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Revised Assembly Bill 1110 Implementation Proposal for Power Source Disclosure

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ABSTRACT

The Power Source Disclosure Program requires retail electricity suppliers to disclose information annually through a Power Content Label to their end-use customers about the fuel mix of the electricity products the customers were sold the previous calendar year. Passed in 2016, Assembly Bill 1110 (Ting, Chapter 656, Statutes of 2016) directs the California Energy Commission to update the Power Source Disclosure program to require an electricity retail supplier to disclose to its customers the unbundled renewable energy credits and greenhouse gas emission intensities associated with the electricity portfolios offered to its customers.

The Energy Commission plans to initiate a rulemaking to amend the Power Source Disclosure Program regulation in accordance with AB 1110. The Revised *Assembly Bill 1110 Implementation Proposal for Power Source Disclosure* draft staff paper details a proposed approach to modifying the Power Source Disclosure Program to implement AB 1110. This updated proposal reflects changes made in response to stakeholder comments made during and following a public workshop on July 14, 2017.

Keywords: Power Source Disclosure, PSD, power content label, greenhouse gas, GHG, emissions, emissions intensity factor, power mix, fuel mix, renewable energy credit, REC

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ACRONYMS AND ABBREVIATIONS

ACS	Asset-controlling supplier
CARB	California Air Resources Board
CH ₄	Methane
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
EIA	Energy Information Agency
EIM	Electricity Imbalance Market
EPA	Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
GHG	Greenhouse gas
LSE	Load-serving entity
MRR	Mandatory Reporting Regulation
MWh	Megawatt-hour
N ₂ O	Nitrous oxide
POU	Publicly owned utility
PSD	Power Source Disclosure Program
REC	Renewable energy credit
RPS	Renewables Portfolio Standard
WREGIS	Western Renewable Energy Generation Information System

EXECUTIVE SUMMARY

The Power Source Disclosure Program is a consumer information program that requires the reporting and disclosure of the electricity sources used to serve retail customers during the previous calendar year. Passed in 2016, Assembly Bill 1110 (Ting, Chapter 656, Statutes of 2016) modifies the Power Source Disclosure Program by also requiring the reporting and disclosure of the greenhouse gas (GHG) emissions intensity associated with the electricity serving retail customers.

The California Energy Commission will initiate a rulemaking to amend the PSD regulations in accordance with AB 1110. As part of the Energy Commission's pre-rulemaking, Energy Commission staff developed the *Revised Assembly Bill 1110 Implementation Proposal for Power Source Disclosure* draft staff paper, which details a proposed approach to modifying the Power Source Disclosure Program to implement AB 1110. This staff paper was developed in consultation with the California Air Resources Board (CARB) and with consideration of feedback received from the California Public Utilities Commission (CPUC) and from stakeholders.

To maintain consistency with CARB's key GHG emissions reporting and compliance programs, staff proposes a method to construct a retail supplier's GHG emissions intensity factor for the Power Source Disclosure Program largely based on data reported through and methods used by the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions, also called the Mandatory Reporting Regulation. In addition, the draft staff paper includes proposed operational definitions for key terms, proposed guidance for classifying renewable energy resources and for disclosing unbundled renewable energy credits, a proposed adjustment mechanism for qualifying publicly owned utilities to generate emissions credits for qualifying GHG-free electricity, proposed new reporting requirements, and an updated Power Content Label and reporting template.

Energy Commission staff held a workshop on July 14, 2017, to solicit feedback from stakeholders on the initial draft staff paper. Staff developed this updated draft staff paper to address public comments received and to provide additional clarity on staff's implementation proposal for AB 1110.

Summary of Revisions

The updated draft staff paper proposes substantive changes to the following subjects:

- *Directly Delivered Electricity Procurements.* Distinguishes between directly delivered and firmed-and-shaped electricity procurements, and reaffirms that firmed-and-shaped procurements will be assigned the GHG emissions intensity of the associated substitute electricity.
- *Self-Consumption and Grid Losses.* Proposes that self-consumption, defined as electricity consumed by a retail supplier and grid losses from transmission,

distribution, power wheeling, and transmission-interconnected energy storage, be attributed proportionally to non-renewable electricity sources, consistent with current practice under Power Source Disclosure Program and with California's Renewables Portfolio Standard.

- *Line Loss Adjustment Factor for Imports.* Removes the provision in the original proposal to use CARB's line loss adjustment factor for electricity imports. This revision is to prevent the creation of additional accounting complexities that arise due to differences between net procurement and actual retail sales for a given electricity portfolio.
- *Biogenic CO₂.* Proposes that CO₂ from biogenic sources should be disclosed in a footnote on the Power Content Label, but not included in the overall GHG emissions intensity of an electricity portfolio, consistent with CARB's GHG Emission Inventory's treatment of biogenic sources.
- *Publicly Owned Utility Emissions Adjustment Credits.* Amends the proposal to allow banking of historical emissions credits for eligible generation that occurred on or after January 1, 2017.
- *Power Mix of Asset Controlling Suppliers.* Allows specified purchases of system power from an asset controlling supplier (such as Bonneville Power Administration) to be claimed as the mix of fuel types comprising the asset controlling supplier's system resources.
- *"Eligible Renewable" Definition.* Clarifies that a generating facility must be certified under California's Renewables Portfolio Standard to be classified as "eligible renewable" in power mix reporting.
- *Other Minor Changes.* Includes programmatic changes intended to streamline reporting and improve data collection and validation.

Introduction

The Power Source Disclosure Program

The Power Source Disclosure (PSD) Program is a consumer information program. Retail suppliers of electricity are required to disclose information annually to their end-use customers about the power mix, which is the mix of resource types comprising the electricity portfolio sold to the customers during the previous calendar year. To complete this requirement, retail suppliers report to the California Energy Commission their gross electricity procurement sources, resales of electricity, and the net electricity used to serve retail load for the previous calendar year. The Energy Commission uses this information to generate California's total power mix, which is provided to retail suppliers. Each retail supplier then discloses the power mix associated with its electricity portfolios, as well as California's overall power mix, on a Power Content Label to allow consumers to compare.

Assembly Bill 1110

Passed in 2016, AB 1110 modifies the PSD Program by further requiring retail suppliers to disclose the GHG emissions intensity associated with the electricity portfolios used to serve retail load. A GHG emissions intensity, sometimes referred to as an emissions factor, is the rate of emissions resultant from one megawatt of generation. Retail suppliers are required to begin disclosing the GHG emissions intensity associated with their electricity products on the Power Content Label in 2020 for the 2019 reporting year. AB 1110 also requires the Energy Commission to determine a format for disclosing unbundled renewable energy credits (RECs) as a percentage of annual retail sales.

To implement these modifications, the Energy Commission must:

- Adopt guidelines for the reporting and disclosure of the GHG emissions intensity associated with retail sales and unbundled RECs based on the requirements of AB 1110.
- Adopt a method, in consultation with CARB, for calculating the GHG emissions intensity corresponding to each purchase of electricity by a retail supplier to serve its customers.
- Establish guidelines for adjusting a GHG emissions intensity for a reporting year for any local publicly owned utility (POU) that demonstrates it generated quantities of electricity in previous years in excess of its total retail sales and wholesale sales from specified sources that do not emit any GHGs.

AB 1110 Implementation Process

To implement the changes introduced by AB 1110, the Energy Commission anticipates initiating a formal rulemaking process in accordance with the California Administrative

Procedures Act (APA) in late 2018, which commences with the publication of a notice of proposed action and proposed regulations. The Energy Commission will have one year from the date on which staff initiate the formal rulemaking process to adopt proposed regulations at an Energy Commission business meeting and submit the regulations to the Office of Administrative Law for review.¹

In advance of this process, staff is conducting pre-rulemaking activities with the public to identify and develop proposed changes to the regulation. Energy Commission staff held a workshop on February 21, 2017, to initiate pre-rulemaking activities and solicit input on several scoping questions under consideration for the AB 1110 implementation process.

After evaluating stakeholder feedback, staff developed a proposal for implementing AB 1110, presenting it at a public workshop on July 14, 2017, to solicit stakeholder feedback. This revised version of the staff draft paper addresses public comment received on the initial staff draft paper presented at a public workshop on July 14, 2017. The revised staff paper was developed in consultation with the California Air Resources Board (CARB) and with consideration of feedback received from stakeholders and the California Public Utilities Commission (CPUC).

Based on comments that staff receives on this updated version, staff plans to develop the proposal into draft regulatory language, which staff anticipates providing for stakeholder feedback in early 2018. Following this public engagement, staff aims to initiate the formal APA rulemaking process in late 2018.

Guiding Principles

The PSD Program is a consumer transparency program. With the passage of AB 1110, the PSD Program is intended to provide a snapshot of the electricity resource types and GHG emissions characteristics of the electricity portfolios sold to retail customers. Several statutory principles guide the development of this implementation proposal:

- Present information disclosed to customers on the Power Content Label in a manner that is accurate, reliable, consistent, and simple to understand.²
- Rely on the most recent verified GHG emissions data in developing GHG emissions intensities for specified and unspecified sources of power, while ensuring that these intensities are made available to retail suppliers with sufficient notice to permit timely reporting under PSD.³

¹ More information about the California state government rulemaking process can be found at http://www.oal.ca.gov/rulemaking_process/regular_rulemaking_process/.

² Public Utilities Code 398.1 (a), http://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=PUC&division=1.&title=&part=1.&chapter=2.3.&article=14.

³ Public Utilities Code 398.4 (k)(2)(C).

- Ensure there is not double-counting of GHG emissions or environmental attributes.⁴
- Minimize the reporting burden on retail suppliers.⁵

Another consideration guiding staff implementation of AB 1110 is appropriate alignment with other state energy and GHG emissions programs. As intended by the bill's author,⁶ the Energy Commission aims to develop a GHG emissions intensity method that is consistent, to the extent possible, with CARB-administered programs, including the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions, also called the Mandatory Reporting Regulation (MRR), and the Cap-and-Trade Program.

MRR lays out the reporting requirements applicable to all stationary sources of GHG emissions and fuel suppliers with GHG emissions equal to or in excess of 10,000 metric tons of CO₂-equivalent (CO₂e) per year, as well as to all electricity importers. This regulation provides the data underpinning California's Cap-and-Trade Program. MRR requires entities to report annual emissions and associated information for in-state electricity generation and electricity imports.⁷

The Cap-and-Trade Program is a market-based program designed to reduce GHG emissions covering 85 percent of the state's economy. The Cap-and-Trade Program sets a firm cap on GHG emissions, and this cap declines every year to ensure that the state meets the GHG emissions reduction targets of Assembly Bill 32 (Núñez, Chapter 488, Statutes of 2006) and Senate Bill 32 (Pavley, Chapter 249, Statutes of 2016). The Cap-and-Trade Program requires that all covered entities retire GHG allowances equal to the entities' GHG emissions during a compliance period, typically three years. Covered entities may also apply a limited number of offset credits toward the compliance obligation. The Cap-and-Trade Program allows for a trading market for regulated entities and voluntary participants to buy and sell GHG emissions allowances. Under the Cap-and-Trade Program, market forces create incentives to reduce GHG emissions below allowable levels through investments in clean technologies.

MRR data also serve as one of the bases for CARB's GHG Emission Inventory, an accounting of the state's estimated annual anthropogenic GHG emissions, including emissions from imported electricity resources, that is used to track progress toward California's GHG reduction goals. CARB developed the GHG Emission Inventory to

⁴ Public Utilities Code 398.4 (k)(2)(E).

⁵ Public Utilities Code 398.5 (d).

⁶ Ting, Phil, California State Assembly Member, Nineteenth District, "Legislative Intent—Assembly Bill No. 1110," August 28, 2016, *California State Assembly Daily Journal*, http://doCKETpublic.energy.ca.gov/PublicDocuments/16-OIR-05/TN215755_20170203T095647_Jordan_Scavo_Comments_Assemblymember_Ting's_Letter_to_the_Daily.pdf.

⁷ The greenhouse gases represented in MRR emissions reporting include CO₂, methane (CH₄), and nitrous oxide (N₂O) from geothermal generators and generators that combust fossil fuels and biogenic fuels. There is a one-year lag between the most recent available MRR data and PSD's current reporting year.

conform to international GHG emissions accounting guidelines developed by the International Panel on Climate Change (IPCC).⁸ The GHG Emission Inventory is a public GHG emissions accounting system that provides an annual accounting of California's GHG emissions, which is similar to the purpose of AB 1110.

⁸ "California Greenhouse Gas Emissions for 2000-2014-Trends of Emissions and Other Indicators," *California GHG Emission Inventory, 2016 Edition*, CARB, https://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2014/ghg_inventory_trends_00-14_20160617.pdf.

PSD Program Definitions

Electricity Portfolio and Electricity Offering

Energy Commission staff proposes that the terms *electricity portfolio* and *electricity offering* be considered synonymous with the term *electric service product* as it is used in the PSD regulations. All three terms mean a portfolio of electricity sources serving load of some or all retail customers in a retail supplier's service area over a calendar year.

Furthermore, staff proposes to clarify that each electricity portfolio offered to a retail supplier's customers should be disclosed separately in annual filings and on power content labels.

Electricity Sources Serving Private Contracts

Some retail suppliers have private contracts with individuals or organizations to provide electricity. The electricity resources procured to fulfill these private contracts are not available to the retail supplier's general customer base. These electricity portfolios are still subject to the reporting requirements under the PSD Program. However, reporting and disclosing every private contract separately may be cumbersome.

Therefore, staff proposes that a retail supplier's default electricity portfolio shall include the aggregated generation sources and associated GHG emissions from private contracts, rather than reporting these separately for each private contract.

Annual Sales

The statutes governing the PSD Program stipulate that the power mix should be based on *annual sales*, an undefined term in statute.⁹ In the past, the PSD Program has informally interpreted annual sales to mean *retail sales* as defined in the *Enforcement Procedures for the Renewables Portfolio Standard for Local Publicly Owned Utilities* and applied in the Renewables Portfolio Standard (RPS) Program.¹⁰ Staff proposes that annual sales should be interpreted to mean retail sales and be defined as follows:

“Sales of electricity by a retail supplier to end-use customers and their tenants over the course of a calendar year, measured in megawatt hours (MWh). Retail sales do not include self-consumption, defined as consumption by a retail supplier; electricity produced for onsite consumption (self-generation) that was not sold to the customer by the retail supplier; or losses due to transmission, distribution, power wheeling, and transmission-interconnected energy storage.”

⁹ Public Utilities Code 398.4 (g).

¹⁰ *Enforcement Procedures for the Renewables Portfolio Standard for Local Publicly Owned Utilities*, <http://www.energy.ca.gov/2016publications/CEC-300-2016-002/CEC-300-2016-002-CMF.pdf>.

Greenhouse Gases Covered Under the PSD Program

Targeted Gases

Energy Commission staff proposes to limit the calculation of the GHG emissions intensity associated with retail suppliers' electricity portfolios to include only the GHGs typically associated with electricity generation emissions: carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). These are the tracked GHGs under MRR, the EPA's Greenhouse Gas Reporting Program, and the IPCC's GHG inventory guidelines.¹¹

Excluded Emissions

Although the terms are sometimes conflated, not all renewable electricity resources are GHG-free resources. Under MRR, geothermal generators and generators that use biogenic fuels, such as biomass and all in-state and new out-of-state sources of biomethane,¹² are required to report their GHG emissions.

The Cap-and-Trade Program exempts certain GHG emissions from the determination of a participating entity's compliance obligation. In particular, biogenic CO₂, meaning CO₂ emitted from combustion of biogenic fuels and fugitive emissions from geothermal generators (CO₂ and CH₄), are exempted from the determination of compliance obligations.

Biogenic CO₂ emissions from the electricity sector are estimated in CARB's GHG Emission Inventory, but disclosed separately from other GHG emissions and not included under the statewide GHG emissions total or CARB's Scoping Plan sectoral GHG emissions targets.¹³ This is consistent with IPCC GHG inventory accounting that attributes biogenic CO₂ to the Agriculture, Forestry, and Other Land-Use sector; in order to avoid double-counting, IPCC guidance states that biogenic CO₂ should not be counted in the electricity sector GHG emissions accounting.¹⁴

¹¹ See CARB's *Regulation for the Mandatory Reporting of Greenhouse Gas Emissions*, <https://www.arb.ca.gov/cc/reporting/ghg-rep/regulation/mrr-2016-unofficial-2017-10-10.pdf> ; EPA's *Greenhouse Gas Reporting Program, Subpart C*, https://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&SID=be77ce6e756f0befaa0dd95743e3342e&tpl=/ecfrbrowse/Title40/40cfr98_main_02.tpl; 2006 *IPCC Guidelines for National Greenhouse Gas Inventories: Volume 2*, <http://www.ipcc-nggip.iges.or.jp/public/2006gl/vol2.html>.

¹² See sections 95852.1, 95852.1.1 , and 95852.2 of the Cap-and-Trade Regulation for further details on what biomass and biomethane is exempt from a compliance obligation.

¹³ See CARB's "Scoping Plan Categorization," https://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_by_scopingplan_00-15.xlsx

¹⁴ "Frequently Asked Questions," IPCC Task Force on National Greenhouse Gas Inventories, <http://www.ipcc-nggip.iges.or.jp/faq/faq.html>.

Fugitive GHG emissions from geothermal generators vary depending on the local geologic conditions and generator system design. Because of this degree of variability, fugitive GHG emissions from geothermal generators are not used to determine a compliance obligation under the Cap-and-Trade Program. However, these emissions are reported under MRR and counted in the GHG Emission Inventory.

Staff proposes that retail suppliers report to the PSD Program all GHG emissions, including those from geothermal and biogenic sources. For consistency with electricity sector GHG accounting practices under CARB's Cap-and-Trade Program and GHG Emission Inventory and IPCC guidance, staff proposes that reported geothermal emissions under MRR be included in the overall GHG emissions intensity for each electricity portfolio. Staff proposes that biogenic CO₂ associated with an electricity offering be disclosed on the power content label separately in a footnote, but not be used in calculating the electricity offering's overall GHG emissions intensity. CH₄ and N₂O emissions associated with biogenic fuels will still be included in an electric service product's GHG emissions intensity. The proposed approach provides an accurate and transparent reporting of the renewable and emissions attributes associated with electricity serving retail customers, while aligning with existing emissions accounting protocols used by California and other national and international organizations.

This approach will treat biogenic and geothermal electricity sources differently for GHG emissions intensity calculations but will not alter the way the retail supplier's power mix is calculated, as biomass, eligible biomethane, and geothermal electricity generators will still be classified as eligible renewable energy resources.

Data Sources and GHG Emissions Intensity Calculations

Generator-Specific GHG Emissions Intensities

MRR collects and disseminates the most robust generator-level GHG emissions data available for implementation of AB 1110. Therefore, Energy Commission staff proposes to use the most recent publicly available MRR data on an annual basis to develop generator-specific emissions intensities.

Publicly available GHG emissions data reported under MRR are derived from several reporting methods. Most in-state electricity generators directly report GHG emissions to MRR.¹⁵ Out-of-state electricity generators do not directly report their GHG emissions to MRR; however, the MRR program calculates generator-specific GHG emission intensities based on federal data from the US EPA and Energy Information Agency so electricity importers can report the quantity of imported electricity and report GHG emissions associated with their electricity imports. MRR data, therefore, will provide generator-specific GHG emissions intensities for out-of-state generators (expressed in metric tons of CO₂e/MWh), and total GHG emissions for in-state generators (expressed in metric tons of CO₂ equivalent or CO₂e).

Staff proposes to calculate generator-specific GHG emissions intensities by dividing total GHG emissions of CO₂e by the annual net generation reported to EIA.¹⁶ Staff further proposes to adopt the out-of-state generator-specific GHG emissions intensities that CARB staff calculates and publishes as part of the MRR reporting tools for electricity importers.¹⁷

Generator Data Not Covered Under MRR

Some small generators do not meet the reporting threshold under MRR. For these cases, staff will calculate GHG emissions by multiplying the heat content of fuel consumed for electricity production¹⁸ by stationary fuel emission factors¹⁹ published by the EIA. When

¹⁵ Small generators with an annual capacity less than 1 MW or that emit fewer than 10,000 MT of CO₂e a year are not required to report under MRR.

¹⁶ Annual net generation data is published by EIA on Form 923.

¹⁷ See CARB's Mandatory Reporting Regulation reporting tools Workbook 1: EPE Importers and Exporters, <https://www.ccdsupport.com/confluence/display/calhelp/Reporting+Form+Instructions#EPE>.

¹⁸ "Annual Electric Utility Data," Energy Information Agency, Form EIA-923, <https://www.eia.gov/electricity/data/eia923/>.

¹⁹ "Carbon Dioxide Emission Coefficients," Energy Information Agency, https://www.eia.gov/environment/emissions/co2_vol_mass.php; EIA's factors are based on stationary fuel combustion emissions factors published by the Environmental Protection Agency. See "Emission Factors for

calculating GHG emissions for such generators, staff proposes to convert emissions of CO₂, CH₄, and N₂O to CO₂e using global warming potentials in a manner consistent with MRR.²⁰

Generator Data Not Covered Under MRR

Some small generators do not meet the reporting threshold under MRR. For these cases, staff will calculate GHG emissions by multiplying the heat content of fuel consumed for electricity production²¹ by stationary fuel emission factors²² published by the EIA. When calculating GHG emissions for such generators, staff proposes to convert emissions of CO₂, CH₄, and N₂O to CO₂e using global warming potentials in a manner consistent with MRR.²³

Furthermore, staff is aware that a small number of generators may have discrete generating units that are owned or contracted to separate retail suppliers. These generators may have only supplied aggregated GHG emissions data under MRR. Staff is consulting with CARB to develop a better an optimal treatment for such cases, which may involve using either MRR or EIA data. As a default option for situations in which electricity deliveries from discrete generating units within one generator can be demonstrated to be attributable to separate retail suppliers, staff proposes to calculate GHG emissions intensities for each generating unit using the heat content of fuel consumed for electricity production and stationary fuel combustion factors provided by EIA.

Cogeneration Facilities

Cogeneration plants produce GHG emissions through both the generation of electricity and useful heat for industrial processes. MRR collects total GHG emissions from these cogeneration facilities, which includes emissions associated with both heat and electricity generation.

For cogeneration facilities, staff proposes to include in the electricity portfolio's GHG emissions intensity only the portion of GHG emissions associated with electricity

Greenhouse Gas Inventories," Environmental Protection Agency, https://www.epa.gov/sites/production/files/2015-07/documents/emission-factors_2014.pdf.

²⁰ Direct Global Warming Potential, Second Assessment Report (SAR) 100 Year Values, IPCC, https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html.

²¹ "Annual Electric Utility Data," Energy Information Agency, Form EIA-923, <https://www.eia.gov/electricity/data/eia923/>.

²² "Carbon Dioxide Emission Coefficients," Energy Information Agency, https://www.eia.gov/environment/emissions/co2_vol_mass.php ; EIA's factors are based on stationary fuel combustion emissions factors published by the Environmental Protection Agency. See "Emission Factors for Greenhouse Gas Inventories," Environmental Protection Agency, https://www.epa.gov/sites/production/files/2015-07/documents/emission-factors_2014.pdf.

²³ Direct Global Warming Potential, Second Assessment Report (SAR) 100 Year Values, IPCC, https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html.

generation. Using fuel consumption data reported to EIA,²⁴ staff will calculate this portion by dividing the heat content of the fuel consumed for electricity generation by the heat content of the total fuel consumed by the cogeneration facility. That portion of GHG emissions attributable to electricity production will then be multiplied by the facility's total GHG emissions and divided by the facility's total electricity generation to calculate a cogenerator's GHG emissions intensity for a given year.

GHG Emissions Intensity of an Electricity Portfolio

For each procurement claim from a specified resource, reporting entities will multiply the GHG emissions intensity of the generator at which the electricity was generated by the total amount of procurement from that generator to obtain the GHG emissions associated with that procurement.

Procurement of unspecified sources of electricity will be assigned a default GHG emissions intensity, as discussed in a subsequent section of this paper.

An electricity portfolio's GHG emissions intensity should be calculated by dividing the sum of all GHG emissions associated with its specified and unspecified electricity sources by the retail sales of that electricity portfolio.

As stated above, in order to reconcile total procured generation with retail sales, an electricity portfolio's total GHG emissions, for the purpose of calculating its GHG emissions intensity, will exclude GHG emissions associated with a retail supplier's self-consumption, as well as losses as a result of transmission, distribution, power wheeling, and transmission-interconnected energy storage. This method differs from GHG emissions accounting under MRR, since MRR does not calculate an electric power entity's GHG emissions of generation based on retail sales.

Incorporating GHG Emissions Intensities into Annual Reports

Retail suppliers will provide line item generator data for each procurement on Schedule 1 of the annual report, including EIA identification numbers (IDs). Using formulas built into Schedule 1, generator-specific GHG emissions intensities will auto-populate based on the EIA ID entered for each line item of procurement. The electricity portfolio's overall GHG emissions intensity will also be automatically calculated on Schedule 1.

Timing of GHG Emissions Intensity Updates

Staff proposes to update the PSD Program annual reporting forms with the most recently available GHG emissions intensities for known electricity generators by April 1 of each year.

²⁴ Cogeneration facility heat content numbers as made available through EIA's Form 923 reporting process will be used for this calculation.

Due to the availability date of new GHG emissions data from MRR, the generator-specific emissions intensities will be based on data from an earlier year than the reporting year under the PSD Program, as is also the case for the Cap-and-Trade Program's use of MRR data. This data lag is unavoidable, given the statutory requirements of AB 1110. CARB staff analysis of MRR data, however, indicates that generators' year-to-year emissions intensities do not vary significantly.

RECs and PSD Program Accounting

RECs in Power Mix Accounting

The current PSD regulations instruct retail suppliers to report eligible renewable energy generation based on the year it was generated. The current regulations do not, however, offer specific guidance on how the procurement and retirement of the associated RECs would affect how the eligible renewable energy generation is reflected in the power mix for each electricity portfolio. Some stakeholders have requested eligible renewable energy generation to be reported for the year the associated REC is retired, consistent with how RECs are reported for California's RPS Program. The RPS Program is constructed with multiyear compliance periods that allow retail suppliers to reconcile annual REC retirements at the end of the period and among compliance periods, as RECs have a 36-month period in which they can be retired. However, the PSD Program requires retail suppliers to report annually on the electricity portfolios they sold to retail customers the previous year. Due to differences in reporting time frames, there would be a mismatch between how eligible renewable electricity is accounted for in the PSD Program and the RPS Program. These programmatic differences prevent eligible renewable energy resource reporting under the PSD Program to align with the reporting of REC retirements for the RPS Program.

Furthermore, reporting eligible renewable energy generation in the year the associated REC is retired would result in discrepancies between annual electricity procurements and annual retail sales, as renewable electricity generation would be reported according to the REC retirement year, while nonrenewable generation would still be reported according to the year in which it was generated.

Finally, the purpose of the original PSD Program and AB 1110 is to provide transparency to customers about the electricity they consume. Reporting eligible renewable electricity for the year corresponding to the actual generation year of electricity (and the associated RECs) more closely aligns with this purpose of the PSD Program.

As such, staff proposes that electricity from eligible renewable energy sources be reported according to the year in which it was generated. Staff further proposes that a retail supplier's electricity transactions may be classified only as an eligible renewable resource in the power mix if the REC and procured electricity were transacted together (either directly or through firming-and-shaping as Portfolio Content Category 1 or 2 products under RPS regulations for POUs).

Finally, and in accordance with Public Utilities Code 398.4 (h), staff proposes to clarify that eligible renewable generators must be certified under California's RPS Program to

be classified as “Eligible Renewable” in the power mix. Renewable facilities that do not meet this requirement will be classified as “Other” in the power mix.²⁵

RECs in GHG Emissions Accounting

California has several landmark climate and energy policies and programs that aim to reduce GHG emissions and advance renewable energy in California, including the RPS Program, the MRR, and the Cap-and-Trade Program. Staff from the Energy Commission, CARB, and the California Public Utilities Commission (CPUC) recently issued a joint letter reaffirming California’s definition and usage of a REC under its principal energy policies and programs.²⁶

The letter states:

“Public Utilities Code section 399.12 (h) defines a ‘Renewable energy credit’ as:

‘a certificate of proof associated with the generation of electricity from an eligible renewable energy resource, issued through the accounting system established by the Energy Commission pursuant to Section 399.25, that one unit of electricity was generated and delivered by an eligible renewable energy resource.’

It goes on to specify that a REC:

‘includes all renewable and environmental attributes associated with the production of electricity from the eligible renewable energy resource, except for an emissions reduction credit issued pursuant to Section 40709 of the Health and Safety Code and any credits or payments associated with the reduction of solid waste and treatment benefits created by the utilization of biomass or biogas fuels.’

The definition of a REC reflects the renewable and environmental attributes identified by CPUC Decision 08-08-028, which states:

‘A REC includes all renewable and environmental attributes associated with the production of electricity from the eligible renewable energy resource, including any avoided emission of pollutants to the air, soil or water; any avoided emissions of carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, or any other greenhouse gases...’

²⁵ The “Other” classification under Power Source Disclosure is a blanket classification that also captures uncommon electricity generation fuels such as petroleum.

²⁶ Courtney Smith, Rajinder Sahota, and Edward Randolph, “Public Comment on June 15, 2015 Workshop on RECs, the Oregon Renewable Portfolio Standard, and energy imports into California via the western Energy Imbalance Market,” August 2, 2017, [Public Comments on Renewable Energy Certificates Associated with Energy Imported into the California Energy Imbalance Market](http://www.oregon.gov/energy/energy-oregon/Documents/2017-Public-Comments-RECs-EIM.pdf), pg. 8-11, <http://www.oregon.gov/energy/energy-oregon/Documents/2017-Public-Comments-RECs-EIM.pdf>

Decision 08-08-028 further provides, '[a]lthough the avoided GHG emissions attribute is included in the definition of the REC, under a cap, the avoided GHG emissions attribute should ... have zero value' (p.23). Accordingly, the REC may not be used for GHG emissions reduction purposes.

CARB has codified in the design of the California Cap-and-Trade Program that a REC does not confer avoided emissions value under the Program, as the total GHG emissions allowed under the cap are fixed. If renewable energy is generated rather than fossil-fuel based energy, emissions are not avoided because the cap on emissions does not change. Rather, the generation of renewable energy instead of fossil-fuel based energy makes available allowances that can be used by other entities.

Under both California's Cap-and-Trade Program and MRR, entities must report the electricity generated in-state or imported into California from specified sources, irrespective of whether the electricity is also associated with RECs.

CARB then assigns emission factors to specified resources based on fuel type."

The joint letter expresses a consistent understanding of the role of RECs in GHG emissions accounting. Although a REC includes all renewable and environmental attributes associated with electricity production, including avoided emissions, a REC is not an emissions reduction credit and cannot be used for that purpose. Existing GHG emissions accounting protocols in California track actual emissions attributable to the state.

To be consistent with existing state policy, staff proposes to calculate GHG emissions intensities according to delivered electricity. Staff further proposes not to use RECs to track or reduce GHG emissions under PSD.

RPS Adjustment Under the Cap-and-Trade Program

To give retail suppliers credit for the cost associated with investing in out-of-state renewable electricity resources to meet RPS Program requirements, the Cap-and-Trade Program provides the RPS adjustment, which provides an optional adjustment to an entity's compliance obligation based on the retirement of RECs associated with electricity from RPS-eligible resources that is not delivered to California.²⁷ The RPS adjustment is not recognition of avoided emissions or the emissions characteristics of the RECs that were transacted as part of imported electricity. The RPS adjustment does not change the GHG emissions associated with any electricity imports.

Unbundled RECs Under the PSD Program

²⁷ The RPS adjustment reduces an electricity importer's total emissions according to the quantity of eligible retired RECs (in MWh) multiplied by the default emissions factor for unspecified electricity.

Unbundled RECs are renewable energy credits from an eligible renewable energy resource that are not procured as part of the same contract or ownership agreement with the underlying energy from that eligible renewable energy resource, including RECs that were originally procured as a bundled product but were subsequently resold separately from the underlying energy.

AB 1110 requires the Energy Commission to determine the format for disclosing the portion of annual sales derived from unbundled RECs.²⁸ The current PSD regulations provide no formal guidance regarding how to report or reflect unbundled RECs on the Power Content Label.

The past practice of some load-serving entities (LSEs) has been to report unbundled REC purchases as electricity purchases in their PSD Program filings and to reflect unbundled RECs in the power mix for each electricity portfolio on the Power Content Label. However, such reporting produces accounting discrepancies under the PSD Program, as the inclusion of unbundled RECs inflates the reported total electricity procurement for an electricity portfolio. To reconcile retail sales with an inflated total electricity procurement, retail suppliers have reduced the amount of electricity procured from unspecified or other non-renewables sources.

This has led to concerns that the Power Content Label does not reflect the actual generating sources comprising an electricity portfolio or that unbundled RECs are being used to misrepresent the actual sources of electricity used to serve customers. In implementing AB 1110, this proposal aims to address the perceived marketing concerns pertaining to the reflection of unbundled RECs in the Power Content Label.

Since unbundled RECs do not represent electricity procurement, Energy Commission staff proposes that unbundled RECs should not be classified as a renewable energy resource or as any other category for the power mix. Staff also proposes that unbundled RECs not be included in the GHG emissions intensity calculations, since RECs, including unbundled RECs, cannot be used for emissions reduction purposes.

Retail suppliers will report their unbundled RECs procured as part of each electricity portfolio separate from electricity procurements in their PSD Program filings. As a footnote on the Power Content Label, retail suppliers will disclose the quantity of unbundled RECs retired in the reporting year as a percentage of retail sales.

Retirement of Unbundled RECs

Staff proposes that retail suppliers will report their unbundled RECs in the year in which the REC is retired. This approach differs from staff's proposed approach to RECs associated with directly delivered or firmed-and-shaped electricity transactions, in

²⁸ See Section 398.4 (h) (7) of the Public Utilities Code, https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=PUC&division=1.&title=&part=1.&chapter=2.3.&article=14.

which the transactions are reported in the year the electricity is delivered, as described above. This is because unbundled RECs can be bought and sold more than once before ultimately being retired, which could result in double-counting. RECs from directly delivered or firmed-and-shaped electricity transactions, on the other hand, cannot be resold without the environmental attribute becoming that of an unbundled REC, minimizing the concern of double-counting these resources.

Procurement Types and PSD Program Accounting

This proposal is predicated on a few category designations for procurement. The type of procurement thus determines how a transaction will be treated under the PSD Program with respect to the power mix and GHG emissions intensity calculation. Consistent with current practices under the PSD Program, procurements will be classified as specified or unspecified, with specified procurements further distinguished as either directly delivered or firmed-and-shaped.

The table below summarizes how each type of procurement is treated for power mix and GHG emissions accounting.

Table 1: Procurement Types and Accounting Treatment

Procurement Type	Power Mix Accounting	GHG Emissions Intensity Accounting
Specified - Directly Delivered	Assigned the resource type of the generator	Assigned the GHG emissions intensity of the generator
Specified - Firmed-and-Shaped	Assigned the resource type of the generator that produced the REC	Assigned the GHG emissions intensity of the substitute power. If unknown, assigned the default GHG emissions intensity for unspecified electricity ²⁹
Specified - Null Power	Classified as Unspecified Electricity	Assigned the GHG emissions intensity of the generator
Unspecified	Designated as Unspecified Electricity	Assigned the default GHG emissions intensity for unspecified electricity

Source: Energy Commission staff

²⁹ If the source of the substitute electricity is known, the retail supplier may use the generator-specific GHG emissions intensity from the substituted electricity in the firmed-and-shaped procurement transaction.

Specified Sources of Electricity

Specified sources of electricity are electricity transactions that are traceable to specific generation sources by any auditable contract trail or equivalent, such as a tradable commodity system, that provides commercial verification that the electricity source has been sold once and only once to a retail consumer. A specified source must have been specified prior to contract execution or trade confirmation. A source is also considered specified on the basis of ownership with evidence of direct delivery (see below) via continuous physical transmission.

Directly Delivered Procurements

Procurement claims that meet one of the following criteria will be considered directly-delivered sources of electricity: have a first point of interconnection with a California balancing authority, have a first point of interconnection with distribution facilities used to serve end users within a California balancing authority area, or be scheduled from the generation source into a California balancing authority via a continuous physical transmission path from interconnection of the facility in the balancing authority in which the facility is located to a sink located in the state of California (usually via e-tag),³⁰ or have an agreement to dynamically transfer electricity to a California balancing authority.

Power Mix. Directly delivered procurements will be assigned the power mix resource type of the generator from which the electricity was derived.

However, directly delivered procurements from renewable generators must be transacted with the associated RECs to be classified as an eligible renewable resource in the power mix. Otherwise, the procurements will be classified as null power (discussed further below).

GHG Emissions Intensity. Directly delivered procurements will be assigned the GHG emissions intensity of the generator from which the electricity was derived.

Firmed-and-Shaped Procurements

Firmed-and-shaped procurements are electricity products that are bundled products in which RECs are matched with incremental substitute electricity imported from outside a California balancing authority and in addition to a retail supplier's resource portfolio prior to the contract or ownership agreement for the renewable resource.³¹

³⁰ The use of another source to provide real-time ancillary services required to maintain an hourly or subhourly import schedule into a California balancing authority shall be permitted, but only the fraction of the schedule actually generated by the specified generation source shall count toward this specified procurement of electricity.

³¹ For the full definition, see Section 3203 (b) of the *Enforcement Procedures for the Renewables Portfolio Standard for Local Publicly Owned Electric Utilities*.

As discussed above, RECs are not used to track or adjust GHG emissions under CARB's GHG emissions programs. In the case of firmed-and-shaped procurements, MRR requires GHG emissions of the substitute power actually delivered into California to be reported.

Power Mix. For the power mix, staff proposes that firmed-and-shaped electricity procurements be assigned the resource type of the generator from which the RECs were derived. This proposal aligns with current practice under PSD. It should be noted that this exception for firmed-and-shaped procurements, in which the fuel type of the transacted REC is used to determine the procurement's power mix category, is meant to reflect a retail supplier's procurement decisions for meeting its RPS obligation, and the inclusion of firmed-and-shaped procurements in PSD's power mix is still predicated on transactions for actual electricity as part of the bundled product.

GHG Emissions Intensity. To determine the GHG emissions of firmed-and-shaped transactions, staff proposes requiring reporting entities to use the GHG emissions intensities of the generator that produced the substitute electricity. For cases in which the source of the substituted electricity is unknown, reporting entities will be required to use the default GHG emissions intensity of unspecified electricity in reporting the emissions associated with that product.

Staff proposes not to provide any adjustments to retail sellers' GHG emissions intensity based on the retirement of RECs transacted through firmed-and-shaped electricity products. A main purpose of the PSD Program is to bring additional transparency regarding the GHG emissions intensity associated with electricity portfolios sold to retail customers in California. As such, staff concludes that any adjustments to GHG emissions for the retirement of RECs from firmed-and-shaped electricity products would prevent a more accurate accounting of the GHG emissions associated with a retail supplier's electricity portfolios used to serve retail customers.

Null Power

Under the current PSD regulations, null power, which is electricity generated from a renewable resource that has been disassociated from its RECs, is classified as unspecified electricity for the power mix on the Power Content Label.

CARB's GHG emissions programs track emissions associated with electricity generation, so null power has no meaning under MRR and the electricity is reported at the GHG emissions rate associated with its electricity generator. In the absence of meeting the specified power requirements, imported electricity is reported as unspecified.

Power Mix. Staff proposes that null power will continue to be classified as unspecified electricity, since it was not procured with its associated RECs.

GHG Emissions Intensity. In alignment with CARB GHG emissions accounting, specified transactions for null power will be assigned the GHG emissions rate of the specified source from which the electricity was generated or the unspecified emissions intensity if the electricity is imported and does not come from a specified source.

Specified System Mixes of Asset-Controlling Suppliers

Asset-controlling suppliers (ACS), such as Powerex and Bonneville Power Administration, have system mixes composed primarily of large hydroelectric plants with a small portion comprised of other generation sources. Under the current PSD regulations, a retail supplier that procures specified electricity from an ACS through a transaction that can be traced to a specific generator can report it according to the resource characteristic of the specific generator; otherwise, procurements from mixed electricity sources must be classified as unspecified electricity. However, MRR contains provisions that allow an ACS to be assigned a GHG emissions intensity that reflects the ACS's system mix of specified resources for the reporting year. Under MRR, there is a two-year lag in the ACS-specific GHG emissions factor data and MRR reporting data. (For example, 2019 data reported in 2020 will use an emissions factor based on the ACS's 2017 generation and emissions.)

Staff proposes that specified procurements of system mix electricity from an ACS (but not procurements for unspecified electricity from an ACS) will be assigned the ACS-specific GHG emissions factor as determined under MRR. For the power mix, specified purchases from an ACS will no longer be reported as unspecified power. Instead, retail suppliers will be allowed to assign the ACS-specific system GHG emissions factor for its system mix as determined under MRR.

Energy Commission staff will post resource mix factors and system GHG emissions intensity factors for specified procurements of ACS system power by April 1 of each year. Retail suppliers will use these resource factors to determine the system mix breakdown of a specified purchase from an ACS. Each line item of resource-specific ACS electricity will be assigned the overall GHG emissions intensity of the ACS's system mix.

Unspecified Sources of Electricity

Unspecified sources of electricity are procurements that cannot be traced to specific generation sources through an auditable contract trail or an equivalent verification process. More specifically, electricity is unspecified when the source was not explicitly identified at the time the contract was executed which is the case, for example, when buying power on the Intercontinental Exchange or similar platform, or contracting for power from unknown sources via a broker.

Power Mix. As is the case under the current PSD program, unspecified sources will be categorized in the power mix as "Unspecified."

Greenhouse Gas Emissions Intensity. Energy Commission staff proposes that emissions from unspecified electricity should be treated in a manner consistent with MRR. The current MRR assigns unspecified power a default emissions factor of 0.428 MT CO₂e/MWh. If CARB updates its default GHG emissions factor for unspecified power, it will be reflected in the PSD Program.

In-State Unspecified Electricity

CARB's default emissions factor for unspecified electricity applies only to imports of unspecified power as most in-state generation reports actual emissions under MRR. However, Energy Commission staff is not aware of a simple and reliable method of distinguishing between in-state and imported sources of unspecified electricity purchased through open market transactions. Furthermore, Energy Commission staff analysis indicated that the average GHG emissions factor of in-state marginal generation did not substantially deviate from CARB's GHG default emissions for imported sources of unspecified electricity.

Therefore, Energy Commission staff proposes applying CARB's default emissions factor to all sources of unspecified electricity.

Spot Market Purchases Through the Energy Imbalance Market

The Energy Imbalance Market (EIM)³² is a real-time electricity trading market managed by the California Independent System Operator (CAISO). A retail supplier's CAISO spot market purchases for unspecified electricity may include electricity transacted through the EIM. Staff proposes that unspecified electricity, including any electricity that may be transacted through the EIM, be assigned CARB's default emissions factor of 0.428 MT CO₂e.

CARB and the CAISO are currently performing analysis of the EIM to determine a method for determining the GHG emissions attributable to EIM transactions. If the results of that analysis yield a method for more accurately reflecting GHG emissions attributed to EIM transactions, Energy Commission staff will consider incorporating that method under PSD through a public process.

³² An *Energy Imbalance Market* is a real-time wholesale energy market that allows participating balancing authority areas to buy and sell the final few megawatts of power to satisfy demand during the hour it's needed. (See <https://www.caiso.com/informed/Pages/EIMOverview/Default.aspx>.)

GHG Emissions Adjustments

Adjustment due to Self-Consumption and Grid Losses

AB 1110 specifies that GHG emissions should be reported for each generation source, but that the GHG emissions intensity should be determined based on retail sales. However, Energy Commission staff anticipates that there will be discrepancies between a retail supplier's reported annual procurement and retail sales. For discrepancies stemming from some portion of a retail supplier's total procurement being used to serve a retail supplier's self-consumption (generation consumed by the retail supplier) or lost due to transmission, distribution, power wheeling, and transmission-interconnected energy storage, staff proposes that a retail supplier's non-renewable sources of electricity should be reduced pro-rata.

Staff has concluded that such an approach best aligns with RPS procurement strategies, since RPS sets renewable procurement targets based on retail sales, and specific sources of renewable generation are procured exclusively to meet retail sales (and not to serve self-consumption or system losses).

After a retail supplier provides the relevant data on Schedule 1 of the PSD Program annual report, the pro-rata reduction of each non-renewable procurement to account for self-consumption and transmission, distribution, power wheeling, and storage losses will be applied automatically by an embedded Excel formula and be reflected in the calculated GHG emissions. A retail supplier that also serves as a balancing authority should not report electricity used to cover transmission losses for wheeled power as part of its retail sales.

Emissions Adjustment for Excess GHG-Free Generation of Publicly Owned Utilities

AB 1110 requires the Energy Commission to develop guidelines for adjustments to a GHG emissions intensity for a reporting year for any POU that demonstrates it generated GHG emission-free electricity in excess of its retail sales and wholesale sales of specified sources.

Qualifying Requirements

Energy Commission staff understands that this GHG emissions adjustment provision was intended to address the unique contractual circumstances of excess Hetch Hetchy hydroelectric generation owned by the San Francisco Public Utilities Commission.

Any POU that wishes to apply for this adjustment must demonstrate that it generated GHG-free electricity in excess of its retail sales and wholesale sales of specified sources in a given year. To verify a POU's eligibility for the adjustment, staff proposes requiring

each applying POU to demonstrate qualifying generation amounts by submitting all associated contracts for the sale of the qualifying generation.

Adjustment Mechanism

Staff proposes allowing a qualifying POU to annually generate emissions credits, denominated in megawatt hours, equal to the quantity of eligible generation in excess of its retail sales and wholesale sales of specified sources for a given year multiplied by the default emissions factor for unspecified electricity. In effect, only excess electricity sold as unspecified electricity will be eligible for emissions credits. These emissions credits can be applied by the POU to reduce a POU's current or future reported annual GHG emissions and thereby reduce or eliminate the GHG emissions intensity of its electricity offerings on the Power Content Label for the reporting year. Each emissions credit can be applied only once.

Consistent with the *Enforcement Procedures for the Renewables Portfolio Standard for Local Publicly Owned Electric Utilities*, staff proposes a 20-year life for each emissions credit generated to capture the annual fluctuation of hydroelectric output. This means that an eligible POU could bank emissions credits for up to 20 years after the year in which the credit was generated³³ for later use in reducing annual emissions as reflected on the Power Content Label.

For example, if a POU generated 1,000 MWh of qualifying GHG-free electricity in 2019 that was in excess of its 2019 retail sales and wholesale sales of specified sources, it will be credited for 428 MT CO₂e (1,000 MWh x 0.428 MT CO₂e/MWh) of adjustment credits that could be used for the retail supplier's 2019 PSD report or any PSD report through the retail supplier's 2040 PSD report.

To generate retroactive GHG emissions credits from zero-emission electricity generated prior to the first year in which GHG emissions intensities must be reported (2019), a POU eligible for this adjustment will be allowed to submit historical data for generation that occurred no earlier than the effective date of AB 1110, January 1, 2017.

³³ Credits would expire on an annual basis. The year following the reporting year (for example, 2020 for 2019 generation data) would be the first year in the 20-year banking period for a specific credit.

Other Proposed Program Changes

Energy Commission staff proposes a number of other programmatic changes to the PSD regulations.

First, to streamline reporting, retail suppliers will be required to provide EIA IDs and RPS IDs³⁴ on the annual report for any generators that have been assigned those numbers. RPS Retail suppliers will no longer be asked to provide either WREGIS (Western Renewable Energy Generation Information System) or FERC (Federal Energy Regulatory Commission) IDs. Nearly all generators will have EIA IDs, and all eligible renewables will have RPS IDs. For the few generators that have neither ID, retail suppliers should contact Energy Commission staff to determine an appropriate method of identifying the generator in question.

Second, the current Schedules 3 and 4 of the annual report pertaining to power pools will be eliminated. Staff analysis indicates that no retail supplier has used these forms since 2012, which suggests these forms are very likely obsolete.

Third, Section 1394 (b)(2) of the current PSD regulations will be clarified to establish an October 1 due date for a retail supplier that is a public agency to submit the minutes from the public meeting in which the governing board approved the annual report to the Energy Commission.

Fourth, the auditing procedures in Appendix A will be simplified to provide more discretion for auditors to perform their work in accordance with industry standards and their professional judgement.

³⁴ The RPS ID is a unique identifier assigned to each generator that applies for RPS certification.

Proposed New Reporting Requirements

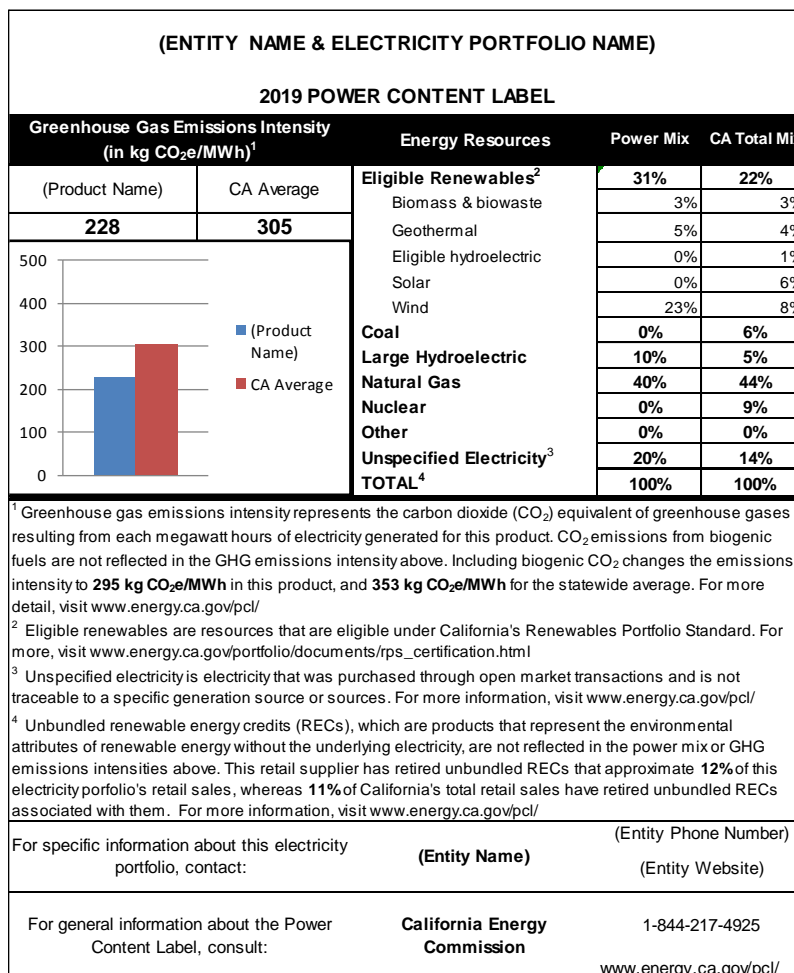
Energy Commission staff aims to minimize new reporting requirements. Under the AB 1110 implementation proposal outlined above, a retail supplier reporting under PSD will need to make the following changes to Schedule 1 of its annual filing to the Energy Commission:

- Mark whether line items are firmed-and-shaped procurements (Column K)
- Disclose EIA and RPS IDs, rather than EIA, WREGIS, or FERC IDs (Columns I and J)
- Specific attribution of self-consumption and grid losses will no longer be reported; self-consumption and grid losses will be automatically reconciled against retail sales as described on page 21 of this document (Column O)

Proposed Power Content Label

The proposed annual Power Content Label builds upon the existing label by adding GHG emissions intensity of the product near the top and the percentage of the electricity portfolio associated with retired unbundled RECs in footnote 4. The chart on the label that compares the electricity portfolio's GHG emissions intensity to the statewide GHG emissions intensity of electricity serving California load will be rendered automatically through embedded formulas in the Power Content Label. Although retail suppliers will report GHG emissions denominated in metric tons CO₂e/MWh, the GHG emissions intensity of the electricity portfolio will be converted to kilograms of CO₂e/MWh for disclosure to customers. (This conversion will be performed automatically on the PSD reporting form.) Staff will create variants of the proposed label so that a retail supplier could display multiple electricity portfolios on a single Power Content Label.

Figure 1: Proposed Power Content Label



¹ Greenhouse gas emissions intensity represents the carbon dioxide (CO₂) equivalent of greenhouse gases resulting from each megawatt hours of electricity generated for this product. CO₂ emissions from biogenic fuels are not reflected in the GHG emissions intensity above. Including biogenic CO₂ changes the emissions intensity to **295 kg CO₂e/MWh** in this product, and **353 kg CO₂e/MWh** for the statewide average. For more detail, visit www.energy.ca.gov/pcl/

² Eligible renewables are resources that are eligible under California's Renewables Portfolio Standard. For more, visit www.energy.ca.gov/portfolio/documents/rps_certification.html

³ Unspecified electricity is electricity that was purchased through open market transactions and is not traceable to a specific generation source or sources. For more information, visit www.energy.ca.gov/pcl/

⁴ Unbundled renewable energy credits (RECs), which are products that represent the environmental attributes of renewable energy without the underlying electricity, are not reflected in the power mix or GHG emissions intensities above. This retail supplier has retired unbundled RECs that approximate **12%** of this electricity portfolio's retail sales, whereas **11%** of California's total retail sales have retired unbundled RECs associated with them. For more information, visit www.energy.ca.gov/pcl/

Source: California Energy Commission staff