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Pre-Rulemaking Updates to the Power Source Disclosure Regulations

Summary of Changes and FAQs

California Energy Commission

[Docket No. 21-OIR-01](#)

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Introduction

California Energy Commission (CEC) staff plans to initiate a rulemaking to amend the Power Source Disclosure (PSD) program regulations per new legislation. Senate Bill (SB) 1158 (Becker, Chapter 367, Statutes of 2022) requires the reporting of hourly data to the CEC starting in 2028, while Assembly Bill (AB) 242 (Holden, Chapter 228, Statutes of 2021) establishes annual deadlines for retail electricity suppliers to post and distribute their power content labels. CEC staff released draft regulations, a draft hourly reporting template, and a staff proposal paper in advance of a pre-rulemaking workshop held on September 26, 2023. Discussion items at the workshop included hourly accounting implementation, proposed updates to annual accounting and the power content label, data submission updates, and related changes to regulatory language.

Written comments submitted in October 2023 have led to revisions of the proposed text for the PSD rulemaking. Below is a summary of key changes in the second version of the draft regulations and a Frequently Asked Questions (FAQs) section clarifying certain topics.

Summary of Changes

Greenhouse Gas Emissions Attribution for Oversupplied Resources

CEC staff initially proposed to attribute all hourly greenhouse gas (GHG) emissions to the party that procured an emitting resource, even if the generation exceeded the retail supplier's hourly energy needs. Numerous retail suppliers opposed this approach, arguing that their natural gas facilities frequently generate not to cover their own energy needs, but rather to meet market demand at the request of a balancing authority or in response to reliability or emergency events.¹ According to legislative analysis cited by the California Municipal Utilities Association and Pacific Gas and Electric, SB 1158 intended to address the PSD "annual methodology's

¹ [California Municipal Utilities Association](#), Comments on Pre-Rulemaking Proposed Updates to the Power Source Disclosure Regulations (October 25, 2023), 4-6. [Northern California Power Agency](#), Comments on Staff Pre-Rulemaking Amendments to the Power Source Disclosure Program and Workshop (October 31, 2023), 2-3. [PG&E](#), Comments on Proposed Updates to the Power Source Disclosure Regulations (October 24, 2023), 1-2. [SCE](#), Comments on Staff Report on Power Source Disclosure (October 24, 2023), 2-3. [LADWP](#), Comments on Pre-Rulemaking Workshop on Updates to the Power Source Disclosure Regulations (October 24, 2023), 5. [Turlock Irrigation District](#), Comments on Rulemaking to Amend Regulations Governing the Power Source Disclosure Program Regulations, 2-3. [SMUD](#), Comments to Amend Regulations Governing the Power Source Disclosure Program (October 27, 2023), 3-4.

failure to capture reliance on unspecified power by retail suppliers during many hours of the year (much of which is primarily produced by fossil fuel generation).² In contrast, staff's initial proposal would have benefitted undersupplied utilities reliant on marginal fossil generation while disadvantaging retail suppliers that operate natural gas facilities to support external demand and grid reliability.

Consequently, staff revised [Section 1392\(c\)\(1\)](#) of the draft regulations to state that emissions from oversupplied resources will be removed from a retail supplier's specified purchases, except for emissions associated with purchases of electricity generated from coal.³ Emissions from oversupply will be factored into the hourly unspecified power emissions factor. This change will allow a retail supplier to remove specified purchases of natural gas and its associated GHG emissions from its inventory during hours of oversupply.

Consistent with the proposal to allow retail suppliers to reallocate oversupplied natural gas, staff proposes that investor-owned utilities (IOUs) may report only their proportional share of all natural gas resources subject to the Power Charge Indifference Adjustment (PCIA). This update would align the treatment of PCIA resources with the treatment of resources under the Cost Allocation Mechanism in Section 1393(a)(5) of the current regulations.⁴

Greenhouse Gas Emissions from Geothermal Resources

Numerous publicly owned utilities (POUs) requested that the CEC omit GHG emissions associated with geothermal resources from the power content label.⁵ They argued that as a renewable, firm, and zero- or low-carbon resource, geothermal generation plays a critical role in California's energy transition away from fossil fuels. Furthermore, while fossil fuel GHG emissions are targeted for decarbonization under the state's climate policy, geothermal GHG emissions do not have a compliance obligation under Cap-and-Trade. The POUs contended that these nuances are not reflected on the power content label, which may mislead customers about the importance of this renewable resource.

Staff proposes to remove geothermal emissions from the power content label and align the label with the GHG emissions subject to a compliance obligation under Cap-and-Trade.⁶ A footnote would point consumers to the CEC website with further information about GHG emissions that are not included on the label, as shown in **Figure 1**.

² SB 1158 (Becker), [Assembly Committee on Natural Resources](#), (June 27, 2022), 4.

³ The Emission Performance Standard in SB 1368 (Perata, Chapter 598, Statutes of 2006) effectively prohibits additional procurement of coal-generated power. Consequently, any remaining legacy coal resources on the California grid must remain attributed to the procuring party.

⁴ [Modification of Regulations Governing the Power Source Disclosure Program](#) (May 4, 2020), 9.

⁵ [Southern California Public Power Authority](#), Comments on Rulemaking to Amend PSD Program (October 24, 2023), 2-5. [CMUA](#), 9. [NCPA](#), 5. [Riverside Public Utilities](#), Comments on Rulemaking to Amend Regulations Governing the Power Source Disclosure Program (October 24, 2023), 1-3. [Silicon Valley Clean Energy and Central Coast Community Energy](#), Joint CCAs on Rulemaking to Amend Regulations Governing the Power Source Disclosure Program (October 24, 2023), 1-2.

⁶ Biogenic CO₂, which also does not have a compliance obligation, is already excluded from the power content label.

Emissions Factors of Hourly and Annual Unspecified Power

Hourly accounting requires establishing an hourly emissions factor for the system power purchases of undersupplied utilities (those that did not procure enough specified resources to meet their loss-adjusted load). Staff’s initial proposal calculated the hourly unspecified power emissions factor as the average emissions from three data points: hourly unspecified imports, unclaimed in-state natural gas, and excess electricity from oversupplied retail suppliers. Both unspecified imports and in-state natural gas were assigned the California Air Resources Board’s (CARB) default marginal emissions rate of 0.428 metric tons of carbon dioxide equivalent per megawatt hour (MT CO₂ e/MWh); oversupplied electricity in this approach did not include emissions because retail suppliers had to retain all emissions associated with their procurements.

Staff agrees with comments that the PSD program should use more complete data to calculate this hourly emissions factor.⁷ As stated above, GHG emissions from oversupplied electricity will be included in the emissions factor calculation and attributed to undersupplied retail suppliers. The PSD program will refine its hourly calculation further by relying on hourly natural gas generation data from the California Independent System Operator (California ISO) and, in place of a default emissions factor, using established emissions factors for in-state natural gas facilities from Mandatory Greenhouse Gas Reporting Regulation (MRR) data. In the updated hourly methodology, only hourly unspecified imports will be assigned CARB’s default rate, as shown in Table 1.

Table 1. Updated Proposal for Calculating Hourly Unspecified Power

	Initial Proposal	Updated Proposal
Oversupply	Emissions attributed to original procuring party	Emissions included in hourly unspecified power mix, attributable to undersupplied retail suppliers
Unclaimed in-state natural gas	CARB’s default emissions factor	Emissions calculated from MRR data and ISO hourly generation data
Unspecified imports	CARB’s default emissions factor	CARB’s default emissions factor

Source: CEC staff

Some respondents requested that the PSD program discontinue using CARB’s default emissions factor, stating it is outdated and inaccurate.⁸ CARB reevaluated the figure in 2018 and determined that “the emission factor is still an appropriate approximation of the emissions rate associated with power plants on the margin of western electricity markets.” CARB’s default emissions factor is a *marginal* generation rate for importing resources, which means

⁷ Comments of [The Utility Reform Network](#) on Updates to the Power Source Disclosure Regulations (October 24, 2023), 2-4, [East Bay Community Energy Authority](#), Comments on the Pre-Rulemaking Proposed Updates to the Power Source Disclosure Regulations (October 24, 2023), 7-8. CMUA, 6.

⁸ [Shell Energy](#), Comments on CEC Proposed Regulations on PSD Program (October 24, 2023), 3-4. [EBCE](#), 7-8.

only importing facilities that can generate additional energy in response to marginal demand increases are considered. Renewable and large hydroelectric resources are excluded, as are fossil fuel plants with a capacity factor greater than 60 percent and cogeneration facilities. “The resulting unspecified source emissions factor is similar to the emission factor from an average single-cycle [sic] natural gas power plant.... While increases in renewables and decreases in coal-fired electricity generation have meant that the emissions intensity of generation in the WECC has decreased since the original analysis was performed, marginal generation resources are still broadly similar.”⁹

CEC staff agrees with CARB’s assumptions,¹⁰ and the PSD program will continue to use CARB’s default rate at the hourly level in the specific context of assessing emissions from unspecified imports. Meanwhile, the PSD program’s updated approach to calculating hourly unspecified power addresses concerns that a static default emissions factor may be too high or too low at times.¹¹ The new methodology will reflect hours when there is a large quantity of oversupplied clean energy on the grid. Similarly, hourly data will capture emissions during peak hours when there is little excess clean energy available and emissions from thermal generation are higher.

At the annual level, unspecified power will be calculated as the difference between annual loss-adjusted load and specified purchases (see Annual Loss-Adjusted Load and Unspecified Power below). To better contextualize unspecified power for consumers and reflect CARB’s methodology of calculating annual marginal emissions, staff proposes to reclassify unspecified power as “unspecified power (primarily fossil fuels),” categorize unspecified power with other fossil fuels, and include a footnote on the power content label explaining that “unspecified power is primarily fossil fuel generation but may include other resources,” as shown in **Figure 1**.

Losses and Hourly Loss-Adjusted Load

In the initial staff proposal, CEC staff used line loss data reported to the U.S. Energy Information Administration over the previous decade to establish a 4 percent loss adjustment factor for specified in-state resources, an additional 2 percent loss adjustment factor for specified imports, and a variable loss adjustment factor for hourly unspecified power.

Joint comments from POUs proposed that the CEC should accept reported losses from retail suppliers that have verifiable loss data.¹² Staff agrees and has updated the draft regulations to state “retail suppliers may provide documentation that demonstrates that transmission and distribution losses have been accounted for,” rather than use hourly loss adjustment factors.¹³

⁹ Amendments to the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions, [Final Statement of Reasons](#) (December 2018), 38-39.

¹⁰ While marginal resources remain broadly similar in the west, a recent study found that marginal emissions in the United States have increased since 2010. Stephen P. Holland et al., “Why marginal CO₂ emissions are not decreasing for US electricity: Estimates and implications for climate policy,” *PNAS* 119:8 (February 2022): 1-11. <https://doi.org/10.1073/pnas.2116632119>

¹¹ [TURN](#), 4-6. [PG&E](#), 3. [SCE](#), 3-4.

¹² [MRR](#) Section 95111 (b)(2)

¹³ [Section 1392\(c\)\(2\)\(B\)](#)

Data Availability and Proxy Data

The staff report proposed two methods of estimating hourly data when it is unobtainable: using hourly production profiles of energy resources in the [Clean System Power](#) (CSP) calculator of the California Public Utilities Commission (CPUC), or calculating retrospective hourly production profiles from California ISO data. In the updated draft regulations, staff proposes to use the CSP, which provides generation profiles for all resources and asset-controlling suppliers and accounts for regional variability.¹⁴ Reproducing this level of analysis independently using California ISO data would be a significant burden. It is also unnecessary as this proxy data approach is meant to be a stopgap until better hourly data can be obtained.

Based on suggestions from the San Francisco Public Utilities Commission, staff proposes to allow the use of hourly profiles for generators under 1 MW, consolidated reporting of Western Area Power Administration (WAPA) large hydro resources, and the use of production profiles in reporting WAPA large hydro resources if hourly data is unavailable.¹⁵

Respondents requested specific guidance on the reporting of Voluntary Allocation and Market Offer (VAMO) resources and other allocations.¹⁶ The updated draft regulations propose to require IOUs to submit an allocation report on or before May 1 each year, which includes hourly resources allocated to other retail suppliers. The CEC will make these reports available to applicable entities to use in hourly and annual reporting. The draft regulations clarify that for resources sold or allocated to parties without specific hourly distributions to each party, a retail supplier will claim its hourly share of the resource based on its proportional share of the annual procurement of the resource. If hourly generation data is unobtainable, the retail supplier will report hourly data using the hourly distribution tool for the relevant fuel type.

Exemptions and Modifications for Small Entities

SB 1158 contains two clauses addressing hourly reporting requirements for small utilities.

Section 398.6(j)(1-2) states

(j) The requirements of this section shall not apply to the following types of retail suppliers:

- (1) Load-serving entities that are not subject to the requirements of Section 454.52.
- (2) Local publicly owned electric utilities that are not subject to the requirements of Section 9621.

These provisions exempt electrical cooperatives and POU's with less than 700 GWh of annual load (averaged over three-year periods) from SB 1158's reporting requirements. [Sections 1393\(g\)\(1-2\)](#) of the updated draft regulations reflect this statutory exemption.

¹⁴ The staff report mistakenly said the CSP does not include wind and solar profiles, but it does.

¹⁵ [SFPUC](#), 5-6.

¹⁶ [California Community Choice Association](#), Comments on the Pre-Rulemaking Proposed Updates to the Power Source Disclosure Regulations (October 24, 2023), 7-8. [SFPUC](#), 6, 11-2.

Section 398.6(l) also grants the CEC the authority to

modify or adjust the requirements of this section for any electrical corporation with 60,000 or fewer customer accounts in the state or any retail supplier with an annual electrical demand of less than 1,000 gigawatthours, if the Energy Commission finds that the costs to comply with the requirements of this section unduly burden the electrical corporation or retail supplier.

This section applies to smaller retail suppliers with Integrated Resource Plans and GHG reduction targets that may face significant challenges in obtaining and submitting hourly data.¹⁷ Staff proposes to minimize the reporting burden of these retail suppliers by allowing them to report proxy data for all their resources. Based on their annual load and procurements, these retail suppliers may use the hourly production profiles of the CSP to establish proxy figures. The only new data these retail suppliers must provide will be hourly load. This approach will enable the tracking of GHG reduction progress and allow for a more complete hourly dataset while minimizing the reporting burden of small entities.

Consolidated Annual and Hourly Reporting

In the prior staff proposal, retail suppliers would report annual and hourly data through separate processes. In this proposal, staff consolidated the reporting requirements and process to a single report starting in 2028. Annual data (consistent with the annual accounting methodology) will be derived automatically from reported hourly data to lessen retail suppliers' overall reporting burden.

Annual Loss-Adjusted Load and Unspecified Power

In the current annual methodology, if a retail supplier did not purchase enough specified resources to match its retail sales, the difference between specified purchases and sales is automatically classified as unspecified power. If specified purchases match or exceed retail sales, no unspecified power is reported. As explained in the staff report, this approach preemptively adjusts out unspecified power used to cover losses and other end uses for all retail suppliers.¹⁸

However, this method of calculating unspecified power does not fulfill the statutory requirement to report all specified and unspecified purchases and associated losses (Public Utilities Code Section 398.5). To align the annual methodology with statute, the draft regulations would require retail suppliers to report their annual loss-adjusted load. Annual

¹⁷ Commenters from these entities requested that the CEC entirely exempt them from hourly reporting: [Pacific Power](#), Comments on Power Source Disclosure Pre-Rulemaking Amendments (October 24, 2023), 1-5. [Liberty Utilities \(CalPeco Electric\) LLC](#), Comments on Proposed Updates to Power Source Disclosure Regulations (October 24, 2023), 1-5. [Bear Valley Electric Service, Inc.](#), Comments on Proposed Updates to Power Source Disclosure Regulations (October 24, 2023), 1-3. [CalCCA](#), 6.

¹⁸ Clendening, Logan, and Jordan Scavo. 2023. *Power Source Disclosure Proposals on Hourly and Annual Accounting*. California Energy Commission. Publication Number: CEC-200-2023-014, p. 14.

unspecified power would then be calculated as the difference between annual loss-adjusted load and specified purchases.

Power Content Label Updates

In addition to collecting the complete reporting data required by statute, staff initially proposed to add two columns to the power content label to display this data for customers. The first column, "Other Electricity End Uses," would represent all non-retail sales end uses (such as self-consumption and municipal loads) and all electricity lost to transmission and distribution. The second column would measure a retail supplier's "Total Power Content," which includes all power sources and emissions a retail supplier used to cover its annual loss-adjusted load.

Staff agrees with commenters that found the "Other Electricity End Uses" column potentially confusing to customers and have removed that column.¹⁹

Some respondents contended that the power content label should only include retail sales data and not other loads or losses.²⁰ The California Municipal Utilities Association, for example, argued that there is a "statutory requirement that the PCL reflect generation offered to serve *retail sales*."²¹

Public Utilities Code Section 398.4 requires retail sales to be the denominator for retail portfolios, and the proposed approach calculates and discloses everything required in this section. However, limiting disclosures to the information specified under Section 398.4 has resulted in a power content label that falls short of the PSD program's legislative purpose under Section 398.1(b) to provide fuel mix and GHG intensity data about electric services to consumers that is "accurate, reliable, and simple to understand." Disclosure of the power sources and emissions that support a retail supplier's electric service operation, including losses and other end uses, is critical to the program's explicit legislative purpose. Customers have the same vested interest and right to disclosure for the resources serving losses and other end uses as they do for metered consumption; losses and other end uses are part and parcel to retail electric service and the associated costs are passed on to ratepayers. Further, as explained in the staff report, excluding fossil fuel emissions beyond customer consumption misrepresents the atmospheric impact of providing electric services. Without full disclosure of the resources required to cover a retail supplier's total load and losses, the power content label cannot meet its basic purpose as an accurate, reliable, and simple-to-understand consumer information tool.

To meet the PSD program's legislative purpose, total resource disclosure on the power content label is a crucial and necessary improvement. The approach described above best meets the needs of the CEC, retail suppliers, and the public. Staff has also assessed alternatives for implementing total resource disclosure.

¹⁹ [SMUD](#), 2-3. [SFPUC](#), 12-13.

²⁰ [SCPPA](#), 1. [SFPUC](#), 13.

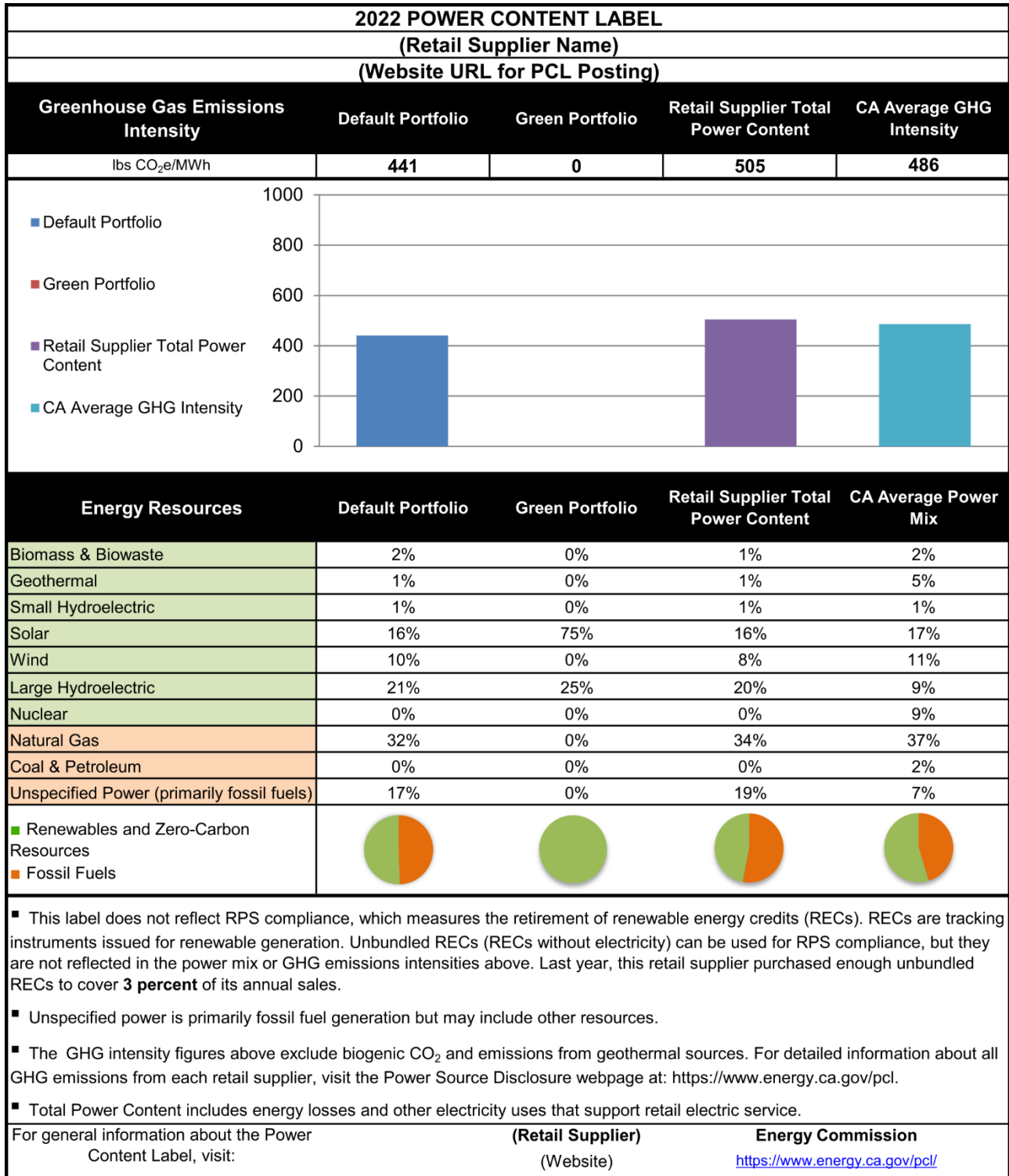
²¹ [CMUA](#), 2.

For example, in the previous rulemaking program staff considered eliminating any form of resource stacking and instead allocating a proportional share of each resource toward retail sales. That is an approach staff could reconsider to reflect the resources required to meet annual loss-adjusted load on the power content label. However, staff finds its proposed approach optimal because it gives control to the retail supplier to designate resources to specific retail portfolios while ensuring a comprehensive disclosure under the Total Power Content category on the proposed label.

Additional Changes

The issues above represent the most significant changes in the updated draft regulations. Other changes include removing references to generic resales and changing storage charging so that it increases load rather than decreases net procurement.

**Figure 1.
Updated Power Content Label Proposal**



Source: CEC Staff

FAQs

1. How will hourly GHG emissions from oversupplied resources be attributed?

Emissions associated with a retail supplier's excess hourly electricity are factored into the hourly unspecified power mix and claimed by undersupplied retail suppliers.

2. Why are "avoided GHG emissions" not factored into a retail supplier's overall emissions total or expressed in terms of "avoided emissions per MWh"?

SB 1158 measures hourly oversupplied clean energy through the category of avoided GHG emissions. However, the law stipulates that avoided emissions cannot be included in a retail supplier's overall GHG emissions total or emissions intensity. SB 1158 requires the CEC to publish an annual total of avoided emissions for each retail supplier. The CEC will not publish an "avoided emissions intensity" because this has the potential to convey parity between GHG emissions intensities and avoided emissions, which is counter to the intent of the law.

3. Will retail suppliers still be able to choose their preferred stacking order of hourly resources?

Yes, retail suppliers may stack their energy resources by preference when reporting hourly data.

4. How does the hourly methodology account for GHG emissions associated with storage resources?

Under the proposed accounting system, all GHG emissions are reported at the point of procurement from either specified resources or from hourly unspecified power. Storage charging increases a retail supplier's hourly load; this means a retail supplier must procure additional specified or unspecified resources to meet the added load and any GHG emissions associated with those resources will be reported at the point of procurement. Consequently, any GHG emissions associated with a storage facility's charging source have already been counted under this accounting system. SB 1158 also requires accounting for round-trip losses from storage, and the updated draft regulations require the reporting of hourly storage losses.

5. The purpose of hourly data is to measure GHG reduction targets based on a retail supplier's Integrated Resource Plan (IRP). How does the PSD hourly methodology compare to the CPUC's Clean System Power (CSP) approach for forecasting GHG emissions?

The PSD hourly methodology allows a retrospective comparison between IRP forecasted emissions targets and actual GHG emissions. To establish better alignment between these two approaches, the updated PSD methodology relies on the CSP for establishing hourly production profiles for resources. The key difference between these approaches is that the CSP allows hourly oversupplied clean energy to reduce a retail supplier's annual GHG emissions and emissions intensity. SB 1158, however, prohibits avoided emissions from reducing emissions from a retail supplier's GHG inventory.

6. Will the PSD program continue to use CARB’s default unspecified power emissions factor of 0.428 MT CO₂e/MWh?

PSD will assign CARB’s default emissions rate to unspecified power under annual accounting and to hourly unspecified imports.

7. What are the proposed additions to the power source and emissions data on the power content label?

Staff proposes to add a “Total Power Content” column to the power content label. This column will reflect the power sources and emissions a retail supplier needed to meet its total annual load plus losses. Total load includes retail sales, self-consumption, and other end uses such as municipal loads.

Staff also proposes to remove GHG emissions associated with geothermal resources from the emissions intensities of retail portfolios, Total Power Content, and the state average. A link will be provided in a footnote to additional information about GHG emissions not shown on the power content label.

Additional changes include:

- Rounding the fuel mix percentages to the nearest whole number.
- Providing visualizations for the percentage of renewable or zero-carbon resources and fossil fuels a retail supplier used.
- Moving the percentage of a retail supplier’s retired unbundled RECs to a footnote.

8. Will the power content label use hourly data?

No, the power content label will be based solely on annual data.