

State of California
AIR RESOURCES BOARD

**SENATE BILL 350 INTEGRATED RESOURCE PLANNING ELECTRICITY SECTOR
GREENHOUSE GAS PLANNING TARGETS**

Resolution 18-26

July 26, 2018

Agenda Item No.: 18-6-2

WHEREAS, sections 39600 and 39601 of the Health and Safety Code authorize the California Air Resources Board (CARB or Board) to adopt standards, rules and regulations and to do such acts as may be necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, the Legislature enacted the California Global Warming Solutions Act of 2006 (AB 32, Statutes of 2006, Chapter 488; Health and Safety Code section 38500 et seq.), which declares global warming poses a serious threat to the economic well-being, public health, natural resources, and environment of California;

WHEREAS, Assembly Bill (AB) 32 charges CARB with monitoring and regulating sources of emissions of greenhouse gases that cause global warming in order to reduce emissions of greenhouse gases (Health and Safety Code section 38510);

WHEREAS, AB 32 directs CARB to create a comprehensive multi-year program to reduce California's greenhouse gas (GHG) emissions to no greater than 1990 levels by 2020, maintain and continue reductions in emissions of GHGs beyond 2020, and initiate the transformations required to achieve the AB 32's long-range climate objectives;

WHEREAS, Health and Safety Code section 38561(a) requires CARB to prepare and approve a "scoping plan" for achieving the maximum technologically feasible and cost effective GHG emission reductions by 2020;

WHEREAS, CARB prepared and approved the first AB 32 climate change scoping plan in 2008 and reapproved it in 2011 and 2017;

WHEREAS, in April 2015, Governor Edmund G. Brown, Jr. signed Executive Order B-30-15 that established a GHG emission reduction target of 40 percent below 1990 levels by 2030;

WHEREAS, Governor Brown's Executive Order B-30-15 ordered that CARB update the scoping plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent;

WHEREAS, the Legislature enacted the Clean Energy and Pollution Reduction Act of 2015 (Senate Bill (SB) 350, Statutes of 2015, Chapter 547), requiring the State to establish GHG reduction planning targets and implement them through Integrated Resource Planning in the electricity sector as a whole and among individual publicly owned utilities and load-serving entities;

WHEREAS, SB 350 codified an increase in the Renewables Portfolio Standard to 50 percent and doubled the energy savings required in electricity and natural gas end uses by 2030 as discussed in the Governor's 2015 inaugural address;

WHEREAS, the Legislature enacted Senate Bill 32 (SB 32, Statutes of 2016, Chapter 249; Health and Safety Code section 38566), which affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in Governor Brown's Executive Order B-30-15;

WHEREAS, reducing California's GHG emissions to a scientifically recognized level necessary for climate stabilization will require California to keep building on the framework of the initial Scoping Plan and 2014 Update and 2017 Scoping Plan Update by continuing to pursue the maximum technologically feasible and cost-effective actions that will steadily drive down GHG emissions over the coming decades;

WHEREAS, the 2017 Scoping Plan Update establishes the mid-term (2030) statewide emissions level of 260 MMTCO_{2e} as required by SB 32, and the target serves as a milestone on the path to the deeper GHG reductions needed to avoid the most catastrophic impacts of climate change;

WHEREAS, in developing the 2017 Scoping Plan Update, CARB staff maintained a multi-year engagement with the Legislatively created Environmental Justice Advisory Committee (Committee), convened almost 20 community meetings throughout California, and evaluated Committee recommendations for the Scoping Plan, including those for the energy sector;

WHEREAS, in Board Resolution 17-46, the Board determined that the 2017 Scoping Plan Update should inform the initial 2030 GHG planning target range for the electricity sector, which, in coordination with the California Public Utilities Commission (CPUC) and the California Energy Commission (CEC), will be evaluated and revised, as appropriate, as part of the Board's process to establish GHG planning targets for the electricity sector and each load-serving entity and publicly owned utility for use in Integrated Resource Plans (IRPs) pursuant to SB 350;

WHEREAS, the latest science contributes even stronger evidence that the widespread impacts of climate change are occurring at a faster pace than documented in previous assessments, and that human beings are extremely likely to be the primary contributors to this phenomenon, further underscoring the urgent need to accelerate GHG emission reductions;

WHEREAS, State agencies have a role to play in overseeing and guiding resource planning for California's load-serving entities and publicly owned utilities;

WHEREAS, Integrated Resource Plans will incorporate actions that load-serving entities and publicly owned utilities may take to achieve California's long-term GHG reduction goals, while considering cost effectiveness, reliability, impacts on disadvantaged communities, promotion of transportation electrification, as well as statutory mandates such as the fifty percent Renewables Portfolio Standard and doubling of energy efficiency savings;

WHEREAS, holistic electricity sector planning by load-serving entities and publicly owned utilities that incorporates GHG reduction goals will be facilitated by the GHG planning targets established by CARB;

WHEREAS, since December 2015, CARB staff has coordinated with CEC and CPUC pursuant to SB 350, and has engaged with a wide range of public stakeholders to establish the GHG planning targets to be used in IRPs;

WHEREAS, on December 14, 2015, CARB held a public workshop to kick-off the process of implementing the SB 350 mandates for the electricity sector;

WHEREAS, in 2015, 2016, and 2017, CARB hosted more than 15 public workshops as part of the 2017 Scoping Plan Update process, including the August 23, 2016, Scoping Plan workshop on GHG emissions in the electricity sector;

WHEREAS, on February 23, 2017, CARB participated, with CEC and CPUC, in the joint agency workshop on 2030 GHG reduction targets for IRPs;

WHEREAS on April 17, 2017, CARB presented at the CEC workshop on potential methodologies to establish publicly owned utility GHG targets for IRPs;

WHEREAS, on March 2, 2018, CARB hosted a joint agency workshop with CEC and CPUC to discuss GHG planning targets and the GHG planning target setting process and requested written comments from stakeholders;

WHEREAS, on March 27, 2018, the CPUC submitted recommendations to CARB, based on its public process, electricity system modeling, and Commission Decision 18-02-018, to establish a GHG planning target of 42 MMT in 2030 for the electricity sector;

WHEREAS, as part of CPUC analyses, CPUC staff concluded that the GHG planning target of 42 MMT in 2030 reduces air pollutants relative to California's current policy trajectory, and did not find evidence that the statewide reduction in air pollutants would disproportionately harm disadvantaged communities relative to non-disadvantaged communities;

WHEREAS, CPUC also recommended that individual benchmarks for load-serving entities be established based on estimated 2030 GHG emissions from CARB's Cap-and-Trade 2021-2030 Electrical Distribution Utility (EDU) Allocation Methodology and forecasted load share in 2030 or that the load-serving entities utilize a GHG Planning Price of \$150 per metric ton of carbon dioxide equivalent in 2030;

WHEREAS, on April 12, 2018, CEC submitted recommendations to CARB based on its public process and the 2017 Scoping Plan Update, that CARB establish a GHG planning target range of 30–53 MMTCO_{2e} for the electricity sector;

WHEREAS, CEC also recommended CARB establish the individual publicly owned utility GHG planning target ranges based on estimated 2030 GHG emissions from CARB's Cap-and-Trade 2021-2030 EDU Allocation Methodology;

WHEREAS, on April 27, 2018, CARB staff prepared and circulated for public review the *Draft Staff Report: Senate Bill 350 Integrated Resource Planning Electricity Sector Greenhouse Gas Planning Targets* (Draft Staff Report), containing proposed GHG planning targets for the electricity sector, and each applicable load-serving entity and publicly owned utility (Proposed Targets);

WHEREAS, on April 30, 2018, CARB hosted a workshop to present the Draft Staff Report and Proposed Targets, and requested written comments from stakeholders;

WHEREAS, on July 13, 2018, CARB staff prepared and circulated for public review *Staff Report: Senate Bill 350 Integrated Resource Planning Electricity Sector Greenhouse Gas Planning Targets* (Staff Report);

WHEREAS, as required by SB 350, the Staff Report proposes a methodology to establish the Proposed Targets: a 2030 electricity sector GHG planning target range, and individual load-serving entity and publicly owned utility GHG planning target ranges;

WHEREAS, the 2017 Scoping Plan Update was used to inform the electricity sector GHG planning target range, which accounts for transportation and building electrification, complementary state policies and mandates, including the Renewable Portfolio Standard, and uncertainty in future electricity demand;

WHEREAS, the GHG planning target range of 30–53 MMTCO_{2e} for the electricity sector in 2030 is expected to result in a 51 to 72 percent reduction in the electricity sector's GHG emissions relative to 1990 levels, while recognizing the spectrum of unique factors across different load-serving entities and publicly owned utilities, including ratepayer impacts;

WHEREAS, the utility-specific, estimated 2030 GHG emissions from the 2021-2030 Cap-and-Trade Program EDU Allocation Spreadsheet provides a publicly vetted and transparent basis to apportion shares of the electricity sector target to investor owned and publicly owned utilities;

WHEREAS, forecast retail sales data provides an equitable manner to further apportion the electricity sector target between investor owned utilities, community choice aggregators and the direct access portion of retail sales;

WHEREAS, historical retail sales data is the best publicly available information to further apportion the direct access portion of the Proposed Targets to individual electric service providers;

WHEREAS, the CPUC IRP process will repeat every two years and shifts in load may occur due to electrification and/or the emergence and expansion of community choice aggregators and electric service providers, necessitating periodic updates to the load-serving entity and publicly owned utility GHG planning target ranges;

WHEREAS, publicly owned utilities will update IRPs every five years;

WHEREAS, periodic review every five years of the GHG planning target ranges for the electricity sector, load-serving entities, and publicly owned utilities, in coordination with updates to the Scoping Plan, will ensure the GHG planning target ranges reflect on-going changes in the sector and remain relevant and useful inputs for the IRP process;

WHEREAS, CARB's regulatory program that involves the adoption, approval, amendment, or repeal of standards, rules, regulations, or plans has been certified by the Secretary for Natural Resources under Public Resources Code section 21080.5 of the California Environmental Quality Act (CEQA; California Code of Regulations, title 14, section 15251(d)), and CARB conducts its CEQA review according to this certified program (California Code of Regulations, title 17, sections 60000-60007);

WHEREAS, CARB prepared a draft environmental analysis under its certified regulatory program for the Proposed Targets entitled *Draft Environmental Analysis prepared for the Senate Bill 350 Integrated Resource Planning Electricity Sector Greenhouse Gas Planning Targets* (Draft EA), and circulated it as Appendix C to the Draft Staff Report for 45 days from April 27, 2018, through June 11, 2018;

WHEREAS, the Draft EA concluded implementation of the Proposed Targets has the potential to result in: beneficial impacts to energy conservation and GHGs; less than significant impacts to air quality (odor), energy conservation, hazards and hazardous materials, land use planning, mineral resources, population employment, and housing, public services, and recreation; and potentially significant impacts to aesthetics, agriculture and forest resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use planning, mineral resources, noise, recreation, transportation/traffic and utilities and service systems;

WHEREAS, no comments were received during the 45-day public review and comment period that raise significant environmental issues associated with the proposal and no

approval of written responses to environmental comments is required under California Code of Regulations, title 17, section 60007;

WHEREAS, on July 13, 2018, staff posted on the CARB webpage the Final EA, which includes minor revisions;

WHEREAS, prior to the duly noticed public hearing held on July 26 and 27, 2018, staff presented the Final EA, as set forth in Attachment B to this resolution, to the Board for consideration; and

WHEREAS, in consideration of the Staff Report, written and oral testimony presented by the public, industry, and government agencies, the Board finds that:

The Proposed Targets for the electricity sector, individual load-serving entities and publicly owned utilities in Attachment A to this resolution meet the statutory requirements of SB 350 identified in Section 454.52 of the Public Utilities Code;

The Proposed Targets were developed in an open public process, in consultation with affected parties, through numerous public workshops, individual meetings, and other outreach efforts, and these efforts are expected to continue; and

The Proposed Targets are consistent with CARB's environmental justice policies to reduce dependence on fossil fuel combustion and associated emissions of GHGs, criteria, and toxics pollutants.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby certifies that the Final EA, set forth in Attachment B to this resolution, was completed in compliance with CARB's certified regulatory program to meet the requirements of CEQA, reflects the agency's independent judgment and analysis, and was presented to the Board whose members reviewed and considered the information therein before taking action to approve the Proposed Targets.

BE IT FURTHER RESOLVED that in consideration of the Final EA and the entirety of the record, the Board adopts the Findings and Statement of Overriding Considerations set forth in Attachment C to this resolution.

BE IT FURTHER RESOLVED that the electricity sector has a critical role in meeting the State's 2030 GHG goals.

BE IT FURTHER RESOLVED that planning for future GHG emission reductions will facilitate actions necessary to ensure electricity sector GHG emission reductions occur and to support the state meeting its 2030 GHG goals.

BE IT FURTHER RESOLVED that the Board hereby approves the Proposed Targets for the electricity sector, the individual load-serving entities, the individual publicly owned utilities and the update processes as set forth in Attachment A to this resolution.

BE IT FURTHER RESOLVED, that by planning for the lower end of the GHG planning target ranges, to the extent feasible and taking into account ratepayer impacts, load-serving entities and publicly owned utilities support identifying the most cost effective GHG reductions and actions critical to meeting the state's 2030 GHG goals.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer, in coordination with the CPUC and CEC, to update the load-serving entity and/or publicly owned utility GHG planning target ranges in advance of a Scoping Plan update, as necessary, provided that the sum of these changes do not exceed the approved electricity sector GHG planning target range, there is public process, and the methodology utilized for the update is consistent with the methodology set forth in Attachment A to this resolution.

BE IT FURTHER RESOLVED that updates to the electricity sector, load-serving entity, and publicly owned utility GHG planning targets should be considered every five years, in coordination with future Scoping Plan updates.

I hereby certify that the above is a true and correct copy of Resolution 18-26 as adopted by the Air Resources Board.



Rana McReynolds, Clerk of the Board

Resolution 18-26

July 26, 2018

Identification of Attachments to the Board Resolution

Attachment A*: Staff Report: Senate Bill 350 Integrated Resource Planning Electricity Sector Greenhouse Gas Planning Targets, released July 13, 2018.

Attachment B*: Final Environmental Analysis Prepared for Staff Report: Senate Bill 350 Integrated Resource Planning Electricity Sector Greenhouse Gas Planning Targets, released July 13, 2018.

Attachment C: Findings and Statement of Overriding Considerations

***Attachment A and B are NOT attached to the proposed resolution; it is simply described on this page.**

ATTACHMENT C

FINDINGS and STATEMENT OF OVERRIDING CONSIDERATIONS

Introduction

The California Air Resources Board (CARB), as the lead agency for the *Senate Bill 350 Integrated Resource Planning Electricity Sector Greenhouse Gas Planning Targets* (Proposed Targets), prepared a Draft Environmental Analysis (EA) in accordance with its certified regulatory program (Cal. Code Regs., tit. 17, §§ 60000 – 60008) to comply with the requirements of the California Environmental Quality Act (CEQA) (Pub. Resources Code, §21000, *et seq.*). The Draft EA, entitled *Draft Environmental Analysis prepared for the Senate Bill 350 Integrated Resource Planning Electricity Sector Greenhouse Gas Planning Targets*, and included as Appendix C to the Draft Staff Report: *Senate Bill 350 Integrated Resource Planning Electricity Sector Greenhouse Gas Planning Targets* (Draft Staff Report), provided an analysis of the potential environmental impacts associated with the measures recommended to achieve the 2030 target in the Scoping Plan. Following circulation of the Draft EA for a 45-day public review and comment period from April 27, 2018, through June 11, 2018, CARB prepared the *Final Environmental Analysis prepared for the Senate Bill 350 Integrated Resource Planning Electricity Sector Greenhouse Gas Planning Targets* (Final EA) which includes minor revisions to the Draft EA. While minor modifications have been made to the Final EA to ensure it reflects the proposed project as accurately as possible, these changes merely clarify, amplify, or make insignificant modifications to the otherwise-adequate Draft EA. Therefore, no significant new information requires the Final EA to be recirculated. The Final EA was posted on CARB's webpage on July 13, 2018. This statement of findings and overriding considerations was prepared to comply with CEQA's requirement to address the environmental impacts identified in the Final EA. (Pub. Resources Code, §§ 21081, 21081.6, Cal. Code Regs, tit. 14, §§ 15091, 15093.)

The Final EA provides a programmatic analysis of the potential for adverse environmental impacts associated with implementation of the Proposed Targets and describes feasible mitigation measures for identified significant impacts. The level of analysis in the Final EA reflects that the project is a State-level planning effort that recommends greenhouse gas (GHG) emissions targets to help achieve the statewide 2030 target, and approval of the Proposed Targets does not directly lead to any adverse impacts on the environment. As described in Chapter 4 of the Final EA, implementation of the Proposed Targets may indirectly lead to adverse environmental impacts as a result of reasonably foreseeable compliance responses. Therefore, the Final EA discloses the potential significant adverse impacts and beneficial impacts of the reasonably foreseeable compliance responses for implementing the Proposed Targets based on currently available information, without being speculative. The EA impact discussion includes, where relevant, construction-related effects, operational effects of new or modified facilities, and influences of the recommended measures on GHG and air pollutant emissions. Because the specific location, extent, and design of potential new and/or modified facilities cannot be known at this time, the impact discussions reflect a conservative assessment to describe the type of effects that may occur. These impact discussions are followed by the types of mitigation measures that could typically be required to reduce potentially significant environmental impacts. It is expected that many of the

identified potentially significant impacts can be feasibly avoided or mitigated to a less-than-significant level through any project-specific approval or entitlement process related to compliance responses, which typically requires a project-specific environmental review. Nonetheless, in the interest of informed decision making, the Final EA takes a conservative approach for CEQA compliance purposes. Namely, to avoid any risk of understating an impact at this early planning stage, the Final EA presents conclusions for post-mitigation significance of these indirect impacts as significant and unavoidable where there is the possibility that feasible mitigation either may not be sufficient or there is some risk it may not be implemented by third parties with the authority to approve actions undertaken as foreseeable compliance responses.

The Final EA concluded that the reasonably foreseeable compliance responses associated with these Proposed Targets could result in the following short-term and long-term beneficial and adverse impacts: beneficial impacts to energy demand and greenhouse gases; less-than-significant impacts to air quality (odor), energy demand, hazards and hazardous materials, land use planning, mineral resources, population employment, and housing, public services, and recreation; and potentially significant and unavoidable adverse impacts to aesthetics, agriculture and forest resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use planning, mineral resources, noise, recreation, transportation/traffic and utilities and service systems. The potentially significant and unavoidable adverse impacts are disclosed for both short-term, construction-related activities and long-term operational activities, which explains why some resource areas are identified above as having both less-than-significant impacts and potentially significant impacts.

CARB's certified regulatory program requires that before adoption of an action for which significant adverse environmental impacts have been identified during the review process, CARB consider feasible mitigation measures and alternatives that could substantially reduce the impacts. (Cal. Code Regs, tit. 17, §60006.) CEQA places the burden on the approving agency to affirmatively show that it has considered feasible mitigation and alternatives that can lessen or avoid identified impacts through a statement of findings for each identified significant impact. (Pub. Resources Code, §21081.) CEQA Guidelines section 15091 provides direction on the content of the statement of findings. That section states that one or more of the following findings should be identified for each impact:

- Changes or alterations have been required in, or incorporated into, such projects which avoid or substantially lessen the significant environmental effect as identified in the final environmental impact report.
- Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency, or can and should be adopted by such other agency.
- Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the environmental impact report.

The potential adverse impacts identified in this programmatic level EA are potential indirect impacts associated with the compliance responses reasonably foreseeable in response to implementing the Proposed Targets based on currently available information. The authority to determine site- or project-specific impacts of projects carried out by third parties and the ability to require feasible mitigation lies with those agencies with authority to approve such actions, e.g., local permitting authorities in city or county governments and local air districts. CARB does not have the ability to determine with any specificity the project level impacts, nor the authority to require project level mitigation for these types of actions in approving the Proposed Targets, as discussed in the findings below.

An agency may approve a project with unavoidable adverse environmental impacts. When doing so, CEQA requires the agency to make a statement in the record of its views on the ultimate balancing of the merits of approving the project despite the environmental impacts in a “statement of overriding considerations” (Pub. Resources Code, §21081(b); Cal. Code Regs, tit. 14, §15093.) The following presents the Board’s statement of findings for each significant adverse impact identified in the Final EA, accompanied by a brief explanation, and its statement of overriding considerations.

STATEMENT OF FINDINGS

The Board has independently reviewed and considered the entire record, including the information contained in the Final EA, public testimony, written comments received, all of which are hereby incorporated by reference. Of the written comments and public testimony received it was determined that no significant environmental issues were raised, therefore staff did not prepare a response to environmental comments document. The Board makes the following written findings for each significant adverse impact identified, accompanied by a brief explanation of the rationale for each finding. These findings are supported by substantial evidence in the record. Please note that only the compliance responses leading to potentially significant and unavoidable impacts are included for each resource area below. For a complete discussion of the compliance responses relevant to each resource area, please see Chapter 4 of the Final EA.

Aesthetics

Finding and Explanation

The Final EA found that the reasonably foreseeable actions associated with implementation of the Proposed Targets could result in potentially significant short-term construction-related impacts and long-term operational impacts on aesthetic resources. The reasonably foreseeable compliance responses that could result from implementation of the Proposed Targets could include: construction of new facilities or modification of existing facilities; an increased number of renewable energy projects, such as, wind, solar thermal, solar photovoltaic, geothermal, solid-fuel biomass, biogas, and small hydroelectric systems.

The Final EA includes Mitigation Measures 1.a and 1.b, which identify existing statutes and regulations and operating permit requirements, as well as other recognized practices designed to reduce these potentially significant impacts. The Board finds that the authority to determine site- or project-specific mitigation is within the purview of jurisdictions with land use approval and permitting authority, such as city or county governments. Therefore, the Board

finds that the authority to implement Mitigation Measures 1.a and 1.b is within the responsibility and jurisdiction of other public agencies, and that the requirements and practices in Mitigation Measures 1.a and 1.b should be adopted by those agencies. Public agencies with authority can and should implement the identified measures to the degree feasible. Because the authority and responsibility to determine project-level impacts and require project-level mitigation lies with land use and/or permitting agencies for individual projects, and the programmatic level of analysis associated with the Final EA does not attempt to address project-specific details of mitigation, there is inherent uncertainty in the degree of mitigation that may ultimately be implemented to reduce potentially significant impacts to this resource.

Impacts may be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval at a later stage. But at this stage, the Board lacks full details on the design of potential programs and associated required mitigation. Consequently, the Board takes a conservative approach in its post-mitigation significance conclusion and finds the impacts to this resource associated with the Proposed Targets would be potentially significant and unavoidable. This impact is overridden by the project's benefits as set forth in the statement of overriding considerations.

Agriculture and Forest Resources

Finding and Explanation

The Final EA found that the reasonably foreseeable actions associated with implementation of the Proposed Targets could result in potentially significant short-term construction-related impacts and long-term operational impacts on agriculture and forest resources. The reasonably foreseeable compliance responses that could result from implementation of the Proposed Targets could include: construction of new facilities or modification of existing facilities; an increased number of renewable energy projects, such as, wind, solar thermal, solar photovoltaic, geothermal, solid-fuel biomass, biogas, and small hydroelectric systems.

The EA includes Mitigation Measure 2.a, which identifies existing statutes and regulations and construction and operating permit requirements as well as other recognized practices designed to reduce these potentially significant impacts. The Board finds that the authority to determine site- or project-specific mitigation is within the purview of jurisdictions with land use approval and permitting authority, such as city or county governments. Therefore, the Board finds that the authority to implement Mitigation Measure 2.a is within the responsibility and jurisdiction of other public agencies, and that the requirements and practices in Mitigation Measure 2.a should be adopted by those agencies. Public agencies with authority can and should implement the identified measures to the degree feasible. Because the authority and responsibility to determine project-level impacts and require project-level mitigation lies with land use and/or permitting agencies for individual projects, and the programmatic level of analysis associated with the EA does not attempt to address project-specific details of mitigation, there is inherent uncertainty in the degree of mitigation that may ultimately be implemented to reduce potentially significant impacts to this resource.

Impacts may be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval at a later stage. But at this stage, the Board lacks full details on the design of potential programs and associated required mitigation. Consequently, the Board takes a conservative approach in its post-mitigation significance conclusion and finds the

impacts to this resource associated with the Proposed Targets would be potentially significant and unavoidable. This impact is overridden by the project's benefits as set forth in the statement of overriding considerations.

Air Quality

Finding and Explanation

The Final EA found that the reasonably foreseeable actions associated with implementation of the Proposed Targets could result in potentially significant short-term construction-related impacts and long-term operational impacts on air quality and less-than-significant odor impacts related to construction and operation. The reasonably foreseeable compliance responses that could result from implementation of the Proposed Targets include: construction of new facilities or modification of existing facilities; an increased number of renewable energy projects, such as, wind, solar thermal, solar photovoltaic, geothermal, solid-fuel biomass, biogas, and small hydroelectric systems. As discussed in greater detail in Chapter 4 of the Final EA, as with any proposal to modify power generation portfolios, the Proposed Targets have the potential to create localized air pollutant emissions increases. Electricity generation from wind and solar plants is variable in nature, and other electricity system assets (potentially including gas-fired generation) must be utilized to accommodate that variability.

The EA includes Mitigation Measures 3.a and 3.b, which identify existing statutes and regulations and construction and operating permit requirements, as well as other recognized practices designed to reduce these potentially significant impacts. The Board finds that the authority to determine site- or project-specific mitigation is within the purview of jurisdictions with land use approval and permitting authority, such as city or county governments. Therefore, the Board finds that the authority to implement Mitigation Measures 3.a and 3.b is within the responsibility and jurisdiction of other public agencies, and that the requirements and practices in Mitigation Measures 3.a and 3.b should be adopted by those agencies. Public agencies with authority can and should implement the identified measures to the degree feasible. Because the authority and responsibility to determine project-level impacts and require project-level mitigation lies with land use and/or permitting agencies for individual projects, and the programmatic level of analysis associated with the EA does not attempt to address project-specific details of mitigation, the degree of mitigation that may ultimately be implemented to reduce potentially significant impacts to this resource is inherently uncertain.

Impacts may be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval at a later stage. But at this stage, the Board lacks full details on the design of potential programs and associated required mitigation. Consequently, the Board takes a conservative approach in its post-mitigation significance conclusion and finds the impacts to this resource associated with the Proposed Targets would be potentially significant and unavoidable. This impact is overridden by the project's benefits as set forth in the statement of overriding considerations.

Biological Resources

Finding and Explanation

The Final EA found that the reasonably foreseeable actions associated with implementation of the Proposed Targets could result in potentially significant short-term construction-related impacts and long-term operational impacts on biological resources. The reasonably foreseeable compliance responses that could result from implementation of the Proposed Targets include: construction of new facilities or modification of existing facilities; an increased number of renewable energy projects, such as, wind, solar thermal, solar photovoltaic, geothermal, solid-fuel biomass, biogas, and small hydroelectric systems.

The EA includes Mitigation Measures 4.a and 4.b, which identify existing statutes and regulations and construction and operating permit requirements, as well as other recognized practices designed to reduce these potentially significant impacts. The Board finds that the authority to determine site- or project-specific mitigation is within the purview of jurisdictions with land use approval and permitting authority, such as city or county governments. Therefore, the Board finds that the authority to implement Mitigation Measures 4.a and 4.b is within the responsibility and jurisdiction of other public agencies, and that the requirements and practices in Mitigation Measures 4.a and 4.b should be adopted by those agencies. Public agencies with authority can and should implement the identified measures to the degree feasible. Because the authority and responsibility to determine project-level impacts and require project-level mitigation lies with land use and/or permitting agencies for individual projects, and the programmatic level of analysis associated with the EA does not attempt to address project-specific details of mitigation, the degree of mitigation that may ultimately be implemented to reduce potentially significant impacts to this resource is inherently uncertain.

Impacts may be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval at a later stage. But at this stage, the Board lacks full details on the design of potential programs and associated required mitigation. Consequently, the Board takes a conservative approach in its post-mitigation significance conclusion and finds the impacts to this resource associated with the Proposed Targets would be potentially significant and unavoidable. This impact is overridden by the project's benefits as set forth in the statement of overriding considerations.

Cultural Resources

Finding and Explanation

The Final EA found that the reasonably foreseeable actions associated with implementation of the Proposed Targets could result in potentially significant short-term construction-related impacts and long-term operational impacts on cultural resources. The reasonably foreseeable compliance responses that could result from implementation of the Proposed Targets include: construction of new facilities or modification of existing facilities; an increased number of renewable energy projects, such as, wind, solar thermal, solar photovoltaic, geothermal, solid-fuel biomass, biogas, and small hydroelectric systems.

The EA includes Mitigation Measure 5.a, which identifies existing statutes and regulations and construction and operating permit requirements, designed to reduce these potentially significant impacts. The Board finds that the authority to determine site- or project-specific

mitigation is within the purview of jurisdictions with land use approval and permitting authority, such as city or county governments. Therefore, the Board finds that the authority to implement Mitigation Measure 5.a is within the responsibility and jurisdiction of other public agencies, and that the requirements and practices in Mitigation Measure 5.a should be adopted by those agencies. Public agencies with authority can and should implement the identified measures to the degree feasible. Because the authority and responsibility to determine project-level impacts and require project-level mitigation lies with land use and/or permitting agencies for individual projects, and the programmatic level of analysis associated with the EA does not attempt to address project-specific details of mitigation, the degree of mitigation that may ultimately be implemented to reduce potentially significant impacts to this resource is inherently uncertain.

Impacts may be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval at a later stage. But at this stage, the Board lacks full details on the design of potential programs and associated required mitigation. Consequently, the Board takes a conservative approach in its post-mitigation significance conclusion and finds the impacts to this resource associated with the Proposed Targets would be potentially significant and unavoidable. This impact is overridden by the project's benefits as set forth in the statement of overriding considerations.

Geology, Seismicity and Soil Resources

Finding and Explanation

The Final EA found that the reasonably foreseeable actions associated with implementation of the Proposed Targets could result in potentially significant short-term construction-related impacts and long-term operational impacts on geology and soil resources. The reasonably foreseeable compliance responses that could result from implementation of the Proposed Targets include: construction of new facilities or modification of existing facilities; an increased number of renewable energy projects, such as, wind, solar thermal, solar photovoltaic, geothermal, solid-fuel biomass, biogas, and small hydroelectric systems.

The EA includes Mitigation Measure 7.a, which identifies existing statutes and regulations and construction and operating permit requirements, as well as other recognized practices designed to reduce these potentially significant impacts. The Board finds that the authority to determine site- or project-specific mitigation is within the purview of jurisdictions with land use approval and permitting authority, such as city or county governments. Therefore, the Board finds that the authority to implement Mitigation Measure 7.a is within the responsibility and jurisdiction of other public agencies, and that the requirements and practices in Mitigation Measure 7.a should be adopted by those agencies. Public agencies with authority can and should implement the identified measures to the degree feasible. Because the authority and responsibility to determine project-level impacts and require project-level mitigation lies with land use and/or permitting agencies for individual projects, and the programmatic level of analysis associated with the EA does not attempt to address project-specific details of mitigation, the degree of mitigation that may ultimately be implemented to reduce potentially significant impacts to this resource is inherently uncertain.

Impacts may be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval at a later stage. But at this stage, the Board lacks full details on the

design of potential programs and associated required mitigation. Consequently, the Board takes a conservative approach in its post-mitigation significance conclusion and finds the impacts to this resource associated with the Proposed Targets would be potentially significant and unavoidable. This impact is overridden by the project's benefits as set forth in the statement of overriding considerations.

Hazards and Hazardous Materials

Finding and Explanation

The Final EA found that the reasonably foreseeable actions associated with implementation of the Proposed Targets could result in potentially significant short-term construction-related impacts and long-term operational impacts on hazards and hazardous material resources. The reasonably foreseeable compliance responses that could result from implementation of the Proposed Targets include: construction of new facilities or modification of existing facilities; an increased number of renewable energy projects, such as, wind, solar thermal, solar photovoltaic, geothermal, solid-fuel biomass, biogas, and small hydroelectric systems.

The EA includes Mitigation Measure 9.a which identifies existing statutes and regulations and construction and operating permit requirements, as well as other recognized practices designed to reduce these potentially significant impacts. The Board finds that the authority to determine site- or project-specific mitigation is within the purview of jurisdictions with land use approval and permitting authority, such as city or county governments. Therefore, the Board finds that the authority to implement Mitigation Measure 9.a is within the responsibility and jurisdiction of other public agencies, and that the requirements and practices in Mitigation Measure 9.a should be adopted by those agencies. Public agencies with authority can and should implement the identified measures to the degree feasible. Because the authority and responsibility to determine project-level impacts and require project-level mitigation lies with land use and/or permitting agencies for individual projects, and the programmatic level of analysis associated with the EA does not attempt to address project-specific details of mitigation, the degree of mitigation that may ultimately be implemented to reduce potentially significant impacts to this resource is inherently uncertain.

Impacts may be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval at a later stage. But at this stage, the Board lacks full details on the design of potential programs and associated required mitigation. Consequently, the Board takes a conservative approach in its post-mitigation significance conclusion and finds the impacts to this resource associated with the Proposed Targets would be potentially significant and unavoidable. This impact is overridden by the project's benefits as set forth in the statement of overriding considerations.

Hydrology and Water Quality

Finding and Explanation

The Final EA found that the reasonably foreseeable actions associated with implementation of the Proposed Targets could result in potentially significant short-term construction-related impacts and long-term operational impacts on hydrology and water quality resources. The reasonably foreseeable compliance responses that could result from implementation of the Proposed Targets include: construction of new facilities or modification of existing facilities;

an increased number of renewable energy projects, such as, wind, solar thermal, solar photovoltaic, geothermal, solid-fuel biomass, biogas, and small hydroelectric systems.

The EA includes Mitigation Measures 10.a and 10.b, which identify existing statutes and regulations and construction and operating permit requirements, as well as other recognized practices designed to reduce these potentially significant impacts. The Board finds that the authority to determine site- or project-specific mitigation is within the purview of jurisdictions with land use approval and permitting authority, such as city or county governments. Therefore, the Board finds that the authority to implement Mitigation Measures 10.a, and 10.b is within the responsibility and jurisdiction of other public agencies, and that the requirements and practices in Mitigation Measures 10.a and 10.b should be adopted by those agencies. Public agencies with authority can and should implement the identified measures to the degree feasible. Because the authority and responsibility to determine project-level impacts and require project-level mitigation lies with land use and/or permitting agencies for individual projects, and the programmatic level of analysis associated with the EA does not attempt to address project-specific details of mitigation, the degree of mitigation that may ultimately be implemented to reduce potentially significant impacts to this resource is inherently uncertain.

Impacts may be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval at a later stage. But at this stage, the Board lacks full details on the design of potential programs and associated required mitigation. Consequently, the Board takes a conservative approach in its post-mitigation significance conclusion and finds the impacts to this resource associated with the Proposed Targets would be potentially significant and unavoidable. This impact is overridden by the project's benefits as set forth in the statement of overriding considerations.

Land Use and Planning

Finding and Explanation

The Final EA found that the reasonably foreseeable actions associated with implementation of the Proposed Targets could result in potentially significant long-term operational impacts on land use and planning resources. The reasonably foreseeable compliance responses that could result from implementation of the Proposed Targets include: construction of new facilities or modification of existing facilities; an increased number of renewable energy projects, such as, wind, solar thermal, solar photovoltaic, geothermal, solid-fuel biomass, biogas, and small hydroelectric systems.

The EA includes Mitigation Measure 11.b, which identifies existing statutes and regulations and construction and operating permit requirements, as well as other recognized practices designed to reduce these potentially significant impacts. The Board finds that the authority to determine site- or project-specific mitigation is within the purview of jurisdictions with land use approval and permitting authority, such as city or county governments. Therefore, the Board finds that the authority to implement Mitigation Measure 11.b is within the responsibility and jurisdiction of other public agencies, and that the requirements and practices in Mitigation Measure 11.b, should be adopted by those agencies. Public agencies with authority can and should implement the identified measures to the degree feasible. Because the authority and responsibility to determine project-level impacts and require project-level mitigation lies with land use and/or permitting agencies for individual projects, and the programmatic level of analysis associated with the EA does not attempt to address project-specific details of

mitigation, the degree of mitigation that may ultimately be implemented to reduce potentially significant impacts to this resource is inherently uncertain.

Impacts may be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval at a later stage. But at this stage, the Board lacks full details on the design of potential programs and associated required mitigation. Consequently, the Board takes a conservative approach in its post-mitigation significance conclusion and finds the impacts to this resource associated with the Proposed Targets would be potentially significant and unavoidable. This impact is overridden by the project's benefits as set forth in the statement of overriding considerations.

Mineral Resources

Finding and Explanation

The Final EA found that the reasonably foreseeable actions associated with implementation of the Proposed Targets could result in potentially significant long-term operational impacts on noise resources. The reasonably foreseeable compliance responses that could result from implementation of the Proposed Targets include: construction of new facilities or modification of existing facilities; an increased number of renewable energy projects, such as, wind, solar thermal, solar photovoltaic, geothermal, solid-fuel biomass, biogas, and small hydroelectric systems.

The EA includes Mitigation Measure 12.b, which identify existing statutes and regulations and construction and operating permit requirements, as well as other recognized practices designed to reduce these potentially significant impacts. The Board finds that the authority to determine site- or project-specific mitigation is within the purview of jurisdictions with land use approval and permitting authority, such as city or county governments. Therefore, the Board finds that the authority to implement Mitigation Measure 12.b is within the responsibility and jurisdiction of other public agencies, and that the requirements and practices in Mitigation Measure 12.b should be adopted by those agencies. Public agencies with authority can and should implement the identified measures to the degree feasible. Because the authority and responsibility to determine project-level impacts and require project-level mitigation lies with land use and/or permitting agencies for individual projects, and the programmatic level of analysis associated with the EA does not attempt to address project-specific details of mitigation, the degree of mitigation that may ultimately be implemented to reduce potentially significant impacts to this resource is inherently uncertain.

Impacts may be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval at a later stage. But at this stage, the Board lacks full details on the design of potential programs and associated required mitigation. Consequently, the Board takes a conservative approach in its post-mitigation significance conclusion and finds the impacts to this resource associated with the Proposed Targets would be potentially significant and unavoidable. This impact is overridden by the project's benefits as set forth in the statement of overriding considerations.

Noise

Finding and Explanation

The Final EA found that the reasonably foreseeable actions associated with implementation of the Proposed Targets could result in potentially significant short-term construction-related impacts and long-term operational impacts on noise resources. The reasonably foreseeable compliance responses that could result from implementation of the Proposed Targets include: construction of new facilities or modification of existing facilities; an increased number of renewable energy projects, such as, wind, solar thermal, solar photovoltaic, geothermal, solid-fuel biomass, biogas, and small hydroelectric systems.

The EA includes Mitigation Measures 13.a and 13.b, which identify existing statutes and regulations and construction and operating permit requirements, as well as other recognized practices designed to reduce these potentially significant impacts. The Board finds that the authority to determine site- or project-specific mitigation is within the purview of jurisdictions with land use approval and permitting authority, such as city or county governments. Therefore, the Board finds that the authority to implement Mitigation Measures 13.a and 13.b is within the responsibility and jurisdiction of other public agencies, and that the requirements and practices in Mitigation Measures 13.a and 13.b should be adopted by those agencies. Public agencies with authority can and should implement the identified measures to the degree feasible. Because the authority and responsibility to determine project-level impacts and require project-level mitigation lies with land use and/or permitting agencies for individual projects, and the programmatic level of analysis associated with the EA does not attempt to address project-specific details of mitigation, the degree of mitigation that may ultimately be implemented to reduce potentially significant impacts to this resource is inherently uncertain.

Impacts may be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval at a later stage. But at this stage, the Board lacks full details on the design of potential programs and associated required mitigation. Consequently, the Board takes a conservative approach in its post-mitigation significance conclusion and finds the impacts to this resource associated with the Proposed Targets would be potentially significant and unavoidable. This impact is overridden by the project's benefits as set forth in the statement of overriding considerations.

Recreation

Finding and Explanation

The Final EA found that the reasonably foreseeable actions associated with implementation of the Proposed Targets could result in potentially significant long-term operational impacts on recreation resources. The reasonably foreseeable compliance responses that could result from implementation of the Proposed Targets include: construction of new facilities or modification of existing facilities; an increased number of renewable energy projects, such as, wind, solar thermal, solar photovoltaic, geothermal, solid-fuel biomass, biogas, and small hydroelectric systems.

The EA includes Mitigation Measure 16.b, which identifies existing statutes and regulations and construction and operating permit requirements, as well as other recognized practices designed to reduce these potentially significant impacts. The Board finds that the authority to

determine site- or project-specific mitigation is within the purview of jurisdictions with land use approval and permitting authority, such as city or county governments. Therefore, the Board finds that the authority to implement Mitigation Measure 16.b is within the responsibility and jurisdiction of other public agencies, and that the requirements and practices in Mitigation Measure 16.b.i should be adopted by those agencies. Public agencies with authority can and should implement the identified measures to the degree feasible. Because the authority and responsibility to determine project-level impacts and require project-level mitigation lies with land use and/or permitting agencies for individual projects, and the programmatic level of analysis associated with the EA does not attempt to address project-specific details of mitigation, the degree of mitigation that may ultimately be implemented to reduce potentially significant impacts to this resource is inherently uncertain.

Impacts may be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval at a later stage. But at this stage, the Board lacks full details on the design of potential programs and associated required mitigation. Consequently, the Board takes a conservative approach in its post-mitigation significance conclusion and finds the impacts to this resource associated with the Proposed Targets would be potentially significant and unavoidable. This impact is overridden by the project's benefits as set forth in the statement of overriding considerations.

Transportation and Traffic

Finding and Explanation

The Final EA found that the reasonably foreseeable actions associated with implementation of the Proposed Targets could result in potentially significant short-term construction-related impacts and long-term operational impacts on transportation and traffic resources. The reasonably foreseeable compliance responses that could result from implementation of the Proposed Targets include: construction of new facilities or modification of existing facilities; an increased number of renewable energy projects, such as, wind, solar thermal, solar photovoltaic, geothermal, solid-fuel biomass, biogas, and small hydroelectric systems.

The EA includes Mitigation Measures 17.a and 17.b, which identify existing statutes and regulations and construction and operating permit requirements, as well as other recognized practices designed to reduce these potentially significant impacts. The Board finds that the authority to determine site- or project-specific mitigation is within the purview of jurisdictions with land use approval and permitting authority, such as city or county governments. Therefore, the Board finds that the authority to implement Mitigation Measures 17.a and 17.b is within the responsibility and jurisdiction of other public agencies, and that the requirements and practices in Mitigation Measures 17.a and 17.b should be adopted by those agencies. Public agencies with authority can and should implement the identified measures to the degree feasible. Because the authority and responsibility to determine project-level impacts and require project-level mitigation lies with land use and/or permitting agencies for individual projects, and the programmatic level of analysis associated with the EA does not attempt to address project-specific details of mitigation, the degree of mitigation that may ultimately be implemented to reduce potentially significant impacts to this resource is inherently uncertain.

Impacts may be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval at a later stage. But at this stage, the Board lacks full details on the design of potential programs and associated required mitigation. Consequently, the Board

takes a conservative approach in its post-mitigation significance conclusion and finds the impacts to this resource associated with the Proposed Targets would be potentially significant and unavoidable. This impact is overridden by the project's benefits as set forth in the statement of overriding considerations.

Utilities and Service Systems

Finding and Explanation

The Final EA found that the reasonably foreseeable actions associated with implementation of the Proposed Targets could result in potentially significant long-term operational impacts on utilities and service systems resources. The reasonably foreseeable compliance responses that could result from implementation of the Proposed Targets include: construction of new facilities or modification of existing facilities; an increased number of renewable energy projects, such as, wind, solar thermal, solar photovoltaic, geothermal, solid-fuel biomass, biogas, and small hydroelectric systems.

The EA includes Mitigation Measure 18.a, which identifies existing statutes and regulations and construction and operating permit requirements, as well as other recognized practices designed to reduce these potentially significant impacts. The Board finds that the authority to determine site- or project-specific mitigation is within the purview of jurisdictions with land use approval and permitting authority, such as city or county governments. Therefore, the Board finds that the authority to implement Mitigation Measures 18.a is within the responsibility and jurisdiction of other public agencies, and that the requirements and practices in Mitigation Measure 18.a should be adopted by those agencies. Public agencies with authority can and should implement the identified measures to the degree feasible. Because the authority and responsibility to determine project-level impacts and require project-level mitigation lies with land use and/or permitting agencies for individual projects, and the programmatic level of analysis associated with the EA does not attempt to address project-specific details of mitigation, the degree of mitigation that may ultimately be implemented to reduce potentially significant impacts to this resource is inherently uncertain.

Impacts may be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval at a later stage. But at this stage, the Board lacks full details on the design of potential programs and associated required mitigation. Consequently, the Board takes a conservative approach in its post-mitigation significance conclusion and finds the impacts to this resource associated with the proposed actions in the Scoping Plan Proposed Targets would be potentially significant and unavoidable. This impact is overridden by the project's benefits as set forth in the statement of overriding considerations.

Cumulatively Considerable Impacts

The EA takes a conservative approach and concluded the Proposed Targets could result in a cumulatively considerable contribution to significant cumulative impacts to aesthetics, agricultural and forest resources, air quality impacts, biological resources, cultural resources, geology, seismicity and soil resources, hazards and hazardous materials, hydrology and water quality, land use planning, mineral resources, noise, recreation, transportation and traffic, and utilities and service systems. While suggested mitigation is provided within the respective resource areas of the EA analyses that could address the contribution of the Proposed Targets to each of these potentially cumulatively considerable impacts, the Board

finds that because these adverse impacts are potential indirect impacts associated with the compliance responses, and because CARB lacks general land use or permitting authority, the authority to determine site- or project-specific mitigation is within the purview of jurisdictions with land use approval and permitting authority, such as city or county governments. Public agencies with authority can and should implement the identified measures to the degree feasible.

Consequently, while cumulative impacts could be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, the Board takes a conservative approach in its post-mitigation significance conclusion and finds the cumulatively considerable contribution of the Proposed Targets to existing significant cumulative impacts to aesthetics, agricultural and forest resources, air quality impacts, biological resources, cultural resources, geology, seismicity and soil resources, hazards and hazardous materials, hydrology and water quality, land use planning, mineral resources, noise, recreation, transportation and traffic, and utilities and service systems to be potentially significant and unavoidable.

Findings on Alternatives to the Project

In addition to the No-Project Alternative, the EA considered a reasonable range of potentially feasible alternatives that could potentially reduce or eliminate the significant adverse environmental impacts associated with the Proposed Targets, while accomplishing most of the basic project objectives.

The Board finds the alternatives analysis is sufficient to inform the Board and the public regarding the tradeoffs between the degree to which the alternatives could reduce environmental impacts and the corresponding degree to which the alternatives could achieve the project objectives. Further, the Board finds that none of the alternatives discussed in the Final EA is clearly environmentally superior, and the discussion of the environmental advantages and disadvantages of each alternative in comparison to the proposed scenario is sufficient to inform the Board of alternative options under CEQA.

Based upon a full evaluation of the alternatives, and the entirety of the record, the Board finds that adoption and implementation of the Proposed Targets is the most desirable, feasible, and appropriate action for achieving the objectives of the project, and the Board rejects the other alternatives because they either fail to meet most project objectives, or are infeasible based on consideration of the relevant factors identified in the EA and briefly described below:

Alternative 1: No Project Alternative

Alternative 1 in the EA describes a reasonably foreseeable scenario if CARB did not approve the Proposed Targets. Under the No-Project Alternative, publicly owned utilities (POUs) and load serving entities (LSEs) would not consider GHG planning targets when developing their initial IRPs or updating future IRPs. Even though measures and policies that exist or are required by statute, such as the SB 350 mandate of 50 percent RPS, would continue to be implemented, the absence of GHG planning targets under the No-Project Alternative is a missed opportunity for IRP filing entities to consider GHG emissions reductions explicitly in their resource planning process as part of comprehensive IRP. These missed opportunities

could potentially mean greater reliance on fossil fuel rather than planning for greater energy efficiency and lower carbon emitting resources. In addition, the No-Project alternative could fail to incentivize new low carbon responses and innovative technologies that could be explored by POU and LSEs, particularly if POU and LSEs plan to the lower end of the range in the Proposed Targets. Alternative 1 represents the result of actions to achieve other statutorily-mandated requirements, without incorporating the additional GHG-specific reduction targets set by the Proposed Targets.

It is not clear that it would be legally feasible for CARB to implement the No-Project Alternative. CARB has a statutory mandate to establish the GHG emissions reduction targets, making it legally infeasible for CARB to not establish these targets. SB 350 directs CARB, in coordination with the CPUC and the CEC, to establish GHG emissions reduction planning targets for the electricity sector, and for each POU or LSE, while also ensuring that the targets reflect the electricity sector's percentage in achieving economy-wide GHG emissions specified in SB 32 (40 percent below 1990 levels by 2030). Therefore, CARB would be violating these legal mandates if it chose the No-Project Alternative.

The Board finds that this alternative would not meet any of the project objectives listed in Chapter 2. The No-Project Alternative would not establish electricity sector GHG planning targets, diminishing the likelihood of technologically feasible and cost-effective electricity sector GHG planning targets that achieve economy-wide GHG emissions reductions specified in SB 32 (Objective 1). The No-Project Alternative also means that there are no POU and LSE GHG planning targets (Objective 2). Lastly, since GHG planning targets would not be established, this means that neither a methodology for associating the electricity GHG planning target with individual POU and LSEs, nor an approach for updating the non-existent GHG planning targets for use in future IRP cycles, would be established (Objective 3 and 4). For these reasons, the Board rejects this alternative.

Alternative 2: 65 MMTCO_{2e} Planning Target

Alternative 2 establishes the electricity sector GHG planning target at 65 MMTCO_{2e}. This is equivalent to 40 percent below the 1990 levels of electricity sector GHG emissions, which were 108 MMTCO_{2e} in 1990. The metric of 40 percent below 1990 levels by 2030 is established based on the statewide GHG emissions reductions target of 40 percent below 1990 levels by 2030. The methodology of apportioning the electricity sector GHG planning target among POU and LSEs would be the same as in the Proposed Targets, based on each entity's percentage of estimated 2030 GHG emissions. The Alternative 2 target of 65 MMTCO_{2e} in 2030 is higher than both the Proposed Targets range of 30 MMTCO_{2e} to 53 MMTCO_{2e} and the estimated electricity sector GHG emissions in 2030 under business-as-usual conditions (62 MMTCO_{2e}).¹ Planning for an increase in GHG emissions in the electricity sector is in opposition to achieving the SB 32 mandated economy-wide GHG emissions reductions of 40 percent below 1990 levels by 2030.

This alternative would likely result in long-term differences in the state's power generation mix relative to the Proposed Targets. Decreased energy efficiency in buildings and in industrial processes would decrease energy conservation relative to the Proposed Targets. Consumption of fossil fuels would likely increase relative to the Proposed Targets resulting in

¹ 2017 Scoping Plan Update Reference Scenario

increased greenhouse gas emissions impacts. Use of this target would also be likely to result in a more GHG-intensive power plant mix compared to the Proposed Targets scenario, which means a comparative increase in both statewide GHG and air pollutant impacts, as well as comparatively higher localized emissions at individual fossil-fueled energy facilities that would otherwise be ramped down if the Proposed Targets were implemented. Relatively greater reliance on non-renewable energy sources could avoid some impacts associated with operating renewable energy resources, depending on the resource, including aesthetics, agricultural resources, biological resources (impacts to avian and other wildlife species), hydrology and water quality, and land use and planning.

The Board finds that it is unclear if Alternative 2 would meet the statewide all-sector 2030 GHG emissions reduction target, since the Alternative 2 target of 65 MMTCO_{2e} is higher than the Proposed Targets of 30 MMTCO_{2e} to 53 MMTCO_{2e} (Objectives 1). To achieve the 2030 GHG emissions reduction target with a 65 MMTCO_{2e} GHG planning target for the electricity sector, other sectors in the economy would need to reduce additional GHG emissions. It is unclear what sector(s) would achieve additional GHG reductions, or if these GHG reductions would be technologically feasible and cost effective, or what additional collateral environmental impacts may result from the additional GHG reductions achieved in additional sectors. While the Alternative 2 target of 65 MMTCO_{2e} represents a 40 percent reduction for this sector in the context of the 2030 GHG reduction target, this sector must be considered in the context of other climate policies. Load shifting from electrifying the transportation sector, electrifying shipping ports, and additional energy efficiency measures that may shift the residential and commercial sectors from natural gas to electrification are expected to increase electrical load overall. As such, it is important to ensure the increased load does not equate to increased GHG emissions. This concern is reduced as the electricity sector is further decarbonized over the next 15 to 30 years. It is important to ensure the IRP planning target range for the electricity sector remains sufficiently ambitious and consistent with other State mandates, while balancing with other objectives, and protects against GHG emissions increases in the sector – especially in the near-term.

For the above reasons the Board rejects this alternative.

Alternative 3: 30 - 42 MMTCO_{2e} Range Planning Target

Alternative 3 establishes the electricity sector GHG planning target range at 30 to 42 MMTCO_{2e}. This reflects increased action beyond existing statutes or other requirements, such as greater deployment of renewable energy and increased energy efficiency, or potentially new responses and innovative technologies developed by POUs and LSEs. The methodology of apportioning the electricity sector GHG planning target among POUs and LSEs would be the same as in the Proposed Targets, based on each entity's percentage of estimated 2030 GHG emissions. Deployment of additional renewable energy beyond the SB 350 mandate of 50 percent RPS is likely feasible from a technological perspective, based on the largest three IOUs' aggregated forecast that they will meet the 50 percent RPS requirement ten years early by 2020.² As such, the progress of greater than expected renewable deployment would lend itself to support a lower GHG planning target range for a

² CPUC Renewables Portfolio Standard Annual Report, November, 2017. Retrieved from: http://www.cpuc.ca.gov/uploadedFiles/CPUC_Website/Content/Utilities_and_Industries/Energy/Reports_and_White_Papers/Nov%202017%20-%20RPS%20Annual%20Report.pdf

subset of the POUs and LSEs, but not all. For modeling purposes, CPUC evaluated sector point estimates of 42 MMTCO_{2e} and 30 MMTCO_{2e}. The CPUC modeling results estimated there would be higher costs for the lower end of the range at 30 MMTCO_{2e}.³ But CPUC also found for the LSEs, 42 MMTCO_{2e} could be achievable in a cost-effective manner.⁴ Again, the electricity sector must be considered within the broader economic sectors (transportation, industry, waste, agriculture, etc.) and there may be other cost-effective opportunities to reduce GHG emissions to help towards achieving the statewide 2030 target. The State is trying to achieve GHG reductions across all sectors with the least cost impact to the economy and households.

Alternative 3 would result in potential adverse environmental impacts that are similar to those described in Chapter 4 of the Draft EA. These potential adverse environmental impacts include impacts resulting from short-term construction and long-term operation of power plant and energy storage resources.

Short-term construction impacts would be primarily related to new electricity generation facilities that do not burn fossil fuels (e.g., wind plants, geothermal plants, PV installation), new energy storage facilities (e.g., lithium ion battery) and modifications to buildings to enhance energy efficiency. Resource areas impacted by short-term construction activities include aesthetics, agricultural resources, air quality, biological resources, cultural resources, energy conservation, geology and soils, greenhouse gases, hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population, employment and housing, public services, recreation, transportation/traffic, and utilities and service systems, as described in Chapter 4 of the Final EA. These impacts would be increased relative to the Proposed Targets.

Long-term operational impacts would be primarily associated with increased electricity generation from facilities that do not burn fossil fuels and corresponding reductions in operation of facilities that do burn fossil fuels. Increased use of energy storage would also have long-term operational impacts. As discussed in greater detail in Chapter 4 of the Final EA, renewable electricity generation facilities affect resource areas such as aesthetics, noise, and biological resources. Resource areas such as mineral resources may be impacted by energy storage facilities that rely on lithium ion batteries. These impacts would be increased relative to the Proposed Targets. Furthermore, as discussed in greater detail in Chapter 4 of the Final EA, as with any proposal to modify power generation portfolios, this alternative still has the potential to create localized emissions increases. Electricity generation from wind and solar plants is variable in nature, and other electricity system assets must be utilized to accommodate that variability.

The Board finds that while Alternative 3 could meet the objective of increasing the likelihood of achieving economy-wide GHG emissions reductions specified in SB 32, it is unclear if Alternative 3 could be achieved cost-effectively since additional costs would be associated

³ Attachment A: CPUC Energy Division Proposed Reference System Plan from Administrative Law Judge's Ruling Seeking Comment on Proposed Reference System Plan and Related Commission Policy Actions, September 19, 2017, p.65. Retrieved from: <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M195/K910/195910807.PDF>

⁴ California Public Utilities Commission Decision (D.) 18-02-018, Finding of Fact 4.

with greater renewables, storage, and likely transmission (Objective 1).⁵ It is likely that Alternative 3 is technologically feasible for some LSEs and POU, but not all, assuming technologies such as wind, solar, geothermal, and energy storage are deployed to achieve Alternative 3 (Objective 1), but new electricity system operation criteria would also need to be developed and implemented to maintain system reliability. For these reasons, the Board rejects this alternative.

Alternative 4: 42 - 53 MMTCO_{2e} Range

Alternative 4 establishes the electricity sector GHG planning target range at 42 to 53 MMTCO_{2e}. This reflects increased action beyond existing statutes or other requirements, such as greater deployment of renewable energy and increased energy efficiency, or potentially new responses and innovative technologies developed by POU and LSEs.

The methodology of apportioning the electricity sector GHG planning target among POU and LSEs would be the same as in the Proposed Targets, based on each entity's percentage of estimated 2030 GHG emissions.

The high-end of Alternative 4 is indicative of meeting 50 percent RPS by 2030.⁶ However, deployment of additional renewable energy beyond the SB 350 mandate of 50 percent RPS is likely feasible from a technological perspective, based on the largest three IOUs' aggregated forecast that they will meet the 50 percent RPS requirement ten years early by 2020.⁷

The low-end of Alternative 4 is based on CPUC modeling results, which indicate that 42 MMTCO_{2e} could be achievable in a cost-effective manner.⁵ However, some POU and LSEs have adopted and are planning for renewable procurement goals that go beyond SB 350 RPS levels, providing a signal that additional GHG emissions can be reduced beyond what is implied by SB 350.⁸ As such, the low-end of Alternative 4 may not provide the flexibility needed to accommodate POU and LSEs planning for greater GHG reductions.

Due to existing statutory requirements such as 50 percent RPS, this alternative would still involve construction of new electricity generation facilities that do not burn fossil fuels (e.g., wind plants, geothermal plants, PV installation), new energy storage facilities (e.g., lithium ion battery) and modifications to buildings to enhance energy efficiency, although to a somewhat lesser degree than would occur if the Proposed Targets are adopted and implemented by POU and LSEs. Resource areas impacted by short-term construction activities associated with these actions include aesthetics, agricultural resources, air quality, biological resources, cultural resources, energy conservation, geology and soils, greenhouse gases, hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise,

⁵ CPUC Decision 18-02-018 (D.18-02-018). Retrieved from:

<http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M209/K771/209771632.PDF>

⁶ 2017 Scoping Plan Update, Appendix D. Retrieved from:

https://www.arb.ca.gov/cc/scopingplan/2030sp_appd_pathways_final.pdf

⁷ CPUC Renewables Portfolio Standard Annual Report, November, 2017. Retrieved from:

http://www.cpuc.ca.gov/uploadedFiles/CPUC_Website/Content/Utilities_and_Industries/Energy/Reports_and_White_Papers/Nov%202017%20-%20RPS%20Annual%20Report.pdf

⁸ See, SMUD Comments on the March 2, 2018 Joint Agency Workshop on SB 350 Integrated Resource Plans, p. 2: Available at: <https://www.arb.ca.gov/lists/com-attach/5-carbsb350irp-ws-BmoFZgRiBAGANALy.pdf>

population, employment and housing, public services, recreation, transportation/traffic, and utilities and service systems, as described in Chapter 4 of the Final EA. Under this alternative, these impacts would likely be lower relative to the Proposed Targets.

Long-term operational impacts related to energy conservation and GHGs could potentially be affected. Reduced energy efficiency in buildings and in industrial processes could potentially decrease energy conservation relative to the Proposed Targets. Relative greater reliance on non-renewable energy sources could avoid some impacts associated with operating renewable energy resources, depending on the resource, including aesthetics, agricultural resources, biological resources (impacts to avian and other wildlife species), hydrology and water quality, and land use and planning. However, Alternative 4 could also potentially result in a more fossil fuel-intensive power plant mix compared to the Proposed Targets scenario, which means a comparative increase in both statewide GHG and air pollutant impacts at individual fossil-fueled energy facilities that would otherwise likely be ramped down if the Proposed Targets were implemented.

The Board finds that while it is likely that Alternative 4 could meet the objective of increasing the likelihood of achieving economy-wide GHG emissions reductions specified in SB 32, it is unclear if Alternative 4 could be achieved cost-effectively since additional costs would be associated with GHG reductions from other sectors in the economy (Objective 1). It is likely that Alternative 4 is technologically feasible for some LSEs and POUs, but not all, assuming technologies such as wind, solar, geothermal, and energy storage are deployed to achieve Alternative 4 (Objective 1).

STATEMENT OF OVERRIDING CONSIDERATIONS

CARB expects that many of the significant adverse impacts identified in the EA will be avoided or mitigated; however, since uncertainty exists as to the extent of mitigation that other agencies will require at the site- and project-specific level, the Board is conservatively considering the impacts to be significant and unavoidable. The Board finds that despite the potential for adverse environmental impacts associated with the Proposed Targets, other benefits of the proposed actions are determined to be overriding considerations that warrant approval of the Proposed Targets and outweigh and override its unavoidable significant impacts. Each benefit set forth below constitutes an overriding consideration warranting approval of the project, independent of the other benefits, despite each and every unavoidable impact. These benefits include:

1. Supporting California's ongoing efforts to address climate change and ambient air quality through 2020 and beyond – including the Scoping Plan, Short Lived Climate Pollutant Strategy, mobile source State Implementation Plan, and reducing motor-vehicle petroleum fuel use – thereby enhancing public health and the environment;
2. Reduction in electricity-related greenhouse gas emissions, criteria, and toxic air pollutants from reduced dependence on fossil fuel power generation, increased building energy efficiency, renewable energy use, and transportation electrification;
3. Mitigating effects of climate change, including sea level rise and disrupted precipitation patterns;

4. Aiding LSE and POU planning efforts for broader electrification across other sectors – resulting in potential load increases – while procuring lower carbon resources to decarbonize the electricity sector;
5. Providing a greenhouse gas planning target range for the electricity sector, LSEs, and POUs that enables LSEs and POUs to explicitly incorporate GHG considerations into their resource procurement decisions, and reduce GHG emissions from the electricity sector in support of the State’s climate change goals;
6. Economic benefits from energy efficiency and local job growth from increased development of advanced clean technologies as the result of LSE and POU implementation of IRP; and,
7. In line with the Legislature’s findings and declarations, that in addition to other ratepayer protection objectives, a principal goal of resource planning shall be to minimize the cost to society of reliable energy services and to improve the environment and to encourage the diversity of energy sources through improvements in energy efficiency, development of renewable energy resources, such as wind, solar, biomass, and geothermal energy, and widespread transportation electrification.

LOCATION AND CUSTODIAN OF THE RECORD

The documents and other materials that constitute the record of proceedings on which these findings are based are located at 1001 I Street Sacramento, CA 95814. The custodian for these documents is the California Air Resources Board Legal Office.