

## 6. Significant Unavoidable Adverse Impacts

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At the end of Chapter 1, *Executive Summary*, is a table that summarizes the impacts, mitigation measures, and levels of significance before and after mitigation. Mitigation measures would reduce the level of impact, but the following impacts would remain significant, unavoidable, and adverse after mitigation measures are applied:

- Air Quality
- Greenhouse Gas Emissions

### Air Quality

#### *Impact 5.3-2*

Operation of the proposed project would generate long-term emissions of volatile organic compounds (VOC) in exceedance of South Coast Air Quality Management District (South Coast AQMD) threshold criteria. Though implementation of Mitigation Measures GHG-1 and GHG-2 would contribute to reducing project-related long-term emissions of VOC, they may not provide enough of a reduction to reduce project-related VOC emissions to below the South Coast AQMD regional significance threshold. Emissions of VOC that exceed the South Coast AQMD regional significance threshold would contribute to the ozone nonattainment designations of the South Coast Air Basin (SoCAB) and cumulatively contribute to health impacts.

The incremental effect of the project on health outcomes in the SoCAB is speculative (see “Health Outcomes Associated with the Regional Significance Thresholds” in Section 5.3.2.1, *South Coast Air Quality Management District Thresholds*). According to the South Coast AQMD, exceedance of the regional significance thresholds cannot be used to correlate a project to quantifiable health impacts unless emissions are sufficiently high to use a regional model (see Appendix C6). Because the ambient air quality standards (AAQS) are applied at the regional level, a regional-scale air quality model is necessary to determine the concentrations of the criteria air pollutants in the SoCAB and whether they exceed the AAQS.

In general, regional scale air quality modeling efforts are conducted by air districts because they are the agencies that oversee compliance of the air basins to the AAQS. Regional air quality models currently available to air districts typically attempt to account for all emissions sources within an air basin. Due to the nature of the available regional model, the purpose of the AAQS, the AAQS being based on concentrations instead of mass emissions, and the complexity in correlating concentration levels with the amount of mass emissions generated, a large change in emissions would be needed to provide observable and meaningful results, as discussed in Section 5.3, *Air Quality*.

## 6. Significant Unavoidable Adverse Impacts

Overall, though modeling VOC exceedance using regional-scale modeling would not provide a reasonable degree of scientific certainty, and therefore would not provide reliable, credible information of value to decision-makers or the public regarding effects on health, air districts develop region-specific thresholds of significance based on existing attainment status for the California and National AAQS in the air basin (see Table 5.3-3, *Attainment Status of Criteria Pollutants in the South Coast Area Air Basin*). The ambient air quality standards were developed based on scientific evidence related to the acceptable pollutant concentrations above which human health may be adversely impacted. These concentrations are the cumulative effect of all pollutant sources in the air basin. South Coast AQMD considers projects with emissions below the thresholds of significance to have a minor or negligible impact on the regional cumulative emission concentrations that exceed the ambient air quality standards. Projects that exceed an applicable threshold could contribute to the continued nonattainment designation of a region or potentially degrade a region from attainment to nonattainment, resulting in acute or chronic respiratory and cardiovascular illness from exposure to concentrations of criteria air pollutants above what US Environmental Protection Agency and California Air Resources Board consider safe. As identified above, the proposed project would generate long-term VOC emissions that exceed the South Coast AQMD regional significance threshold, which contribute to the formation of ozone. Therefore, Impact 5.3-2 is considered a significant and unavoidable impact.

### *Impact 5.3-6*

The long-term emissions generated by the proposed project would contribute to an increase in frequency or severity of air quality violations in the South Coast Air Basin and would conflict with the assumptions of the applicable Air Quality Management Plan. Incorporation of Mitigation Measures GHG-1 and GHG-2 would contribute to minimizing VOC emissions from operation of the proposed project, to the extent feasible. However, it is anticipated that project-related operation-phase activities would still result in VOC emissions exceeding the South Coast AQMD regional significance threshold. Thus, the proposed project would continue to be inconsistent with the Air Quality Management Plan. Therefore, Impact 5.3-6 would be significant and unavoidable.

## **Greenhouse Gas Emissions**

### *Impact 5.8-1*

Buildout of the proposed project would generate a substantial increase in GHG emissions compared to existing conditions and would have a significant impact on the environment. As shown in Table 5.8-8, *Project GHG Emissions Inventory With Mitigation*, the proposed project is estimated to generate 12,152 MTCO<sub>2e</sub>/yr of GHG emissions, and implementation of Mitigation Measures GHG-1 and GHG-2 would contribute to minimizing emissions. As shown in Table 5.8-8, implementation of measures *d* and *f* of Mitigation Measure GHG-1 would provide a net reduction in emissions of 742 MTCO<sub>2e</sub>/yr and reduce overall project emissions to 12,152 MTCO<sub>2e</sub>/yr. Implementation of the other measures under Mitigation Measure GHG-1 would also contribute to reducing GHG emissions. For example, installation of battery storage for the proposed homes would further enable homes to rely on more renewable electricity to meet their energy needs and rely less on grid electricity. An all-electric home paired with both a PV and battery storage system could reduce GHG emissions by 76 to 77 percent compared to standard mixed-fuel homes designed and built to the 2019

## 6. Significant Unavoidable Adverse Impacts

Building Energy Efficiency Standards (Frontier 2019). However, even with the additional reductions associated with Mitigation Measure GHG-1 and Mitigation Measure GHG-2, it is anticipated that the proposed project would still exceed the bright-line threshold of 3,000 MTCO<sub>2</sub>e/yr. Therefore, Impact GHG-1 would be significant and unavoidable.

## 6. Significant Unavoidable Adverse Impacts

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