

Biomass-Derived Fuels Guidance

for California's Mandatory GHG Reporting Program

Introduction

This document identifies requirements for reporting and verifying biomass-derived fuels (biomass fuels) pursuant to the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (title 17, California Code of Regulations, sections 95100-95158) (regulation or MRR). In addition to providing general reporting and verification guidance for operators combusting biomass-derived fuels, this document contains more detailed guidance for operators that combust woody-biomass materials, as well as operators and suppliers that report exempt biomethane. Many of the requirements relevant to biomass-derived fuels can be found in sections 95103(j) and 95131(i) of MRR, and sections 95852(i), 95852.1, 95852.1.1, and 95852.2 of the Cap-and-Trade Regulation.

Unlike MRR, this guidance does not have the force of law, does not establish new mandatory requirements for greenhouse gas (GHG) reporting, and in no way supplants, replaces, or amends any of the legal requirements of the Regulation. Conversely, an omission or truncation of regulatory requirements in this guidance does not relieve operators of their legal obligation to fully comply with all requirements of MRR.

The current document contains new guidance related to biomethane (see FAQs 5.7 to 5.12).

1 Reporting Biomass Fuels

Biomass fuels are fuels that are derived from biomass products and byproducts, wastes, and residues from plants, animals, and microorganisms. Under the greenhouse gas (GHG) emissions accounting framework established by MRR and the Cap-and-Trade Regulation, CO₂ emissions from the combustion of biomass fuels that meet specified criteria in the regulations are considered biogenic fuels and are exempt from a compliance obligation under the Cap-and-Trade Regulation. Pursuant to section 95103(j) of MRR, operators and suppliers must separately report and identify biomass fuels combusted or supplied using the criteria for exempt and non-exempt fuels in section 95852.2(a) of the Cap-and-Trade Regulation. Generally, operators and suppliers enter fuel type information for each combustion unit by using the drop down fuel menu in the California Electronic Greenhouse Gas Reporting Tool (Cal e-GGRT).

1.1 Exempt Biomass Fuels

CO₂ emissions resulting from the combustion of biomass fuels are “exempt” from a compliance obligation under the Cap-and-Trade Program if they meet certain requirements in MRR and the Cap-and-Trade Regulation. If an operator or supplier is able to successfully verify biogenic emissions from biomass fuels that meet the exemption requirements, they are not required to surrender compliance instruments for the verified exempt biogenic emissions.

Specifically, for reporting purposes, exempt fuels are those biomass-derived fuels that are listed as fuels without a compliance obligation under section 95852.2(a) of the Cap-and-Trade Regulation, and, for biomethane and biogas, that meet the eligibility requirements listed in section 95852.1.1 of the Cap-and-Trade Regulation. Although the biomass-derived fuels that meet the criteria in these two sections are exempt from a compliance obligation, the emissions associated with the fuels still count towards the reporting thresholds in MRR that determine applicability and verification requirements.

For reporting entities subject to verification, exempt biomass fuels must meet the verification requirements pursuant to section 95131(i) of MRR. During verification, verifiers must confirm that the operator or supplier can document and demonstrate that the biomass fuels reported as exempt meet all applicable requirements of the Cap-and-Trade Regulation and MRR, and are therefore correctly reported as exempt.

1.2 Non-Exempt Biomass Fuels

Non-exempt biomass fuels are fuels for which the CO₂ emissions resulting from the combustion of the fuel *are subject* to a compliance obligation under the Cap-and-Trade Regulation. Specifically, non-exempt biomass fuels are those not listed in section 95852.2(a) of the Cap-and-Trade Regulation, biomethane and biogas fuels that do not meet the eligibility requirements of section 95852.1.1 of the Cap-and-Trade Regulation, or biomass fuels that cannot be verified as exempt pursuant to section 95103(j) of MRR. During the verification process, biomass fuel emissions that are reported as “exempt” by the operator or supplier must be re-classified as “non-exempt” in the emissions data report if the verifier determines that the fuels do not meet the full requirements for exemption. If the operator or supplier fails to correctly identify non-exempt biomass fuels as non-exempt, it would result in an adverse emissions verification statement.

2 Measurement and Calculation Requirements for Exempt Biomass Fuels

Pursuant to section 95103(k) of MRR, meters and measurement methods used to measure exempt CO₂ emissions from biomass fuels are not required to meet the fuel

meter accuracy requirements in sections 95103(k)(1) through (k)(11) as long as the reporting entity is either not covered by the Cap-and-Trade Regulation, or, if covered by the Cap-and-Trade Regulation, is reporting the non-exempt CH₄ and N₂O emissions from biomass fuels as de minimis emissions. Pursuant to section 95115(c)(1), exempt emissions for biomass fuels that are not mixed with fossil fuels prior to combustion or oxidation, or which are measured separately from fossil fuels, may be calculated using any calculation method (or "tier" under subpart C of the United States Environmental Protection Agency (USEPA) Mandatory GHG Reporting Rule 40 CFR Part 98.33(a)) available, including tier 1, which uses the default high heating value or carbon content for the reported fuel.

Unlike emissions that qualify as exempt, any non-exempt biomass fuel emissions must meet all the same requirements for meter accuracy and calculation methodologies as emissions reported from fossil fuels. Specifically, operators must use accurate measuring devices that meet requirements in section 95103(k) and use the calculation methods prescribed in sections 95112 and 95115 of MRR for fossil fuels.

It is important to note that emissions from exempt biomass fuels must meet the same requirements for meter accuracy and calculation methodologies as non-exempt fuels if the calculation of the exempt biomass fuel emissions directly affects the calculation of non-exempt emissions. For example, if biogas and natural gas streams are combined prior to combustion in a boiler, and the natural gas stream is not measured before the fuels are combined, the emissions from the combined fuel stream must be calculated using a tier 3 or 4 methodology, and the metering devices must meet the accuracy requirements of section 95103(k) of MRR. Pursuant to section 95115(e) of MRR, the biomass emissions must be calculated based on contractual deliveries of biomethane, with the remainder of emissions coming from the natural gas.

3 Categorizing Woody Biomass Fuels

Section 95852.2 of the Cap-and-Trade Regulation determines which emissions are exempt from a compliance obligation, including emissions that result from the combustion of woody biomass fuels. Section 95103(j) requires reporting entities to appropriately categorize those woody biomass fuels as agricultural, urban, or forest-derived wood waste when reporting combustion emissions in Cal e-GGRT. It is important to correctly categorize the woody biomass fuels using the drop-down menu choices in Cal e-GGRT because section 95103(j)(2) of MRR includes additional reporting requirements for forest-derived wood waste to be considered as exempt fuel. The categorization of different types of woody biomass can be found in Table 1.

Table 1: Characterization of Woody Biomass Material for Reporting

Woody Biomass Material	Appropriate Category
Wood from the pruning or removal of orchards	Agricultural Waste
Manufacturing and construction waste	Urban Waste
Wood from tree pruning or tree removal as a part of urban tree care	Urban Waste
Waste materials associated with the production of wood products (lumber, plywood, etc.)	Urban Waste
Wood from tree removal associated with land clearing for the purposes of approved construction, right of ways, etc.	Forest-Derived Waste (Requires verification of additional criteria to determine if fuel is exempt)
Wood from forest “thinning” for forest fire risk reduction or improved health of the forest	Forest-Derived Waste (Requires verification of additional criteria to determine if fuel is exempt)

3.1 Reporting Urban and Agricultural Wood Waste

Urban waste is defined in MRR as “waste pallets, crates, dunnage, manufacturing and construction wood waste, tree trimmings, mill residues and range land maintenance residues.” Agricultural waste is defined in MRR as “waste produced on land used for horticulture, fruit growing, seed growing, dairy farming, livestock breeding and keeping, or grazing land, meadow land, osier land (growing willow), market gardens and nursery grounds as a result of agricultural activity.”

Reporters should not include deliveries of urban and/or agricultural wood wastes, including mill residues, in the “Forest Product Reporting Form” that is uploaded to Cal e-GGRT because the information required to be reported pursuant to section 95103(j)(2) only applies to forest-derived wood and wood waste. Additionally, if a fuel delivery contains both agricultural and urban wood waste and the amounts of each are unknown, a reasonable estimate may be made for the quantities of each as long as non-exempt fuels are not included in the mixture. The approach used to arrive at the estimate should be documented in the GHG Monitoring Plan.

3.2 Reporting Forest-Derived Biomass

Only woody biomass materials that come directly from a forest and are primarily intended to be combusted (i.e., not by-products of milling or similar processes) are categorized as forest-derived wood and wood wastes. Section 95852.2(a)(4) of the Cap-and-Trade Regulation requires exempt biomass fuel classified as wood and wood

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wastes to be harvested for the purpose of forest fuel reduction or stand improvement, and pursuant to an approved timber management plan (TMP) prepared in accordance with the Z'berg-Nejedly Forest Practice Act of 1973 or other locally- or nationally-approved plans.

Pursuant to section 95103(j) of MRR, an operator combusting forest-derived wood waste must list the contact information for the forest manager under whose purview the wood was removed and report the California Forest Practice Rules (CFPR) or National Environmental Policy Act (NEPA) identifiers under which the wood waste was harvested, as applicable. To meet this requirement, the reporter must fill out and upload the "Forest Product Reporting Form" to Cal e-GGRT when reporting forest-derived fuels. Pursuant to section 95131(i) of MRR, the verifier must confirm that the facility did indeed receive the reported amounts of biomass fuels from the reported companies that provided the fuels and that the reported companies followed the appropriate rules for forest wood harvesting. Verifiers will use a sampling approach to confirm this information.

Several types of harvesting practices meet California Forest Practice Rules and/or other local or nationally approved plans, and therefore meet the requirements of MRR. The following are examples of harvesting practices that meet MRR requirements:

- Wood harvested pursuant to a California Department of Forestry and Fire Protection (CalFire) approved Timber Harvest Plan (THP).
 - **Note:** Most of the timber that is harvested under a THP would be for the purposes of milling. Any combusted residues from the milling process (e.g., sawdust, limbs, tree tops, etc.) are considered urban waste and should be categorized as such. Materials fitting the urban waste classification do not require CFPR or NEPA identifiers.
- Wood harvested under a THP exemption issued by CalFire.
 - **Note:** During verification, the reporting entity should be prepared to provide evidence to the verification team that the exemption was in effect during the harvest.
- Harvests performed under a non-industrial THP.

If there are any other permits or arrangements that the operator believes meet the requirements of section 95103(j)(2) of MRR, they should contact CARB staff to determine whether the permit or arrangement could be used to meet MRR requirements.

3.2.1 Reporting Forest-Derived Biomass Harvested from High Hazard Zones in California

In October of 2015, Governor Brown declared a state of emergency due to the unprecedented levels of dead and dying trees in the State of California. In response to the executive order, CalFire, in coordination with other State agencies, identified areas of the State that represent High Hazard Zones (HHZs). State agencies, utilities, and local governments may undertake efforts to remove dead or dying trees located in the designated HHZs.¹ In response to questions from stakeholders, CARB has coordinated with CalFire to provide guidance on how biomass facilities should properly document biomass material for purposes of MRR that originates from projects in HHZs that do not have an associated forest practice or NEPA permit number.

Material collected from HHZs that is harvested in compliance with the existing California Forest Practice Act and Rules (including HHZ material harvested under explicit exemptions to California Forest Practice Act and Rules) would be considered exempt fuel pursuant to the Cap-and-Trade Regulation. This material should be classified as "forest-derived wood and wood waste." The facility would need to follow the reporting procedures specified in section 95103(j)(2) of MRR for this material and be able to provide documentation of NEPA/CFPR identifiers and/or exemptions during verification.

Material collected from HHZs that is not subject to the California Forest Practice Act and Rules should not be considered "forest-derived wood and wood waste" per the definition provided in MRR, as "forest-derived wood and wood waste" is defined to mean wood that is harvested pursuant to the California Forest Practice Act and Rules. Instead, the facility would need to separately track these fuel sources and report the fuel as "urban waste" using the appropriate emission factors provided in MRR. The urban waste is not subject to the exemption criteria in section 95852.2(a)(4) of Cap-and-Trade; however, the facility must still be able to provide documentation of the source of this material in order to provide a verifier assurance that the material was not subject to the California Forest Practice Act and Rules.

If the reporter is able to provide NEPA/CFPR identifiers, the material is exempt under section 95852.2(a)(4) in the following cases:

- Forest practices are explicitly permitted by CalFire pursuant to CFPR and the reporter is able to provide the CFPR identifier and other documentation required under section 95103(j)(2); or

¹ For more information on HHZs and the Governor's executive order, visit: <http://www.fire.ca.gov/treetaskforce/>

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- Forest practices are explicitly permitted by a federal agency pursuant to NEPA and the reporter is able to provide the NEPA identifier and other documentation required under section 95103(j)(2).

If the reporter is unable to provide NEPA/CFPA identifiers, HHZ source can be demonstrated in other ways. Material from these projects is exempt pursuant to section 95852.2(a)(4) in the following cases:

- County-initiated projects and grant-funded projects with an explicit CEQA exemption, likely with a State Clearing House (SCH) identifier. In this case, the reporter must provide CEQA exemption documentation and the other documentation required under section 95103(j)(2).
- Homeowner/tree service material without an explicit CEQA exemption. This material must have an address associated with it to show it came from a HHZ. If the harvest of this material is not subject to the California Forest Practice Act and Rules, it is not considered forest-derived wood waste, and therefore must be reported as “urban waste.”

4 Requirements for Reporting Biomethane

Biomethane is defined in MRR as “biogas that meets pipeline quality natural gas standards.” Biomethane is indistinguishable from natural gas when co-mingled with fossil natural gas and injected into natural gas transmission and distribution pipelines. MRR establishes additional criteria for claiming the emissions from biomethane as exempt because of the need to ensure that the biomethane can be verified from the site of production to the reporting entity purchasing the fuel. For biomethane to be considered exempt, reporting entities must report the information in section 95103(j)(3) of MRR for all biomethane purchases. Verifiers must follow the requirements of section 95131(i)(2)(D) of MRR to confirm that the biomethane meets all exemption requirements. Verifiers should treat biomethane as a high-risk source with high potential for misreporting. As described in section 4.1, a facility must be able to show that it purchased eligible biomethane through contracts that meet the requirements of section 95852.1.1 of the Cap-and-Trade Regulation.

4.1 Biomethane Contracts Requirements

All contracts for purchasing biomethane or biogas must meet the criteria in section 95852.1.1 of the Cap-and-Trade Regulation for the emissions associated with the combustion of the biomethane to be considered exempt from a compliance obligation in the Cap-and-Trade Program. Section 95852.1.1(a) of the Cap-and-Trade Regulation requires that biomethane or biogas procured under contracts executed on or

after January 1, 2012 must be “new” fuel associated with either an increase in biogas production capacity, or with recovery of fuel that was previously vented or destroyed without producing useful energy. Biomethane or biogas fuel purchased under a previously existing contract that was executed prior to January 1, 2012 is considered to meet the eligibility requirements.

If biomethane is directly delivered from a producer to an operator, the operator can use that contract to show purchase of eligible biomethane. If biomethane is not directly delivered to an operator, the operator may establish the purchase of eligible biomethane through a chain of contractual arrangements to claim it as exempt. For example, the producer of the biomethane may have a contract for purchase of the biomethane with a marketer, and the marketer may then have a contract for purchase of the biomethane with the operator. The operator must clearly demonstrate through contracts and supporting documentation that the purchased biomethane meets the requirements of section 95852.1.1 of the Cap-and-Trade Regulation, as well as document the disposition and sales of any carbon credits or allowances to ensure that the requirements in section 95852.1.1(b) of the Cap-and-Trade Regulation are met.

Some biomethane purchase contracts may include provisions to purchase supplemental fossil gas when contractual volumes of biomethane cannot be provided due to fugitive losses during transmission. MRR does not provide a minimum requirement for the amount of supplemental fossil gas that may be included in a biomethane purchase contract; however, CARB recommends that the volume of fossil gas should be less than 5 percent of the total purchased amount, and the amount of any supplemental fossil gas should be documented through meter and invoice data. If the amount of supplemental fossil gas exceeds 5 percent of the total volume of biomethane, the operator should contact CARB.

4.2 Biomethane Transportation, Displacement, and Gas Swapping

Biomethane nominated to a pipeline is identical to fossil-derived natural gas; therefore, the actual molecules of biomethane may not be combusted by the operator with a purchase contract. Pursuant to section 95131(i)(2)(D) of MRR, the operator, or reporting entity, must provide evidence to the verifier that they are “receiving” the biomethane that they purchased, whether or not the operator receives the actual biomethane molecules via an interconnected pipeline with a physical delivery pathway.

The operator or reporting entity could employ one of two methods to provide evidence that they are “receiving” the biomethane. The first method is to show that the biomethane was transported to the facility where the fuel was combusted. This would include nomination and allocation reports, as applicable, showing the fuel moving along pipelines towards the source of combustion. In cases where pipelines physically

connect the source of the biomethane to the operator’s facility, but the flow of the gas is in the wrong direction, the natural gas is assumed to be moved via “displacement,” but the path to the facility would be tracked by contracts with pipeline companies.

The second method is for the operator or reporting entity to provide evidence that the owner or marketer of the biomethane engaged in a “swap” of the biomethane at the source, with natural gas delivered to the operator or reporting entity instead of the actual biomethane molecules which were procured. This method requires evidence that the biomethane was nominated to a pipeline, but does not require evidence that the biomethane physically flowed to the operator’s facility in California.

In both methods, purchase invoices that detail the actual volume and heat content of biomethane procured during the year are the primary means of documenting the total amount of biomethane reported by the operator or reporting entity. This step is especially important if the biomethane is “subtracted” from the total measured natural gas to calculate the total fossil natural gas combusted using the equation in section 95115(e)(3) of MRR. If the biomethane purchase invoice data is used to quantify the covered emissions from natural gas, then the calculation is subject to material misstatement requirements.

The following examples illustrate the types of information that the operator or reporting entity could use to document the path of the biomethane purchased by the operator. These examples may be based in part on case-specific factual circumstances and are offered here only as guidance that does not supplant the requirements of MRR.

Example: Biomethane is Delivered to an Operator via Interconnected Pipelines

Figure 1 illustrates an arrangement where biomethane is transferred from a landfill to an operator or reporting entity via interconnected pipelines. Biogas is produced at a landfill that then upgrades the gas to pipeline quality. The landfill has a contract in place to sell the fuel to a marketer who handles the pipeline nominations necessary to transfer the gas from the landfill to the operator or reporting entity through physically interconnected pipelines between the landfill and the operator. The marketer then sells the biomethane at the power plant’s fence line to the operator or reporting entity.

Figure 1: Delivery via Interconnected Pipelines



For this example, the applicable biomethane contract requirements from section 95852.1.1 are considered to be met. The operator reports the biomethane as exempt biomass-derived fuel, and during verification the operator must allow the verifier to review the GHG Monitoring Plan, which includes information about the procurement of biomethane, including information on contracts in place.

Example: Biomethane is Sold to an Operator With No Physical Pathway Between the Source and the Facility

Figure 2 illustrates an arrangement where biomethane is transferred from a landfill to an operator or reporting entity where there is no physical pathway through interconnected pipelines. The delivery is accomplished via an in-kind gas swap, where biomethane is purchased from the source, but different molecules of natural gas are actually combusted at the facility. As in the previous example, biogas is produced at a landfill, which upgrades the gas to pipeline quality. A contract is in place for the facility to purchase the biomethane from the producer.

In this case, the operator would supply the verifier with contracts documenting the terms of the sale from the landfill to a marketer or other purchasing entity and the terms of sale from the marketer or other purchasing entity to the operator. The reporting entity must ensure that the eligibility requirements in section 95852.1.1(a) are met. The operator would need to provide nomination, scheduling, allocation, and similar gas reports to the verifier to demonstrate the purchasing path of the biomethane from the source to the operator. The operator would need to provide invoices to the verifier to confirm the amount of fuel purchased and combusted by the operator.

Figure 2: Delivery via In-Kind Gas Swap



There may be confidentiality reasons why a fuel marketer or other entity supplying the fuel to the operator may not want to share documentation such as invoices, scheduling, transportation, balancing reports, or any other information referred to in section 95131(i)(1)(B)(2) of MRR with the operator. Pursuant to section 95131(i)(1)(B)(2)(a), in this case, the operator or reporting entity may arrange for the fuel supplier to provide documentation directly to the verifier.

4.3 Mandatory Reporting and Renewable Portfolio Standard Eligibility Criteria

The reporting and verification of GHG emissions under MRR are separate from California Energy Commission requirements for publicly owned utilities to establish eligibility and earn credit towards the renewable portfolio standard (RPS) for combustion of biomethane. However, MRR's contracting and annual accounting requirements are similar. Reporting entities whose biomethane is RPS-eligible can likely provide verifiers with information similar to that provided to the California Energy Commission for the annual accounting of generation attributable to biomethane.

5 Frequently Asked Questions

This section provides answers to frequently asked questions related to reporting and verification of biomass-derived fuels. FAQs 5.7 to 5.12 were added in 2019. These answers may be based in part on case-specific factual circumstances and are offered here only as guidance that does not supplant the requirements of MRR.

5.1 Why do I have to report information about the source and vendor of biomethane purchased by our facility?

CARB requires all entities that purchase and report biomethane to have adequate information for each biomethane delivery to substantiate claims that the biomethane contracts meet the eligibility criteria specified in sections 95852.1.1 and 95852.2 of the Cap-and-Trade Regulation. For verification purposes, reporting entities should have basic biomethane origination and vendor information included in the GHG emissions data report to allow the verification team to begin to assess the potential risks associated with biomethane reporting in the verifier's sampling plan.

5.2 Is biomethane an "exempt" fuel under the Cap-and-Trade Regulation? What is the difference between "exempt" and "non-exempt" biomethane?

Biomethane may be considered an exempt fuel if it meets the requirements of the Cap-and-Trade Regulation and MRR. Purchased biomethane may be considered "exempt" from a compliance obligation for CO₂ emissions under the Cap-and-Trade Regulation if the entity reporting the fuel has sufficient documentation for a verifier to confirm that: 1) the biomethane contract meets all requirements specified in sections 95852.1.1 and 95852.2 of the Cap-and-Trade Regulation, 2) the biomethane has been reported in conformance with the biomethane reporting requirements in MRR, and 3) the identified biomethane has been received by the reporting entity as described in section 4.2 of this guidance document. "Non-exempt" biomethane is biomethane for which any of the above exemption requirements are not met or cannot be substantiated

during verification. Carbon dioxide emissions from non-exempt biomethane are considered to be covered emissions and result in a compliance obligation under the Cap-and-Trade Regulation.

5.3 How do I report non-exempt biomethane in Cal e-GGRT?

Non-exempt biomethane must be reported as a “non-exempt” biomass fuel in Cal e-GGRT. If reporting biomethane in subpart C or D of Cal e-GGRT, biomethane is included as a fuel option under the header “Non-Exempt Biomass Fuels – Gases.” If reporting non-exempt biomethane as a producer or consignee of liquefied natural gas (LNG) under subpart NN of Cal e-GGRT, there will be an option in the product list for “LNG produced from Non-Exempt Biomethane.” Note that because emissions from non-exempt biomethane are considered to be covered emissions, all meters and measurement methods used to report non-exempt biomethane must meet the full calibration and accuracy requirements in section 95103(k) of MRR.

5.4 What documentation do I need to provide to the verifier to demonstrate a biomethane contract meets the requirements for exemption under the Cap-and-Trade Regulation?

Section 95852.1.1 of the Cap-and-Trade Regulation specifies the requirements that must be met in order for biomethane to be considered eligible for exemption (see answer 5.2. above). As specified in section 95852.1.1(a) and discussed in section 4.1 of this guidance document, all contracts must meet one of four eligibility pathways. During annual verification, entities reporting biomethane as an exempt fuel must provide the verifier with adequate documentation demonstrating that each biomethane contract meets one of the four potential eligibility options. The documentation provided to the verifier will vary based on individual contractual circumstances, but may include documentation such as redacted contracts (current and previous contracts) that specify exact dates of execution and delivery into California, permitting and/or operational data from the biomethane source facilities, RPS certification and date of delivery documentation from the California Energy Commission (CEC), and publicly available information such as EPA GHG reporting program facility level reports from the biomethane source facilities. Note that the verifier has discretion when evaluating evidence and may request additional information that can be used to substantiate claims of eligibility. At a minimum, biomethane purchasers should check with the biomethane vendors, as they may be able to supply much of the documentation that may be needed for verification, such as redacted contracts, and can provide confidential information directly to the verifier during verification under the provisions specified in section 95131(i)(1)(B)(2)(a) of MRR.

5.5 How will the verifier sample and review biomethane transactions that are reported as exempt?

Verifiers should view biomethane reported as exempt as a high-risk emissions source because it does not have a compliance obligation under the Cap-and-Trade Regulation. Due to the contractual eligibility restrictions and complex physical delivery pathways involved with each reported biomethane contract, verifiers must ensure the requirements in section 95131(i) of MRR are met, and, specifically for biomethane, must have reasonable assurance that: 1) the reporting entity is receiving the identified fuel, 2) the contracts meet all eligibility requirements specified in the Cap-and-Trade Regulation, and 3) any data discrepancies are included in the material misstatement evaluation. Even though biomethane is a potentially "exempt" fuel under the Cap-and-Trade Regulation, failure by a reporter to adequately demonstrate that exemption criteria are met could materially impact the reported covered emissions.

5.6 As biomethane production plants go through commissioning after construction and begin production, it is common for "test" volumes to be injected into the common carrier pipeline prior to commercial operation. If the test volumes are sold to, or used by, a third-party for a temporary beneficial use, must these volumes be considered as the "average production" under section 95852.1.1(a)(2)(A) of the Cap-and-Trade Regulation?

Initial stages of commissioning in a new plant often produce small and intermittent volumes of biomethane, and, as the system ramps up, volumes typically become larger and more consistent. There are no provisions in the Cap-and-Trade Regulation or MRR that specifically define or address "test" volumes in relation to the eligibility requirements imposed by section 95852.1.1 of the Cap-and-Trade Regulation. However, small volumes produced at the facility during the commissioning phase that are injected into the common carrier pipeline and ultimately used for beneficial use by another entity would not necessarily impact the eligibility of the volumes under contract by the reporting entity. The reporting entity contracting for the biomethane would need to demonstrate during verification that any volumes produced prior to the first day of "delivery" of biomethane to the reporting entity were, in fact, "test" volumes, and furthermore, that no other entity has contracted for ongoing delivery of those volumes. Verifiers have discretion when assessing whether or not volumes that are produced by a biomethane facility are considered "operational" or "commercial" volumes, or would be considered to be system "testing" or "optimization" volumes. Ultimately, it is the responsibility of the entity purchasing the biomethane to demonstrate that the generation data agrees with an overall description of the ramp-up period and the date at which commercial operations began. To further ensure that all volumes contracted by the reporting entity are eligible, the purchaser of the biomethane may wish to address

any “pre-commercial” test volumes in the contractual arrangement with the marketer/producer.

FAQs 5.7 to 5.12 are relevant to biomethane production at sites where production capacity has increased:

For sites where biomethane capture and production has increased, biomethane may be eligible as an exempt biomass-derived fuel under MRR if it meets the requirements of section 95852.1.1(a)(2)(A), which includes “*An increase in the biomass derived fuel production capacity, at a particular site, where an increase is considered any amount over the average production at that site over the last three years.*”

5.7 How do reporting entities apply the requirements in section 95852.1.1(a)(2)(A) regarding a three-year “lookback” period?

Under section 95852.1.1(a)(2)(A), an increase in production is considered an amount over average production at a site for the three years immediately preceding the year that the eligible biomethane is delivered and consumed in California. We refer here to this three-year period as the lookback period.

The average annual gas production during the three-year lookback period establishes the baseline production used to calculate the quantity of eligible biomass-derived fuel. The quantity of eligible biomass-derived fuel is calculated as follows:

$$\text{Quantity of Eligible Biomass-Derived Fuel} = \text{Total Production} - \text{Baseline Production}$$

Table 1 provides an example of how the quantity of eligible biomethane varies based on the year biomethane is first delivered and consumed in California. As Table 1 illustrates, if the biomethane is not delivered and consumed in California in the first year of expanded capacity, the baseline increases, which decreases the quantity of eligible biomethane. If the gas is not consumed in California until 2021, the lookback period is set to 2018-2020, and the quantity of eligible biomethane is reduced to zero.

Table 1.
Establish Baseline, and then Calculate Eligible Biomethane (in million MMBtu)

	Year						
	2015	2016	2017	2018	2019	2020	2021
Landfill Gas	10	10	10	10	10	10	10
“New” Gas from Landfill Expansion	0	0	0	5	5	5	5
Total Gas Production	10	10	10	15	15	15	15
Eligible Deliveries = Total Gas Production - Baseline							
Year of First Delivery	Baseline Production Capacity			Eligible Biomethane Deliveries			
2018	Baseline = $(10+10+10)/3 = 10$			5	5	5	5
2019	Baseline = $(10+10+15)/3 = 11.7$			3.3	3.3	3.3	3.3
2020	Baseline = $(10+15+15)/3 = 13.3$			1.7	1.7	1.7	1.7
2021	Baseline = $(15+15+15)/3 = 15$			0	0	0	0

5.8 Referring to Table 1, if “Entity A” contracts for the biomethane beginning in 2018, but does not consume the biomethane from the landfill until 2020, what is the quantity of eligible biomethane?

The year that the biomethane is first delivered and consumed in California establishes the lookback period and sets the quantity of eligible biomethane. If the eligible biomethane produced by the out-of-state landfill is not consumed in California until 2020, the lookback period would reset to 2017-2019 and the quantity of biomethane eligible to be claimed as exempt in 2020 and beyond would decrease to 1.7 million MMBtu, as shown in Table 1, and no biomethane would be eligible in 2018 or 2019.

Importantly, only the portion of biomethane actually delivered to California and eligible as exempt from a Cap-and-Trade compliance obligation under section 95852.1.1(a)(2) would retain eligibility in future years. For more complex scenarios, reporting entities are encouraged to contact CARB staff for guidance on determining eligible biomethane quantities.

5.9 Using Table 1 as a reference, if another entity, “Entity B”, purchases the 5 million MMBtu of new biomethane for 2018 and 2019, but does not deliver this fuel into California, and Entity A (in question 5.8) subsequently takes over the contract beginning in 2020, how would Entity A calculate the volume of biomethane eligible for exemption in 2020 under section 95852.1.1(a)(2)?

The first entity to purchase and deliver the eligible biomethane to California for consumption establishes the eligibility of the biomethane under section 95852.1.1(a)(2). If the eligible biomethane is not delivered to, and consumed in, California in 2018 or 2019 by Entity B, eligibility is not established, and the three year lookback period that establishes the baseline production capacity must include 2018 and 2019 production volumes. In this case, if Entity A contracts for the biomethane from 2020 onward, the eligible quantity the power plant could potentially report would be 1.7 million MMBtu beginning in 2020. However, if Entity A instead delivers the full eligible amount of biomethane for consumption in California in 2018 and thereby establishes eligibility, then the full 5 million MMBtu of biomethane would be potentially eligible for Entity B in 2020 and beyond.

5.10 Referring to the previous example, if eligible biomethane is consumed in California in 2018 by Entity B, does the fuel need to be delivered into California in each subsequent reporting year in order to retain eligibility for future years?

No. Under section 95852.1.1(a)(4), the amount of biomethane that can be traced back to a previous contract that was eligible under one of the criteria in sections 95852.1.1(a)(1-3) may be determined to be eligible in the future. However, the verifier would need to be able to confirm its eligibility under a previous contract.

5.11 Does biomethane need to be reported to CARB as exempt from a compliance obligation by the purchasing entity in order to establish eligibility of the biomethane under section 95852.1.1(a)(2)?

No. Under section 95852.1.1(a)(2), the entity claiming the biomass-derived fuel must purchase biomethane that meets the criteria for eligibility under Cap-and-Trade and consume it in California during that reporting year. It is not necessary for the entity to report the biomethane as exempt from a compliance obligation in order to retain eligibility.

5.12 How does an entity calculate “fuel that was previously eligible” in section 95852.1.1(a)(4), as applied to fuel eligible under section 95852.1.1(a)(2)?

“Fuel that was previously eligible” is equal to the quantity of eligible biomethane that was delivered and consumed in California in the first year of delivery (i.e., same year that establishes the lookback period). Referring to Table 1, if five million MMBtu of biomethane is delivered to a California entity in 2018, the amount of fuel that would be considered “previously eligible” under future contracts would be five million MMBtu. To demonstrate eligibility pursuant to section 95852.1.1(a)(4), the reporting entity must be

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able to trace the claimed exempt biomethane volume to the previously eligible contracted delivery into California.

6. Additional Information

Detailed training materials for reporting using Cal e-GGRT:

<https://ww2.arb.ca.gov/mrr-tool>

The GHG Mandatory Reporting Regulation, with full requirements:

<https://ww2.arb.ca.gov/mrr-regulation>

Additional reporting and applicability guidance documents to assist reporters in complying with the MRR: <https://ww2.arb.ca.gov/mrr-guidance>

For help with reporting or verification, please contact the appropriate staff member:

<https://ww2.arb.ca.gov/mrr-contacts>.