy Efficiency Standards. | TBD | |
| Existing Commercial building Retrofits | The applicant may wish to provide energy efficiency retrofit projects to existing residential dwelling units to further the point value of their project. Retrofitting existing commercial buildings within the unincorporated County is a key reduction measure that is needed to reach the reduction goal. The potential for an applicant to take advantage of this program will be decided on a case by case basis and must have the approval of the San Bernardino County Land Use Services Department. The decision to allow applicants to ability to participate in this program will be evaluated based upon, but not limited to the following:<br>Will the energy efficiency retrofit project benefit low income or disadvantaged communities?<br>Does the energy efficiency retrofit project fit within the overall assumptions in Reduction Measure R2E4?<br>Does the energy efficiency retrofit project provide co-benefits important to the County?<br>Point value will be determined based upon engineering and design criteria of the energy efficiency retrofit project. | TBD | |

| Feature | Description | Assigned Point Values | Project Points |
|---|---|---|---|
| **Reduction Measure R2E9 and R2E10: New Commercial/Industrial Renewable Energy** | | | |
| Photovoltaic | Solar Photovoltaic panels installed on commercial buildings or in collective arrangements within a commercial development such that the total power provided augments: | | |
| | Solar Ready Roofs (sturdy roof and electric hookups) | 2 points | |
| | 10 percent of the power needs of the project | 7 points | |
| | 20 percent of the power needs of the project | 13 points | |
| | 30 percent of the power needs of the project | 19 points | |
| | 40 percent of the power needs of the project | 25 points | |
| | 50 percent of the power needs of the project | 31 points | |
| | 60 percent of the power needs of the project | 37 points | |
| | 70 percent of the power needs of the project | 43 points | |
| | 80 percent of the power needs of the project | 49 points | |
| | 90 percent of the power needs of the project | 55 points | |
| | 100 percent of the power needs of the project | 60 points | |
| Wind turbines | Some areas of the County lend themselves to wind turbine applications. Analysis of the areas capability to support wind turbines should be evaluated prior to choosing this feature. Wind turbines as part of the commercial development such that the total power provided augments: | | |
| | 10 percent of the power needs of the project | 7 points | |
| | 20 percent of the power needs of the project | 13 points | |
| | 30 percent of the power needs of the project | 19 points | |
| | 40 percent of the power needs of the project | 25 points | |
| | 50 percent of the power needs of the project | 31 points | |
| | 60 percent of the power needs of the project | 37 points | |
| | 70 percent of the power needs of the project | 43 points | |
| | 80 percent of the power needs of the project | 49 points | |
| | 90 percent of the power needs of the project | 55 points | |
| | 100 percent of the power needs of the project | 60 points | |
| Off-site renewable energy project | The applicant may submit a proposal to supply an off-site renewable energy project such as renewable energy retrofits of existing residential that will help implement R2E1, existing commercial/industrial that will help implement R2E2, or the Warehouse Renewable Energy Incentive Program (R2E4). These off-site renewable energy retrofit project proposals will be determined on a case by case basis accompanied by a detailed plan documenting the quantity of renewable energy the proposal will generate. Point values will be based upon the energy generated by the proposal. | TBD | |

| Feature | Description | Assigned Point Values | Project Points |
|---|---|---|---|
| Other Renewable Energy Generation | The applicant may have innovative designs or unique site circumstances (such as geothermal) that allow the project to generate electricity from renewable energy not provided in the table. The ability to supply other renewable energy and the point values allowed will be decided based upon engineering data documenting the ability to generate electricity. | TBD | |
| **Reduction Measure R2E7: Warehouse Renewable Energy Incentive Program** | | | |
| Warehouse Photovoltaic | This measure is for warehouse projects and involves partnership with Sothern California Edison and California Public Utilities Commissions to develop an incentive program for solar installation on new and retrofit existing warehouses. A mandatory minimum solar requirement for new warehouse space. Solar Photovoltaic panels installed on warehouses or in collective arrangements within a logistics/warehouse complex such that the total power provided augments: | | |
| | Solar Ready Roof (sturdy roof and electric hookups) | 2 points | |
| | 10 percent of the power needs of the project | 4 points | |
| | 20 percent of the power needs of the project | 5 points | |
| | 30 percent of the power needs of the project | 7 points | |
| | 40 percent of the power needs of the project | 9 points | |
| | 50 percent of the power needs of the project | 11 points | |
| | 60 percent of the power needs of the project | 13 points | |
| | 70 percent of the power needs of the project | 15 points | |
| | 80 percent of the power needs of the project | 17 points | |
| | 90 percent of the power needs of the project | 19 points | |
| | 100 percent of the power needs of the project | 21 points | |
| **Reduction Measure R2WC-1: Per Capita Water Use Reduction Goal** | | | |
| **Irrigation and Landscaping** | | | |
| Water Efficient Landscaping | Limit conventional turf to < 20% of each lot (required) | 0 points | |
| | Eliminate conventional turf from landscaping | 3 points | |
| | Eliminate turf and only provide drought tolerant plants | 4 points | |
| | Xeroscaping that requires no irrigation | 6 points | |
| Water Efficient irrigation systems | Drip irrigation | 1 point | |
| | Smart irrigation control systems combined with drip irrigation (demonstrate 20 reduced water use) | 5 points | |
| Recycled Water | Graywater (purple pipe) irrigation system on site | 5 points | |

| Feature | Description | Assigned Point Values | Project Points |
|---|---|---|---|
| Storm water Reuse Systems | Innovative on-site stormwater collection, filtration and reuse systems are being developed that provide supplemental irrigation water and provide vector control. These systems can greatly reduce the irrigation needs of a project. Point values for these types of systems will be determined based upon design and engineering data documenting the water savings. | TBD | |
| **Potable Water** | | | |
| Showers | Title 24 standard (required)<br>EPA High Efficiency Showerheads (15% > Title 24) | 0 points<br>3 points | |
| Toilets | Title 24 standard (required)<br>EPA High Efficiency Toilets/Urinals (15% > Title 24)<br>Waterless Urinals (note that commercial buildings having both waterless urinals and high efficiency toilets will have a combined point value of 6 points) | 0 points<br>3 points<br>3 points | |
| Faucets | Title 24 standard (required)<br>EPA High Efficiency faucets (15% > Title 24) | 0 points<br>3 points | |
| Commercial Dishwashers | Title 24 standard (required)<br>EPA High Efficiency dishwashers (20% water savings) | 0 points<br>4 points | |
| Commercial Laundry Washers | Title 24 standard (required)<br>EPA High Efficiency laundry (15% water savings)<br>EPA High Efficiency laundry Equipment that captures and reuses rinse water (30% water savings) | 0 points<br>3 points<br>6 points | |
| Commercial Water Operations Program | Establish an operational program to reduce water loss from pools, water features, etc., by covering pools, adjusting fountain operational hours, and using water treatment to reduce draw down and replacement of water. Point values for these types of plans will be determined based upon design and engineering data documenting the water savings. | TBD | |
| **Reduction Measure R2T1: Anti-Idling Enforcement** | | | |
| Commercial Vehicle Idling Restrictions | All commercial vehicles are restricted to 5-minutes or less per trip on site and at loading docks (required of all commercial projects) | 1 point | |

| Feature | Description | Assigned Point Values | Project Points |
|---|---|---|---|
| **Reduction Measure R2T2: Employment Based Trip and VMT Reduction Policy** | | | |
| Compressed Work Week | Reduce the number of days per week that employees need to be on site will reduce the number of vehicle trips associated with commercial/industrial development. Compressed work week such that full time employees are on site: | | |
| | 5 days per week | 0 points | |
| | 4 days per week on site | 4 points | |
| | 3 days per week on site | 8 points | |
| Car/Vanpools | Car/vanpool program | 1 point | |
| | Car/vanpool program with preferred parking | 2 points | |
| | Car/vanpool with guaranteed ride home program | 3 points | |
| | Subsidized employee incentive car/vanpool program | 5 points | |
| | Combination of all the above | 6 points | |
| Employee Bicycle/ Pedestrian Programs | Complete sidewalk to residential within ½ mile | 1 point | |
| | Complete bike path to residential within 3 miles | 1 point | |
| | Bike lockers and secure racks | 1 point | |
| | Showers and changing facilities | 2 points | |
| | Subsidized employee walk/bike program | 3 points | |
| | Note combine all applicable points for total value | | |
| Shuttle/Transit Programs | Local transit within ¼ mile | 1 point | |
| | Light rail transit within ½ mile | 3 points | |
| | Shuttle service to light rail transit station | 5 points | |
| | Guaranteed ride home program | 1 points | |
| | Subsidized Transit passes | 2 points | |
| | Note combine all applicable points for total value | | |
| CRT | Employer based Commute Trip Reduction (CRT). CRTs apply to commercial, offices, or industrial projects that include a reduction of vehicle trip or VMT goal using a variety of employee commutes trip reduction methods. The point value will be determined based upon a TIA that demonstrates the trip/VMT reductions. Suggested point ranges:<br>Incentive based CRT Programs (1-8 points)<br>Mandatory CRT programs (5-20 points) | TBD | |
| Other Trip Reductions | Other trip or VMT reduction measures not listed above with TIA and/or other traffic data supporting the trip and/or VMT for the project. | TBD | |

| Feature | Description | Assigned Point Values | Project Points |
|---|---|---|---|
| **Reduction Measure R2T4: Signal Synchronization and Intelligent Traffic Systems** | | | |
| Signal improvements | Signal synchronization-1 point per signal<br>Traffic signals connected to ITS | 1 point/signal<br>3 points/ signal | |
| **Reduction Measure R2T5: Renewable Fuel/Low Emissions Vehicles** | | | |
| Electric Vehicle Recharging | Provide circuit and capacity in garages/parking areas for installation of electric vehicle charging stations.<br>Install electric vehicle charging stations in garages/parking areas | 2 points/area<br>8 points/station | |
| **Reduction Measure R2T6: Vehicle Trip Reduction Measures** | | | |
| Mixed Use | Mixes of land uses that complement one another in a way that reduces the need for vehicle trips can greatly reduce GHG emissions. The point value of mixed use projects will be determined based upon traffic studies that demonstrate trip reductions and/or reductions in vehicle miles traveled | TBD | |
| Local Retail Near Residential (Commercial only Projects) | Having residential developments within walking and biking distance of local retail helps to reduce vehicle trips and/or vehicle miles traveled.<br>The point value of residential projects in close proximity to local retail will be determined based upon traffic studies that demonstrate trip reductions and/or reductions in vehicle miles traveled | TBD | |
| **Reduction Measure R2W5: Construction and Demolition Debris Diversion Program** | | | |
| Recycling of Construction/ Demolition Debris | Recycle 2% of debris (required)<br>Recycle 5% of debris<br>Recycle 8 % of debris<br>Recycle 10% of debris<br>Recycle 12% of debris<br>Recycle 15% of debris<br>Recycle 20% of debris | 0 points<br>1 point<br>2 points<br>3 points<br>4 points<br>5 points<br>6 points | |
| **Reduction Measure R2W6: 75 Percent Solid Waste Diversion Program** | | | |
| Recycling | County initiated recycling program diverting 75% of waste requires coordination with commercial development to realize this goal. The following recycling features will help the County fulfill this goal:<br>Provide separated recycling bins within each commercial building/floor and provide large external recycling collection bins at central location for collection truck pick-up<br>Provide commercial/industrial recycling programs that fulfills an on-site goal of 75% diversion of solid waste | <br>2 points<br>5 points | |
| **Total Points Earned by Commercial/Industrial Project:** | | | |

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# METHODS SUMMARY FOR SCREENING TABLES

The point values in the Screening Tables were derived from the projected emissions reductions that each of the R2 reduction measures within the San Bernardino County GHG Reduction Plan (GHG Plan) would achieve. The GHG Plan shows the reduced emissions for each of the reduction measures in aggregate terms, meaning that the total emission reductions afforded each measure is based on both changes in existing land use activities as well as how new development is designed and built. In order to correctly allocate the emission reductions within the Screening Table, the amount of emission reductions afforded new development had to be segregated out of the aggregate total in a manner that is described below. Once the process of segregating new development out of the aggregate reduction totals was completed, the points were then proportion by residential unit or square feet of commercial/industrial uses. This was accomplished by taking the predicted growth in households and commercial/industrial uses by the year 2020 and assigned the appropriate proportion of the total R2 reduction quantities for new development to the residential, commercial, and industrial land use sectors within the Screening Table. The result is point values that are allocated by residential unit or commercial/industrial square footage (measured in 1000 sq.ft.). Because of this, the size of the project is not relevant to the Screening Table. Regardless of size, each project needs to acheive 100 points to demonstrate consistency with the GHG Plan. Efficiency, not size of the Project is critical. The following emission factor can be used in determining the amount of emissions reduced per point in the Screening Table:

The respective calculated emission values are in metric tons of carbon dioxide equivalents (MTCO2e)

For Residential Projects:

**0.092 MTCO2e per Point per Residential Unit**

For Commercial and Industrial Projects:

**0.691 MTCO2e per Point per 1,000 Square Feet of gross Commercial/Industrial building area**

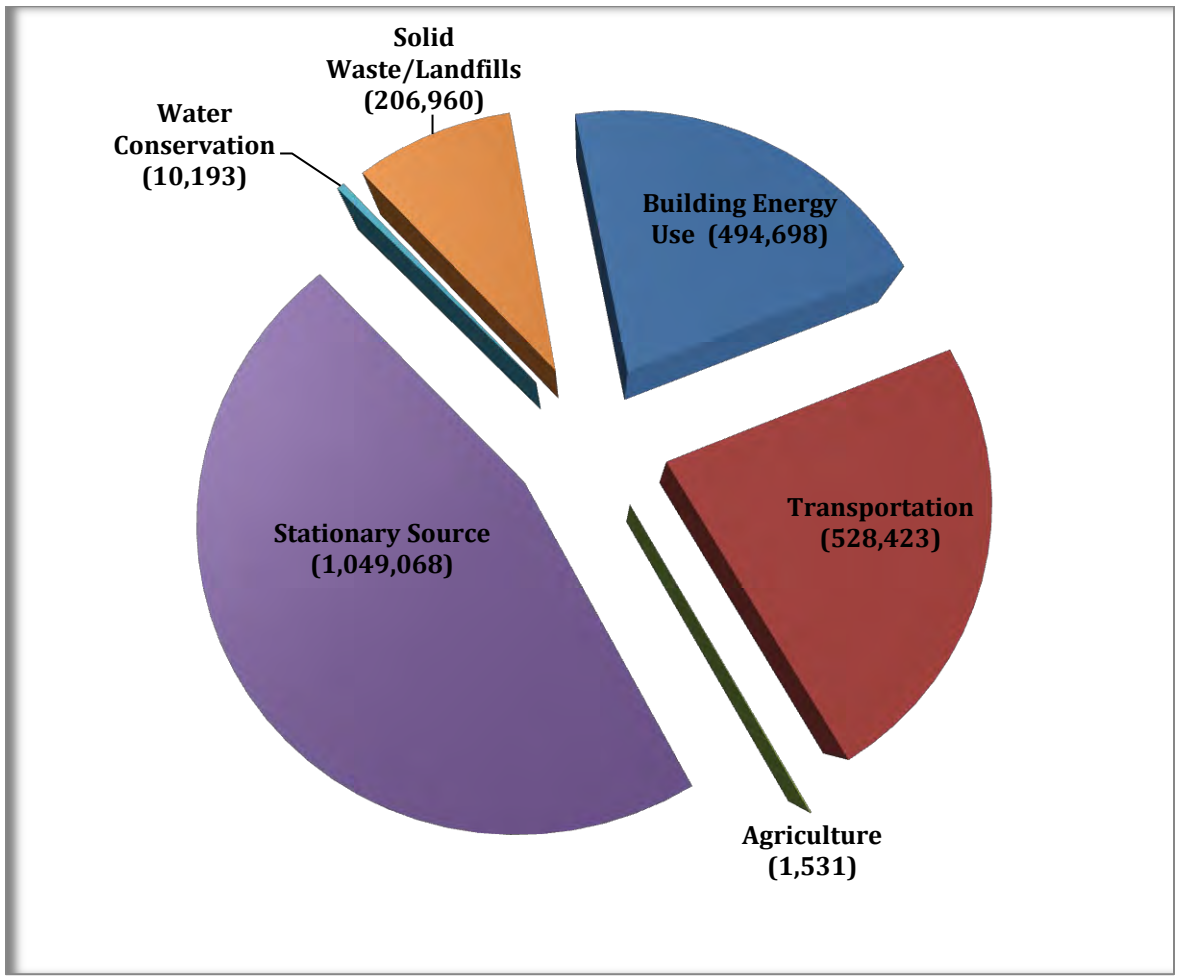
Note that the Screening Table and point values are best used for typical development projects processed by the County. Examples of typical development projects include residential subdivisions, multi-family residential apartments, condominiums and townhouses, retail commercial, big box retail, office buildings, business parks, and typical warehousing. Mixed use projects can use the Screening Tables following the instructions. Transit oriented development (TOD), and infill projects are able to use the Screening Tables, but the Screening Table points are likely to underestimate total emission reductions afforded these types of projects. Note that the Screening Tables include the opportunity to custom develop points (using the factors above) in order to account for the predicted reductions in vehicle trips and vehicle miles traveled within a project specific traffic study and GHG analysis. TOD and infill projects can be more accurately assessed and allocated points using this method.

However, more unusual types of industrial projects such as cement manufacturing, metal foundries, refrigerant manufacturing, electric generating stations, and oil refineries cannot use the Screening Tables because the emission sources for those types of uses were not contemplated in the table.

# DEVELOPMENT OF THE POINT VALUES

The first step in developing the point system was the need to determine the total reductions afforded the GHG Plan. Figure 1 below shows the total emission reductions achieved by the GHG Plan. In total 2,290,874MMTCO2e will be reduced as a result of the GHG Plan.

**Figure 1**




The next step in developing the point system is to segregate out the State efforts in reducing GHG emissions within the County. Table 1 shows the reductions allocated to State measures and County strategies.

## Table 1

| Sector | 2020 Reduction ($MTCO_2e$) | | |
|---|---|---|---|
| | State Strategies | County Strategies | Total |
| Building Energy -Energy Efficiency and Alternative Energy | 335,246 | 159,452 | 494,699 |
| Transportation and Land Use | 486,157 | 42,266 | 528,423 |
| Solid Waste/Landfills | 0 | 206,960 | 206,960 |
| Stationary Source | 1,049,068 | 0 | 1,049,068 |
| Agriculture & Resource Conservation | 1,531 | 0 | 1,531 |
| Water Conservation | 10,193 | 0 | 10,193 |
| **Total** | **1,882,195** | **408,678** | **2,290,874** |

As shown in Table 1, 408,678 MMTCO2e are reduced by the County's R2 measures. This amount includes reductions afforded existing building retrofits, other changes to activities associated with existing land uses, as well as reductions associated with new development.

The next step is to segregate out of the County strategies total the amount of emissions that will be reduced within new development.

Table 2 on the next page summarizes the reduction in emissions afforded new development from the R2 measures. Table 2 shows 159,423 MTCO2e being reduced from new development as a result of the County strategies (R2 measures in the GHG Plan). Within the 138,377 MTCO2e of new development reductions afforded County strategies, 117,385 MTCO2e of emissions reduced is accomplished through new Commercial and Industrial Projects, and 42,038 MTCO2e of emissions reduced is accomplished through new residential projects.

The County predicts that 5,083 new residential units will be needed by 2020 to accommodate the population growth by 2020 and 18,873 new jobs will be generated due to growth. A total of approximately 1,887,300 square feet of new commercial and industrial buildings within the unincorporated County area is needed to accommodate anticipated job growth. This estimate is based on the relationship between past growth in employment to the average growth in commercial/industrial building area for San Bernardino County.

Dividing the 42,038 MTCO2e reductions of emissions afforded the R2 measures for new residential development by the anticipated net of 4,575 new residential units that will be built yields 9.2 MTCO2e per residential unit that needs to be reduced to fulfill the anticipated reductions of the GHG Plan. That amount equals 100 points, producing the following equation for the point value:

**0.083 MTCO2e per Point per Residential Unit**

A similar process was used to derive the point value for new commercial/Industrial development dividing 117,384.9 MTCO2e reductions of emissions afforded the R2 measures for new commercial/industrial development by the anticipated net of 1,698,570 square feet of new commercial/industrial buildings that will be built yields 6.91 MTCO2e per 100 square feet of building. That amount equals 100 points, producing the following equation for the point value:

**0.0691 MTCO2e per Point per 100 Square Feet** of gross building area. Because commercial/industrial land uses are typically described in thousand square feet of building space, the point value was converted as follows: **0.691 MTCO2e per 1,000 Sq. Ft. of gross Commercial/Industrial building area.**

The final step was to allocate points to each of the reduction measures in order to provide the menu of point values. The spreadsheet on the next page shows emission reductions afforded each measure. Note that emissions associated with new development are reduced by the State's R1 measures, as well as the County's R2 measures. The Screening Tables focus on those measures the County is implementing associated with new development within the unincorporated County area. For this reason, the menu of options pertains to the portions of the R2 measures pertaining to new development.

## Table 2

| Reduction Number | Reduction Measure Name | Reduced Emissions($MTCO_2e$) Commercial/Industrial | Residential |
|---|---|---|---|
| R2E4 | Warehouse Renewable Energy | 6,786.0 | |
| R2E5 | Solar Hot Water Systems | | 11,907.0 |
| R2E6 | Residential Energy Efficiency | | 9,460.0 |
| R2E7 | Commercial/Industrial Energy Efficiency | 35,342.0 | |
| R2E8 | New Home Renewable Energy | | 2,239.0 |
| R2E9 | New Commercial/Industrial Renewable Energy | 25,392.0 | |
| R2E10 | Comm/Ind. Rehab/Expansion Renewable Energy | 21,086 | |
| R2T1 | Anti-Idling Enforcement Policy | 2,415.2 | |
| R2T2 | Employer VMT Reduction | 1,651.0 | |
| R2T3 | Parking Policies | 824.0 | |
| R2T4 | Road Improvement/Signal Synchronization/TFM | 8,230.0 | |
| R2T5 | Low and Zero Emission Vehicle Infrastructure | 5,431.7 | 10,863.3 |
| R2T6 | Rideshare/Carpooling Programs | 798.0 | |
| R2T7 | Bicycle/Pedestrian Infrastructure | 532.0 | 266.0 |
| R2T8 | HOV Lanes | 1,594.0 | |
| R2W5 | Construction Debris Diversion | 147.5 | 147.5 |
| R2W6 | 75 Percent Waste Diversion | 2,059.0 | 2,059.0 |
| R2WC1 | Per Capita Water Reduction | 5,096.5 | 5,096.5 |
| **Total R2 Reductions for New Development** | | **117,384.9** | **42,038.3** |

# ATTACHMENT 3:

## Determining Project Unmitigated and Mitigated GHG Emissions

**SAN BERNARDINO COUNTY**
**GREENHOUSE GAS DEVELOPMENT REVIEW PROCESS**
**DETERMINING PROJECT UNMITIGATED AND MITIGATED GREENHOUSE GAS EMISSIONS**

San Bernardino County intends to use a Development Review Process to review individual projects for compliance with the San Bernardino County Greenhouse Gas Reduction Plan (Plan). Screening tables have been developed utilizing a 100-point scale that corresponds to approximately 138,227 metric tons of carbon dioxide equivalents per year ($MTCO_2e$) of emissions reductions attributable to new development within the Plan. That level of emissions reductions is approximately 31 percent reduction of new development greenhouse gas (GHG) emissions (in the aggregate) compared to an unmitigated condition. The scale has been derived from calculations of the 2020 unmitigated emissions at the County level and the mitigative effects of different reduction strategies included in the Plan. Where projects utilize the screening table and qualify for 100 points, the project can be considered less than significant under CEQA and will not be required to quantify their individual project emission reductions. Where a project does not use the screening tables, the project is required to quantify its unmitigated emissions and provide a 31 percent reduction of those emissions in order to be considered less than significant. This memorandum describes a methodology to estimate project-level unmitigated and mitigated emissions.

The Plan includes a set of inventories as follows:
2007 Emissions = 6.25 $MTCO_2e$
2020 Unmitigated Emissions = 7.59 $MTCO_2e$ (Results by applying predicted growth rates to the 2007 emissions in predicting 2020 unmitigated emissions)
Reduction Target = 5.31 $MTCO_2e$ [requires new development in the County to achieve a 31% reduction (in the aggregate) from the 2020 unmitigated emissions scenario to reduce total emissions in the County down to this level]

The Plan includes a forecast of 2020 unmitigated emissions from a benchmark of 2007 emissions. No emission reductions from future regulations or standards were afforded the 2020 unmitigated emission forecast. This means that the unmitigated emissions shown for 2020 are forecast using the predicted growth in each of the sectors but have an average GHG efficiency equivalent to that of buildings, transportation, and other emission sectors as they were in 2007. As such, 2007 constitutes the benchmark for all projects under evaluation through the development review process. Thus, calculation of unmitigated project GHG emissions is a calculation of what the project's GHG emissions would be under average efficiency assumptions for 2007. Project proponents then must calculate their estimate of current GHG emissions including any applicant-proposed reduction measures to determine whether or not the project will or won't provide 31 percent or more reductions.
Methods are described below for the building energy, transportation, waste, water conveyance emissions. Other source categories will require custom calculations. Due to the complexity of some of

the calculations for unmitigated and mitigated emissions, the need for accuracy, and the challenge of avoiding double-counting, it is recommended that emissions estimates only be prepared by qualified air quality experts. All estimates should provide full documentation of all assumptions and methods utilized. The County will review all provided estimates for adequacy and will only accept sufficiently detailed and supported estimates prepared by qualified individuals.

**PROJECT GHG EMISSION SOURCES**

Total GHG emissions are the sum of emissions from both direct and indirect sources. Direct sources include mobile sources such as offroad equipment, motor vehicles, landscape equipment; and stationary sources such as cooling and heating equipment. Indirect sources are comprised of electrical generation, and energy use in supplying potable water, as well as the disposal of solid waste, and the treatment of waste water.

Direct GHG emissions from mobile and stationary sources are determined as the sum of the annual GHG emissions from offroad equipment, motor vehicles, landscape equipment, and heating and cooling equipment.

Indirect sources are determined based on source as follows. Electrical usage is reported as annual emissions from electrical usage. Potable water usage is reported as the annual emissions from electricity used for potable water treatment and transportation. Solid waste is reported as the sum of annual emissions from solid waste disposal treatment, transportation, and fugitive emissions of methane at the solid waste facilities. Wastewater usage is reported as the annual emissions from wastewater transport and treatment.

**BUILDING ENERGY**

Building energy emissions associated with electricity and natural gas assumption are estimated by determining the amount of electricity (in kilowatt-hours) and natural gas consumption (in therms) and then multiplying by the GHG factors corresponding to electricity generation (per kwh) and natural gas combustion (per therm).

Project proponents can utilize the Residential Energy Consumption Survey (RECS) prepared by the U.S. Energy Information Administration (EIA) to determine the approximate average kwh per residential unit for residential projects of similar character as the proposed project. At present, the closest set of data to 2007 is the 2005 version of the RECS.

Project proponents can utilize the Commercial Buildings Energy Consumption Survey (CBECS) prepared by EIA to determine the approximate average therms per residential unit for commercial buildings of similar character as the proposed project. A 2007 version of CBECs should be available in 2011.

Where buildings are not comparable to a RECS or CBECS category, then project proponents must derive a separate rationale for 2007 average building energy consumption by obtaining data on at least three comparable “average” buildings in San Bernardino County by which to derive appropriate factors.

Once the baseline electricity and natural gas consumption have been identified, then they should be multiplied by the GHG intensity factors in Table 1.

RECS is available on the internet here: http://www.eia.doe.gov/emeu/recs/
CBECS is available on the internet here: http://www.eia.doe.gov/emeu/cbecs/

**TRANSPORTATION**

Project proponents can estimate their unmitigated onroad transportation emissions level by utilizing the current land use emissions model recommended by SCAQMD and using the 2007 model year. The current SCAQMD recommended model is the California Emissions Estimator model (CalEEMod) and is available free of charge and a user manual describes how to utilize the model.

CalEEMod can also be used to calculate operational GHG emissions (carbon dioxide, $CO_2$; methane, $CH_4$; and nitrous oxide $N_2O$). CalEEMod uses default trip generation factors, but these factors can be adjusted to reflect site-specific details. Also, CalEEMod uses default trip lengths that may or may not be appropriate in order to capture the full length of project-related trips. Important steps for running CalEEMod are as follows:

1. Without a traffic study prepared for the project,
    a. Provide the density of the project in CalEEMod (residential units per acre and/or square feet of commercial building per acre), and
    b. The user should consult with the local air district for direction on which default options should be used in the modeling exercise. Some air districts have recommendations in the CEQA guidelines.
2. If a traffic study was prepared specifically for the project, the following information must be provided:
    a. Total number of average daily vehicle trips or trip-generation rates by land use type per number of units; and,
    b. Average VMT per residential and nonresidential trip.
    c. The user overwrites the "Trip Rate (per day)" fields for each land use in CALEEMOD such that the resultant "Total Trips" and the "Total VMT" match the number of total trips and total VMT contained in the traffic study.
    d. Overwrite "Trip Length" fields for residential and nonresidential trips in UBEMIS with the project-specific lengths obtained from the traffic study.
3. Calculate results and obtain the GHG emissions from the CalEEMod output file.

Offroad emissions can be estimated by identifying the types of equipment and operational timeframes. CARB's EMFAC model can provide carbon dioxide emission factors for a wide variety of equipment.

Alternatively, if fuel consumption totals can be estimated, then they can be multiplied by the GHG factors in Table 1 below.

CalEEMod is available on the internet here: http://www.caleemod.com/
EMFAC is available on the internet here: http://www.arb.ca.gov/msei/onroad/latest_version.htm

**WASTE**

Project proponents needs to estimate their level of annual waste generation using factors from the CIWMB reporting for San Bernardino County in 2007:

- Per capita disposal rate = 6.2 pounds/day = 1.03 metric tons/year per resident
- Per capita disposal rate = 38 pounds/day = 6.29 metric tons/year per employee

CIWMB reports are available on the internet here:
http://www.calrecycle.ca.gov/LGCentral/Tools/MARS/DRMCMain.asp

Once the unmitigated annual level of waste generation have been identified, then it should be multiplied by the GHG intensity factor utilized in the Plan as follows:

- *2007 average GHG emissions per metric ton of waste (2007) = 0.005526 metric tons*

**WATER**

Project proponents need to estimate the annual amount of water consumption on an annual basis for the proposed project on a 2007 average basis:

- Per capita water consumption = XX gallons/day = XX acre-feet/year per resident
- Per capita water consumption = XX gallons/day = XX acre-feet/year per employee

Once the unmitigated level of annual water consumption has been identified, then it should be multiplied by the GHG intensity factors utilized in the Plan as follows:

- *2007 average GHG emissions per acre-feet of water = 0.49 metric tons/*

**WASTEWATER**

Project proponents need to estimate the annual amount of wastewater generation on an annual basis for the proposed project on a 2007 average basis.

- Per capita wastewater generation = XX gallons/day = XX acre-feet/year per resident

Once the unmitigated level of annual wastewater generation has been identified, then it should be multiplied by the GHG intensity factors utilized in the Plan as follows:

- *2007 average GHG emissions for wastewater = 0.096 metric tons per resident*

**POINT SOURCES AND OTHER SOURCES**

If the project includes point sources of GHGs, such as industrial consumption of fuels other than natural gas, cement manufacture, or other sources, then custom calculations will have to be made in order to determine the 2007 unmitigated level.

**ESTIMATING PROJECT MITIGATED EMISSIONS**

Once the unmitigated 2007 emissions for the project have been calculated, then the mitigated project emissions can be calculated. Mitigated project emissions can and should take into account the following:

***The current level of GHG efficiency.*** Since the benchmark year is 2007, the current level of GHG efficiency may be improved since 2007. Where a source sector is not covered by adopted state and

local measures (see discussion below), analysis of development projects should use the emission factors found in the latest version of the California Climate Action Registry (CCAR) General Reporting Protocol. Quantification of emissions from electricity used for potable water treatment and transportation as well as wastewater transport and treatment can be found in the California Energy Commission (CEC) document titled "Refining Estimates of Water-Related Energy Use in California (CEC December 2006).

***The effect of adopted state and local measures by 2020.*** The state has adopted numerous measures to reduce GHG emissions, including vehicle standards, a low carbon fuel standard, a renewable energy standard, and other measures. The state mandates listed in Table 2 can be included in the County-required 31 percent reduction if they specifically relate to the proposed project. Table 3 provides an example of which measures would apply to a standard residential project. All of the calculations in Table 2 are reduction percentages compared to a 2007 benchmark efficiency. Thus, if a project takes credit for an adopted state or local measure, then it should not take additional credit for the difference between current year GHG efficiency and 2007 because the credit in Table 2 already accounts for potential improvements from 2007 to 2020.

***The effect of proponent-proposed measures.*** The adopted state and local measures will not be sufficient in and of themselves to reduce project level unmitigated emissions by 31%. Thus, project proponents, who do not use the screening tables, will be required to propose and quantify their individual reduction measures. Measures may include energy efficiency, renewable energy, VMT reductions, water conservation strategies that result in emissions more than the unmitigated levels. Proponents should calculate the effectiveness of proposed strategies such that the total of the adopted state and local measures above and the applicant-proposed measures totals a minimum of 31% of the unmitigated emissions. When determining the GHG reduction effectiveness, one may only count reductions that are in excess of the adopted state and local measures noted above. For example, for energy efficiency, all projects will be required to meet Title 24 efficiency standards that are in effect at the time of the project. Thus, additional credit can only be taken if the project's energy efficiency exceeds Title 24 requirements. Similarly, waste diversion strategies can only provide additional credit if the project will result in greater than 75 percent diversion by 2020 of site generated waste. Finally, caution must be exercised in avoiding double-counting of emissions between adopted state and local measures, improvements in average GHG efficiency between the current year and 2007, and proponent-proposed measures. For this reason, it is recommended that GHG emission estimates only be prepared by qualified air quality experts.

**Table 1: Emission Factors to Use for Estimating Unmitigated Emissions**

| Fuel | Emission Factor | Source |
|---|---|---|
| Compressed Natural Gas (CNG) (Vehicle) | 0.054 Kg $CO_2$/Standard $Ft^3$ | USEPA Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006 (2008) |
| Motor Gasoline (Vehicle) | 8.81 Kg $CO_2$/US gal | Provided in the California Local Government Operations Protocol (CARB et al. 2008) |
| Propane (Vehicle) | 5.74 Kg $CO_2$/US gal | |
| Diesel (Vehicle) | 10.15 Kg $CO_2$/US gal | |
| Natural Gas | 0.0546 Kg $CO_2$/Standard $Ft^3$ | |
| | 0.1 g $NO_2$/MMBTU | |
| | 5 g $CH_4$/MMBTU | |
| Other Fuels | Variable[1] | SQAQMD |
| Electricity | 290.87 kg $CO_2$/MWh | CCAR (2009a) Public Reports and USEPA eGrid2007 (2005 data) |
| | 2.04 kg $NO_2$/GWh | |
| | 13.88 kg $CH_4$/GWh | |

Notes:

[1] Other fuels were included in the SCAQMD inventory. Associated emissions are based on emission factors from CARB's Regulation for the Mandatory Reporting of GHG Emissions and fuel High Heating Values (HHVs) from USEPA's AP-42 document.

| Table 2: San Bernardino County Greenhouse Gas Development Review Process<br>State and Local Measures that can be included in Project Level reduction Requirement | | | |
|---|---|---|---|
| **Reduction Measure Number** | **Sector** | **Description** | **Sectoral percent reduction** |
| R1E1B | Building Energy | RPS-33% by 2020 | 7.0% |
| R1E2 | Building Energy | AB 1109 Residential Lighting | 1.6% |
| R1E3 | Building Energy | AB 1109 Commercial Lighting | 1.0% |
| R1E4 | Building Energy | Electricity Energy Efficiency (Title 24) | 7.2% |
| R1E5 | Building Energy | Natural Gas Energy Efficiency (Title 24) | 0.6% |
| ***Building Energy*** | | ***Subtotal*** | ***17.4%*** |
| R1T1 | Transportation | Pavely I Standards | 8.4% |
| R1T2 | Transportation | Pavely II Standards | 1.2% |
| R1T3 | Transportation | Low Carbon Fuel Standard | 6.7% |
| R1T4 | Transportation | Tire Pressure Program | 0.2% |
| R1T5 | Transportation | Low Rolling Resistance Tires | 0.1% |
| R1T6 | Transportation | Low Friction Engine Oils | 0.8% |
| R1T7 | Transportation | Cool Paint/Reflective | 0.3% |
| R1T9 | Transportation | Heavy-Duty Vehicle Efficiency | 0.5% |
| R1T10 | Transportation | Med-& Heavy Duty Hybrid. | 0.3% |
| R1T11 | Transportation | Rule 1192-Clean Buses | 0.03% |
| R1T12 | Transportation | Rule 1195-Clean School Buses | 0.03% |
| ***Transportation*** | | ***Subtotal*** | ***18.6%*** |
| R2W1 | Waste | Increase Methane Recovery at Mid-Valley, Milliken, and Colton Landfills | 27.0% |
| R2W2 | Waste | Barstow Methane Recovery | 10.6% |
| R2W3 | Waste | Landers Methane Recovery | 2.4% |
| R2W6 | Waste | County Diversion Programs — 75 Percent Goal | 1.1% |
| ***Waste*** | | ***Subtotal*** | ***41.1%*** |
| R1WC1 | Water Conveyance | RPS-33% by 2020 | 15.2% |
| ***Water Conveyance*** | | ***Subtotal*** | ***15.2%*** |

| Table 3: San Bernardino County Greenhouse Gas Development Review Process<br>Example of which State and Local Measures can be includes for a standard residential project *(highlighted in bold italics)* | | | |
|---|---|---|---|
| **Reduction Measure Number** | **Sector** | **Description** | **Sectoral percent reduction** |
| ***R1E1B*** | ***Building Energy*** | ***RPS-33% by 2020*** | ***7.0%*** |
| ***R1E2*** | ***Building Energy*** | ***AB 1109 Residential Lighting*** | ***1.6%*** |
| R1E3 | Building Energy | AB 1109 Commercial Lighting | 1.0% |
| ***R1E4*** | ***Building Energy*** | ***Electricity Energy Efficiency (Title 24)*** | ***7.2%*** |
| ***R1E5*** | ***Building Energy*** | ***Natural Gas Energy Efficiency (Title 24)*** | ***0.6%*** |
| ***R1T1*** | ***Transportation*** | ***Pavely I Standards*** | ***8.4%*** |
| ***R1T2*** | ***Transportation*** | ***Pavely II Standards*** | ***1.2%*** |
| ***R1T3*** | ***Transportation*** | ***Low Carbon Fuel Standard*** | ***6.7%*** |
| ***R1T4*** | ***Transportation*** | ***Tire Pressure Program*** | ***0.2%*** |
| ***R1T5*** | ***Transportation*** | ***Low Rolling Resistance Tires*** | ***0.1%*** |
| ***R1T6*** | ***Transportation*** | ***Low Friction Engine Oils*** | ***0.8%*** |
| ***R1T7*** | ***Transportation*** | ***Cool Paint/Reflective*** | ***0.3%*** |
| R1T9 | Transportation | Heavy-Duty Vehicle Efficiency | 0.5% |
| R1T10 | Transportation | Med-& Heavy Duty Hybrid. | 0.3% |
| R1T11 | Transportation | Rule 1192-Clean Buses | 0.03% |
| R1T12 | Transportation | Rule 1195-Clean School Buses | 0.03% |
| ***R2W1*** | ***Waste*** | ***Increase Methane Recovery at Mid-Valley, Milliken, and Colton Landfills*** | ***27.0%*** |
| ***R2W2*** | ***Waste*** | ***Barstow Methane Recovery*** | ***10.6%*** |
| ***R2W3*** | ***Waste*** | ***Landers Methane Recovery*** | ***2.4%*** |
| ***R2W6*** | ***Waste*** | ***County Diversion Programs — 75 Percent Goal*** | ***1.1%*** |
| ***R1WC1*** | ***Water Conveyance*** | ***RPS-33% by 2020*** | ***15.2%*** |

**RESOURCES**

California Climate Action Registry. General Reporting Protocol. Public Reports for Reporting Entities http://www.climateregistry.org

California Energy Commission. Refining Estimates of Water-Related Energy use in California. http://www.energy.ca.gov/pier/project_reports/CEC-500-2006-118.html

EMFAC. Factor model for onroad mobile emissions sources from the California Air Resources Board. http://www.arb.ca.gov/msei/onroad/latest_version.htm

OFFROAD. Model for factors for offroad equipment from the California Air Resources Board. http://www.arb.ca.gov/msei/offroad/offroad.htm

CalEEMod. Public domain software for calculation criteria pollutant and GHG emissions from land use projects.

http://www.caleemod.com

# ATTACHMENT 4:

## GHG Emission Reduction Calculations for Accessory Renewable Energy Projects

# ACCESSORY RENEWABLE ENERGY PROJECTS

The GHG Plan included a GHG Reduction Measure (R3E14) that accounted for small wind energy systems that the County was permitting. These small wind energy systems as well as small photovoltaic energy systems within unincorporated San Bernardino County required a permit by the County. These systems were typically 10 kilowatts (kW) in size and were not regulated by the California Energy Commission (CEC) and did not count toward the utilities renewable portfolio or the State's R1 measures for renewable energy. At the time that the GHG Plan was drafted (2009), the County did not have estimated generation within unincorporated County areas from these systems and could not estimate the GHG reductions from these types of systems. However, the County saw these renewable energy systems as a potential GHG reducing mechanism and wanted to continue permitting such systems and encourage growth in these systems. Therefore the GHP Plan listed the small wind energy systems as well as small photovoltaic energy systems permitting process as an R3 measure that could not include GHG emission reductions calculations.

Since that time, the County has reviewed permitting records and determined the number of these permits issued since 2007. The records indicate the following:

Year 2007: 27 permits issued
Year 2008: 24 permits issued
Year 2009: 25 permits issued
Year 2010: 37 permits issued (permit fees were due to go up July 1, 2010 accounting for the increase in permits being issued in this year)

Systems permitted prior to 2007 were considered within the baseline energy use for the External GHG Inventory and not counted in this analysis. In total, 113 10kW Wind Energy Systems were permitted between 2007 and 2010. Taking out year 2010, on average 25 to 26 permits are issued per year. Year 2010 was taken out of the average because of the spike in permits likely caused by the fee increase. In predicting the number of systems in place by 2020 using these records, approximately 250 permits would be issued between 2010 and 2020 plus the existing 113 units currently operating gives a combined total of 363 wind energy units. Each unit is estimated to account for 22.12 $MTCO_2e$ per year in GHG reductions. Total reductions expected from these wind energy systems in year 2020 is **8,030.89 $MTCO_2e$ per year.** The calculations of the wind turbine systems generation and GHG emission reductions are shown on the spreadsheet on the following page.

About half this many photovoltaic systems were also permitted by the County (average of 13 per year). A conservative analysis in the emission reductions from these systems estimates at least 127.41 $MTCO_2e$ per year assuming 130 systems in place by year 2020 and slightly less than one metric ton $CO_2e$ being

reduced. These estimates are extremely conservative due to the lack of additional data on PV systems and the actual electric generating capacity and emissions reduction from PV is likely much higher.

Insert Energy spreadsheet here.