

North McKay Ranch Subdivision Project

Greenhouse Gas Emissions and Climate Change Supplement to the Final Environmental Impact Report

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1.0 INTRODUCTION

The Draft and Final Environmental Impact Reports (EIRs) for the North McKay Ranch described the environmental impacts of the proposed Project to greenhouse gases and climate change. During the Notice of Preparation process and the Draft EIR circulation, several comments were received stating that the project should eliminate natural gas utilities in the subdivision and require an all-electric development as feasible mitigation.

CEQA requires lead agencies to impose feasible mitigation measures as part of the approval of a “project” in order to substantially lessen or avoid the significant adverse effects of the project on the physical environment. When imposing mitigation, lead agencies must ensure there is a “nexus” and “rough proportionality” between the measure and the significant impacts of the project. (CEQA Guidelines Section 15126.4, subd.(a)(4)(A)–(B), citing *Nollan v. Ca. Coastal Commission* (1987) 483 U.S. 825, *Dolan v. City of Tigard* (1994) 512 U.S. 374.) All mitigation must be feasible and fully enforceable, and all feasible mitigation must be imposed by lead agencies. (CEQA Guidelines, Section 15041.) But, if any suggested mitigation is found to be infeasible the lead agency must explain why and support that determination with substantial evidence, presented in their findings and a statement of overriding considerations. (CEQA Guidelines, Sections 15091 and 15093.)

The following information is intended to provide context to the previous greenhouse gas analysis and evaluate the feasibility of an all-electric development.

2.0 DRAFT EIR ANALYSIS – IDENTIFICATION OF MITIGATION MEASURES

The Draft EIR prepared an emissions modeling estimate and showed that the unmitigated greenhouse gas (GHG) emissions would exceed the project-specific threshold of 1,100 metric tons carbon dioxide equivalent (MTCO_{2e}), resulting in a significant impact.

As shown in Table 3.8-2 of the Draft EIR, reproduced below, a significant impact was identified, thus mitigation to reduce the impact was required.



Table 3.8-2: Unmitigated Operational Greenhouse Gas Emissions

Source Category	MTCO ₂ e
Area	856
Energy Consumption	131
Mobile	931
Solid Waste Generation	72
Water Usage	48
Truck Mobile	28
Total Operational Emissions	2,066
<i>SMAQMD Threshold</i>	1,100 tons per year

Notes:

Includes CalEEMod “mitigation” for locational features, compliance with regulatory measure

MTCO₂e = metric tons of CO₂ equivalent

Source: CalEEMod Output (Appendix B)

The primary source of emissions was from mobile sources, totaling 959 MTCO₂e or approximately 46.4 percent of the total emissions. The next largest source of emissions was from area sources (Hearths and woodstove emissions), totaling 856 MTCO₂e which represented 41.4 percent of the emissions.

Considering the concept of proportionality and nexus, GHG reduction measures to reduce the impact of mobile sources and area sources were considered. The applicant and County explored transportation-related mitigation options; however, applying transportation-related mitigation only slightly reduced GHG emissions, approximately 3.8%, and would still result in a significant impact. In addition, any potential transportation related mitigation would occur within the City of Eureka and would be considered a discretionary action of the City of Eureka and thus outside the control of the County and therefore, determined to be infeasible. Since mitigation was infeasible for mobile sources, the Draft EIR did consider a project alternative that would reduce the number of units and thus the quantity of GHG emissions from mobile sources. The Draft EIR determined that reducing emissions from hearths and woodburning stoves was feasible through prohibition of woodburning devices in the multifamily homes; however, given the characteristics of the County, prohibiting woodburning devices in the single-family homes was not deemed socially feasible, thus a mitigation measure was incorporated that would allow those devices in single-family homes, but would require they be the cleanest burning.

As discussed in Chapter 12 of the Humboldt County General Plan (October 2017), roughly half of the electricity serving Humboldt County is generated at the Pacific Gas & Electric Company Humboldt Generating Station. Considering this information and that emissions from energy use represented 131 MTCO₂e or approximately 6.3 percent of the emissions, the requirement to remove natural gas from the development did not seem proportional to the impact.

As shown in Table 3.8-3 of the Draft EIR (reproduced below) the mitigated emissions for the project were 1,538 MTCO₂e. The total removal of energy GHG emissions from the project would not reduce the impact to less than significant and given the energy mix for electricity at the time of preparation of the analysis,



the mitigation measure for all-electric development was deemed technologically infeasible because the electricity would most likely be provided by a natural gas power plant.

Table 3.8-3 Mitigated Operational Greenhouse Gas Emissions

Source Category	MTCO ₂ e
Area	328
Energy Consumption	131
Mobile	931
Solid Waste Generation	72
Water Usage	48
Truck Mobile	28
Total Operational Emissions	1,538
<i>SMAQMD Threshold</i>	1,100 tons per year
Significant Impact?	Yes

Notes:

Assumed compliance with new adopted Title 24 standards not currently reflected in CalEEMod version 2016.3.2, the current version of CalEEMod at the time the NOP was released.

3.0 CLARIFICATION OF MITIGATION MEASURES

Since preparation of the Final EIR, the California Air Resources Board released its Draft 2022 Scoping Plan which indicated an increased commitment to decarbonize the electric grid and transition electric production from fossil fuels. This supplemental information coupled with both PG&E and the Redwood Coast Energy Authority's policy to decarbonize their electricity production make the requirement to develop an all-electric project technologically feasible instead of merely transferring the impact of natural gas generated GHG emissions to another entity. In addition, the County of Humboldt (County) received considerable interest from the public requesting an all-electric development making this mitigation measure socially feasible as well. Mitigation Measure GHG-2 (MM GHG-2) addressed emissions from areas sources for heating, this mitigation measure shall be revised to allow for mitigation of all energy sources and shall reflect the community's desire to transition from the use of more polluting energy sources.

4.0 MINOR REVISIONS TO THE DRAFT EIR

This section includes minor edits to the Draft EIR (Draft EIR). Revisions herein do not result in new significant environmental impacts, do not constitute significant new information, and do not alter the conclusions of the environmental analysis. Changes are provided in revision marks (underline for new text and ~~strikeout~~ for deleted text).

There are no new environmental issues raised by this mitigation measure modification. All potential environmental effects resulting from development of the project were described in the North McKay Ranch Subdivision Draft EIR and the North McKay Ranch Subdivision Partial Recirculation Draft EIR. The proposed modification to MM GHG-2 would not result in any environmental effects beyond those



described in the Draft EIR or Partial Recirculation Draft EIR. Therefore, no further analysis is required, and recirculation is not required as provided in CEQA Guidelines 15088.5.

EXECUTIVE SUMMARY

Table ES-1: Executive Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Finding
3.8 Greenhouse Gas Emissions and Climate Change		
GHG-1: Generate greenhouse gas emissions, either directly, or indirectly, that may have a significant impact on the environment.	<ul style="list-style-type: none"> • MM GHG-1: Carbon Offsets: The proposed project shall enter into a carbon offset agreement with the City of Arcata, which has a verified forest carbon offsets from the Arcata Community Forest (Climate Action Reserve 935 and 575), Climate Reserve Tonnes. Carbon offsets for this program are \$14/metric tonne (City of Arcata ND). The Applicant will receive proof of purchase prior to issuance of any building or grading permits for the proposed project. • MM GHG-2: All-Electric Development, Stoves and Woodburning Devices: If wood burning heating is used for the residential development, the project shall install wood burning stoves with catalytic converters and/or EPA-certified woodburning fireplaces. Woodburning devices shall be prohibited in all the multifamily residential uses. Only electric fireplaces shall be used. The project shall be conditioned to <u>prohibit the extension of natural gas utilities and shall utilize electricity only in providing air conditioning, heating water heating, lighting, plumbing, and any other utilities that are typically powered by natural gas.</u> <u>The project applicant may achieve the same practical effect as the removal of woodburning devices or electrification through alternative building technologies (or methods) that can be demonstrated through an independent third-party consultant to result in a minimum reduction of 852 MTCO₂e in area source emissions and 87 MTCO₂e in energy emissions per year. Should such technologies or methods result in an equivalent reduction in area or energy emissions, wood burning devices and/or natural gas appliances may be used. The project applicant shall be responsible for costs associated with hiring the independent third-party consultant on behalf of the County of Humboldt to verify the emission reductions achieved by alternative building technologies or methods.</u> 	SU



SECTION 3.8.5

Impact GHG-1 The proposed project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Operational Emission Inventory

Long-term operational GHG emissions would result from proposed project-generated vehicular traffic, onsite combustion of natural gas, operation of any landscaping equipment, offsite generation of electrical power over the life of the project, the energy required to convey water to and wastewater from the project site, the emissions associated with the hauling and disposal of solid waste from the project site, and any fugitive refrigerants from air conditioning or refrigerators.

Annual operational GHG emissions were determined by modelling the proposed project emissions at the project site. As shown in Table 3.8-2, the total annualized project emissions in 2030 are estimated to be 2,066 MTCO₂e. Therefore, the project's emissions would exceed the bright-line SMAQMD threshold of 1,100 MTCO₂e per year.

Table 3.8-2: Unmitigated Operational Greenhouse Gas Emissions 2030

Source Category	MTCO ₂ e
Area	856
Energy Consumption	131
Mobile	931
Solid Waste Generation	72
Water Usage	48
Truck Mobile	28
Total Operational Emissions	2,066
<i>SMAQMD Threshold</i>	1,100 tons per year
Significant Impact?	Yes

Notes:

Includes CalEEMod "mitigation" for locational features, compliance with regulatory measure

MTCO₂e = metric tons of CO₂ equivalent

Source: CalEEMod Output (Appendix B)

The applicant and County explored transportation-related mitigation options; however, applying transportation-related mitigation only slightly reduced GHG emissions, approximately 3.8%, and would still result in a significant impact. In addition, any potential transportation related mitigation would occur within the City of Eureka and would be considered a discretionary action of the City of Eureka and thus outside the control of the County and therefore, determined to be infeasible.

To reduce operational ~~mobile~~ GHG emissions, the project would implement MM GHG-2 which prohibits all woodburning stoves, all woodburning fireplaces and all woodburning devices in all residential units. Additionally, the project would be required to develop MM GHG-2 was applied to the CalEEMod modeling and represents approximately ~~528~~ 852 MTCO₂e per year reduction in area source emissions, as shown in Appendix B. As required by Title 24, the project would install solar panels on the residential units and the



pursuant to MM GHG-2, the project would be required to develop as an all-electric development through the prohibition of the extension natural gas utilities. The all-electric measure results in a 66 percent reduction in GHG emissions from energy, a total of 87 MTCO₂e). Motor vehicle emissions associated with the proposed project would be reduced through compliance with State regulations on fuel efficiency and fuel carbon content. As shown in Table 3.8-3, these measures would bring the annual total to 1,538 MTCO₂e – still over the SMAQMD bright-line threshold. Therefore, the project would result in a significant and unavoidable impact.

Table 3.8-3: Mitigated Operational Greenhouse Gas Emissions 2030

Source Category	MTCO ₂ e
Area	328 <u>4</u>
Energy Consumption	431 <u>44</u>
Mobile	931
Solid Waste Generation	72
Water Usage	48
Truck Mobile	28
Total Operational Emissions	1,538 <u>1,127</u>
SMAQMD Threshold	1,100 tons per year
Significant Impact?	Yes

Notes:

Includes CalEEMod “mitigation” for locational features, compliance with regulatory measure. Assumed compliance with new adopted Title 24 standards not currently reflected in CalEEMod version 2016.3.2, the current version of CalEEMod at the time the NOP was released.

Construction emissions annualized over an anticipated 30-year project lifespan.

MTCO₂e = metric tons of CO₂ equivalent

Source: CalEEMod Output (Appendix B)

As described in Section 3.3.4, CEQA Guidelines Section 15064.4 calls for a lead agency to make a “good-faith effort” to “describe, calculate, or estimate” GHG emissions in CEQA environmental documents, and, in assessing significant impacts, should consider the extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting, and whether the project emissions would exceed a locally applicable threshold of significance. Table 3.8-3 above provides a quantification and description of the mitigated GHG emissions associated with operation of the proposed project. The majority of the operational emissions are generated by mobile sources. The NCAQMD has not developed significance thresholds; therefore, this analysis uses the SMAQMD threshold when considering the significance determination for GHG emissions. The proposed project represents a local development adjacent to an existing community and is designed in response to normal growth and accommodating housing need. However, even with implementation of MM GHG-2, the proposed project exceeds the SMAQMD threshold, and operational GHG impacts would be significant and unavoidable.



Level of Significance Before Mitigation

Potentially Significant Impact.

Mitigation Measures

MM GHG-1 Carbon Offsets. The proposed project shall enter into a carbon offset agreement with the City of Arcata, which has a verified forest carbon offsets from the Arcata Community Forest (Climate Action Reserve 935 and 575), Climate Reserve Tonnes. Carbon offsets for this program are \$14/metric tonne (City of Arcata ND). The Applicant will receive proof of purchase prior to issuance of any building or grading permits for the proposed project.

MM GHG-2 ~~All-Electric Development. Stoves and Woodburning Devices.~~ ~~If woodburning heating is used for the residential development, the project shall install woodburning stoves with catalytic converters and/or EPA-certified woodburning fireplaces. Woodburning devices shall be prohibited in all the multifamily residential uses. Only electric fireplaces shall be used. The project shall be conditioned to prohibit the extension of natural gas utilities and shall utilize electricity only in providing air conditioning, heating water heating, lighting, plumbing, and any other utilities that are typically powered by natural gas.~~

The project applicant may achieve the same practical effect as the removal of woodburning devices or electrification through alternative building technologies (or methods) that can be demonstrated through an independent third-party consultant to result in a minimum reduction of 852 MTCO₂e in area source emissions and 87 MTCO₂e in energy emissions per year. Should such technologies or methods result in an equivalent reduction in area or energy emissions, wood burning devices and/or natural gas appliances may be used. The project applicant shall be responsible for costs associated with hiring the independent third-party consultant on behalf of the County of Humboldt to verify the emission reductions achieved by alternative building technologies or methods.

Level of Significance After Mitigation

Significant Unavoidable Impact.



5.0 REFERENCES

California Air Resources Board. Draft 2022 Scoping Plan. May. 2022. Website:

<https://ww2.arb.ca.gov/sites/default/files/2022-05/2022-draft-sp.pdf>

County of Humboldt. Chapter 12. Energy Element. 2017. October. Website:

<https://humboldt.gov/DocumentCenter/View/61988/Chapter-12-Energy-Element-PDF>

Redwood Coast Energy Authority. 2019. Power Procurement. Website: <https://redwoodenergy.org/power-procurement/>

Pacific Gas & Electric. Delivering Low-Emission Energy. Website: https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page#:~:text=In%202021%2C%20roughly%20half%20of,nuclear%20and%20large%20hydroelectric%20power.

