

WAC 173-441-122 Calculation methods for suppliers. This section establishes the scope of reportable GHG emissions under this chapter and GHG emissions calculation methods for suppliers. Owners and operators of suppliers must follow the requirements of this section to determine if they are required to report under WAC 173-441-030(2). Owners and operators of suppliers that are subject to this chapter must follow the requirements of this section and all subparts of 40 C.F.R. Part 98 listed in this section when calculating emissions. If a conflict exists between a provision in WAC 173-441-010 through 173-441-110 and 173-441-140 through 173-441-170 and any applicable provision of this section, the requirements of those sections must take precedence.

(1) **General requirements.** An owner or operator of a supplier subject to the requirements of this chapter must report GHG emissions, including GHG emissions from biomass, from all applicable source categories with GHG emissions in Washington state listed in (a) of this subsection using the methods in this section. All GHG emissions in Washington state from a common primary parent company or owner or operator are considered part of a single supplier for the purposes of this section.

(a) Supplier source categories:

(i) Position holders at terminals and refiners delivering fuel products, other than natural gas described in Subpart NN;

(ii) Enterers that import fuel products, other than natural gas described in Subpart NN, outside the bulk transfer/terminal system, and biofuel production facilities that produce and deliver fuel products outside the bulk/terminal system;

(iii) Refiners that produce liquefied petroleum gas;

(iv) Operators of interstate pipelines delivering natural gas;

(v) Importers of liquefied petroleum gas, compressed natural gas, or liquefied natural gas into Washington;

(vi) Local distribution companies who are public utility gas corporations or publicly owned natural gas utilities delivering natural gas;

(vii) Operators of intrastate pipelines delivering natural gas;

(viii) Natural gas liquid fractionators;

(ix) Producers, importers, and exporters of carbon dioxide;

(x) Facilities that make and deliver liquefied natural gas products or compressed natural gas products by liquefying or compressing natural gas received from interstate pipelines.

(b) All references to 40 C.F.R. Part 98 are modified consistent with WAC 173-441-120 (2)(a) through (e).

(c) The calculation methods for voluntary reporting in WAC 173-441-120(3) apply, except calculation methods in WAC 173-441-120 (3)(b) take precedence over the methods from WAC 173-441-120 (3)(a).

(d) An owner or operator may petition ecology to use calculation methods other than those specified in this section to calculate its supplier GHG emissions. Such alternative calculation methods must be approved by ecology prior to reporting and must meet the requirements of WAC 173-441-140.

(2) **Definitions specific to suppliers.** The definitions in this subsection apply throughout this section unless the context clearly requires otherwise.

(a) "Biomethane" or "renewable methane" means biogas that meets pipeline quality natural gas standards.

(b) "Biofuel production facility" means a production facility that produces one or more biomass-derived fuels.

(c) "Biomass-derived fuels" means a fuel listed in 40 C.F.R. Part 98 Table MM-2, or any renewable or biogenic version of a product listed in 40 C.F.R. Part 98 Table MM-1.

(d) "Biogas" or "renewable natural gas" means a gas consisting largely of methane and other hydrocarbons derived from the decomposition of organic material in landfills, wastewater treatment facilities, and anaerobic digesters.

(e) "Bulk transfer/terminal system" means a fuel distribution system consisting of refineries, pipelines, vessels, and terminals. Fuel storage and blending facilities that are not fed by pipeline or vessel are considered outside the bulk transfer system.

(f) "Enterer" means an entity that imports fuel products into Washington and who is the importer of record under federal customs law or the owner of fuel upon import into Washington if the fuel is not subject to federal customs law. Only enterers that import the fuels specified in this definition outside the bulk transfer/terminal system are subject to reporting under the regulation.

(g) "Fractionator" means plants that produce fractionated natural gas liquids (NGLs) extracted from produced natural gas and separate the NGLs individual component products: Ethane, propane, butanes and pentane-plus (C5+). Plants that only process natural gas but do not fractionate NGLs further into component products are not considered fractionators. Some fractionators do not process production gas, but instead fractionate bulk NGLs received from natural gas processors. Some fractionators both process natural gas and fractionate bulk NGLs received from other plants.

(h) "Fuel transaction" means the record of the exchange of fuel possession, ownership, or title from one entity to another.

(i) "Importer of fuel" means an entity that imports fuel products into Washington and who is the importer of record under federal customs law. For imported fuel products not subject to federal customs law, the "importer of fuel" is the owner of the fuel product upon its entering into Washington if the eventual transfer of ownership of the product to an end user or marketer located in Washington occurs at a location inside Washington. However, where the transfer of ownership of the fuel product to a Washington end user or marketer occurs at a location outside of Washington, the "importer of fuel" is the producer, marketer, or distributor that is the seller of the fuel product to the end user or marketer located inside Washington. Pursuant to subsection (4) of this section, only importers of liquefied petroleum gas, compressed natural gas, and liquefied natural gas are subject to reporting as an importer of fuel.

(j) "Importer of record" means the owner or purchaser of the goods that are imported into Washington.

(k) "Interstate pipeline" means any entity that owns or operates a natural gas pipeline delivering natural gas to consumers in the state and is subject to rate regulation by the Federal Energy Regulatory Commission.

(l) "Intrastate pipeline" means any pipeline or piping system wholly within Washington state that is delivering natural gas to end users and is not regulated as a public utility gas corporation by the Washington state utilities and transportation commission, is not a publicly owned natural gas utility, and is not regulated as an interstate pipeline by the Federal Energy Regulatory Commission. Only intrastate pipeline operators that physically deliver gas to end users in Washington are subject to reporting under this chapter. This definition includes onshore petroleum and natural gas production facili-

ties and natural gas processing facilities, as defined in 40 C.F.R. Part 98, that deliver pipeline and/or nonpipeline quality natural gas to one or more end users. Facility operators that operate an interconnection pipeline that connects their facility to an interstate pipeline, or that share an interconnection pipeline to an interstate pipeline with other nearby facilities, are not considered intrastate pipeline operators. Facilities that receive gas from an upstream LDC and redeliver a portion of the gas to one or more adjacent facilities are not considered intrastate pipelines.

(m) "Local distribution company" or "LDC," for purposes of this chapter (chapter 173-441 WAC), means a company that owns or operates distribution pipelines, not interstate pipelines, that physically deliver natural gas to end users and includes public utility gas corporations, publicly owned natural gas utilities and intrastate pipelines that are delivering natural gas to end users.

(n) "Position holder" means an entity that holds an inventory position in fuel products as reflected in the records of the terminal operator or a terminal operator that owns fuel products in its terminal. "Position holder" does not include inventory held outside of a terminal, fuel jobbers (unless directly holding inventory at the terminal), retail establishments, or other fuel suppliers not holding inventory at a fuel terminal.

(o) "Producer" means a person who owns, leases, operates, controls, or supervises a Washington state production facility.

(p) "Rack" means a mechanism for delivering motor vehicle fuel or diesel from a refinery or terminal into a truck, trailer, railroad car, or other means of nonbulk transfer.

(q) "Refiner" means, for purposes of this chapter, an individual entity or a corporate-wide entity that delivers fuel products to end users in Washington state that were produced by petroleum refineries owned by that entity or a subsidiary of that entity.

(r) "Terminal" means a fuel product storage and distribution facility that is supplied by pipeline or vessel, and from which fuel product may be removed at a rack. "Terminal" includes a fuel production facility where fuel product is produced and stored and from which fuel product may be removed at a rack.

(s) "Terminal operator" means any entity that owns, operates, or otherwise controls a terminal that is supplied by pipeline or vessel and from which accountable fuel products may be removed at a rack.

(3) **Suppliers of carbon dioxide.** Any supplier of carbon dioxide with supplied CO₂ calculated under this subsection that exceeds the reporting threshold in WAC 173-441-030(2) of this chapter must comply with 40 C.F.R. Part 98 Subpart PP in reporting to ecology, except as otherwise provided in this section. Also use Subpart PP for threshold calculations.

(a) When reporting imported and exported quantities of CO₂ as required in 40 C.F.R. § 98.422, the supplier must report quantities of carbon dioxide imported into and exported from Washington state. Exports for purposes of geologic sequestration must be reported separately from exports for other purposes.

(b) Facilities required to report or voluntarily reporting under WAC 173-441-030 (1) or (5) with the following processes must report supplied CO₂ using the methods in this section as part of their facility GHG report under WAC 173-441-070(1) regardless of the amount of CO₂ supplied.

(i) Production process units located in Washington state that capture a CO₂ stream for purposes of supplying CO₂ to another entity or facility or that capture the CO₂ stream in order to utilize it for geologic sequestration where capture refers to the initial separation and removal of CO₂ from a manufacturing process or any other process; or

(ii) CO₂ production wells located in Washington state that extract or produce a CO₂ stream for purposes of supplying CO₂ for commercial applications or that extract a CO₂ stream in order to utilize it for geologic sequestration.

(c) Missing data substitution procedures. The supplier must comply with 40 C.F.R. § 98.425 when substituting for missing data, except as otherwise provided below.

(i) If the data capture rate is at least 90 percent for the data year, the supplier must substitute for each missing value using the best available estimate of the parameter, based on all available process data.

(ii) If the data capture rate is at least 80 percent but not at least 90 percent for the data year, the supplier must substitute for each missing value with the highest quality assured value recorded for the parameter during the given data year, as well as the two previous data years.

(iii) If the data capture rate is less than 80 percent for the data year, the supplier must substitute for each missing value with the highest quality assured value recorded for the parameter in all records kept according to WAC 173-441-050.

(iv) The supplier must document and retain records of the procedure used for all missing data estimates pursuant to the recordkeeping requirements of WAC 173-441-050.

(4) **Suppliers of natural gas.** Any supplier of natural gas, natural gas liquids, liquefied petroleum gas, compressed natural gas, or liquefied natural gas with emissions calculated under this subsection that exceeds the reporting threshold in WAC 173-441-030(2) must comply with 40 C.F.R. Part 98 Subpart NN in reporting emissions and related data to ecology, except as otherwise provided in this section. Also use the methods in this section for threshold calculations.

(a) *GHGs to report.* In addition to the CO₂ emissions specified under 40 C.F.R. § 98.402, all suppliers of natural gas covered in this section must separately report the CO₂, CO₂ from biomass-derived fuels, CH₄, N₂O, and CO_{2e} emissions from the complete combustion or oxidation of the annual volume of natural gas delivered, sold or imported in Washington state.

(b) *Calculating GHG emissions.* When reporting imported and exported quantities of GHGs as required in 40 C.F.R. § 98.403 and (a) of this subsection, the supplier must report quantities of GHGs imported into and exported from Washington state.

(i) Natural gas liquid fractionators must use calculation methodology 2 as specified in 40 C.F.R. § 98.403 (a)(2) to estimate the CO₂ emissions that would result from the complete combustion of all natural gas liquid products supplied. For calculating the emissions from liquefied petroleum gas, the fractionators must sum the emissions from the individual constituents of liquefied petroleum gas sold or delivered to others that was produced on-site, except for products for which a final destination outside Washington state can be demonstrated.

(ii) Local distribution companies must estimate CO₂ emissions at the state border or city gate for pipeline quality natural gas using calculation methodology 1 as specified in 40 C.F.R. § 98.403 (a)(1), except that the product of HHV and Fuel is replaced by the annual MMBtu of natural gas received.

(iii) For the calculation of CO_{2j} in Equation 122-2, public utility gas corporations and publicly owned natural gas utilities must estimate annual CO₂ emissions from instate receipts of pipeline quality natural gas from other public utility gas corporations, interstate pipelines and intrastate transmission pipelines, and annual CO₂ emissions from all natural gas redelivered to other public utility gas corporations or interstate pipelines. Annual CO₂ emissions from redelivered natural gas to intrastate pipelines or publicly owned natural gas utilities must be estimated only if the intrastate pipeline or publicly owned natural gas utility also reports emissions under this section. Emissions are calculated according to Equation NN-3 of 40 C.F.R. § 98.403 (b)(1) except that CO_{2j} will be the product of MMBtu_{Total} and the default emission factor from Table NN-1 or the product of MMBtu_{Total} and the reporter specific emission factor. MMBtu_{Total} must be calculated as follows:

$$\text{MMBtu}_{\text{Total}} = \text{MMBtu}_{\text{redelivery}} - \text{MMBtu}_{\text{receipts}} \quad (\text{Eq. 122-1})$$

Where:

- MMBtu_{Total} = Total annual MMBtu used in Equation NN-3
- MMBtu_{redelivery} = Total annual MMBtu of natural gas delivered to other companies as specified above
- MMBtu_{receipts} = Total annual MMBtu of natural gas received from other companies as specified above

(iv) For the calculation of CO_{2l} in Equation 122-2, emissions from receipts of pipeline quality natural gas from in-state natural gas producers and net volume of pipeline quality natural gas injected into storage are estimated according to Equation NN-5a of 40 C.F.R. § 98.403 (b)(3) except that CO_{2l} will be calculated as the product of the net annual MMBtu and a default emission factor from Table NN-1 or the product of the net annual MMBtu and a reporter specific emission factor.

(v) For the calculation of CO_{2n} in Equation 122-2, emissions from natural gas received directly by LDC systems from producers or natural gas processing plants from local production, received as a liquid and vaporized for delivery, or received from any other source that bypassed the city gate are estimated according to Equation NN-5b of 40 C.F.R. § 98.403 (b)(3) except that CO_{2n} will be calculated as the product of the net annual MMBtu and a default emission factor from Table NN-1 or the product of the net annual MMBtu and the reporter specific emission factor.

(vi) For the calculation of CO_{2k} in Equation 122-2, natural gas delivered to large end users, use Equation NN-4 of 40 C.F.R. § 98.403 (b)(2), except that CO_{2k} will be calculated as the product of the annual MMBtu delivered and a default emission factor from Table NN-1 or the product of the annual MMBtu delivered and the reporter specific

emission factor. A large end user means any end user facility required to report under WAC 173-441-030(1).

(vii) Determination of pipeline quality natural gas is based on the annual weighted average HHV, determined according to Equation C-2b of 40 C.F.R. § 98.33 (a) (2) (ii) (A), for natural gas from a single city gate, storage facility, or connection with an in-state producer, interstate pipeline, intrastate pipeline or local distribution company. If the HHV is outside the range of pipeline quality natural gas, emissions will be calculated using the appropriate subsection (4) of this section replacing the default emission factor with either a reporter specific emission factor as calculated in 40 C.F.R. § 98.404 (b) (2) or one determined as follows:

(A) For natural gas or biomethane with an annual weighted HHV below 970 Btu/scf and not exceeding three percent of total emissions estimated under this section, the local distribution company may use the reporter specific weighted yearly average higher heating value and the default emission factor or an emission factor as determined in 40 C.F.R. § 98.404 (c) (3). If emissions exceed three percent of the total, then the Tier 3 method specified in 40 C.F.R. § 98.33 (a) (3) (iii) must be used with monthly carbon content samples to calculate the annual emissions from the portion of natural gas that is below 970 Btu/scf.

(B) For natural gas or biomethane with an annual HHV above 1100 Btu/scf and not exceeding three percent of total emissions estimated under this section, the local distribution company must use the reporter specific weighted yearly average higher heating value and a default emission factor of 54.67 kg CO₂/MMBtu or an emission factor as determined in 40 C.F.R. § 98.404 (c) (3). If emissions exceed three percent of the total, then the Tier 3 method specified in 40 C.F.R. § 98.33 (a) (3) (iii) must be used with monthly carbon content samples to calculate the annual emissions from the portion of natural gas that is above 1100 Btu/scf.

(viii) When calculating total CO₂ emissions for Washington state, the equation below must be used:

$$CO_2 = \sum CO_{2i} - \sum CO_{2j} - \sum CO_{2l} + \sum CO_{2n} - \sum CO_{2k} \quad (\text{Eq. 122-2})$$

Where:

- CO₂ = Total emissions.
- CO_{2i} = Emissions from natural gas received at the state border or city gate, calculated pursuant to subsection (4)(b)(ii) of this section.
- CO_{2j} = Emissions from natural gas received for redistribution to or received from other natural gas transmission companies, calculated pursuant to subsection (4)(b)(iii) of this section.
- CO_{2l} = Emissions from storage and direct deliveries from producers calculated pursuant to subsection (4)(b)(iv) of this section.
- CO_{2k} = Emissions from natural gas delivered to each large end user as calculated pursuant to subsection (4)(b)(vi) of this section.

CO_{2n} = Emissions from natural gas received by the LDC directly from sources bypassing the city gate, and is not otherwise accounted for, as calculated pursuant to subsection (4)(b)(v) of this section.

(ix) The importer of liquefied petroleum gas into Washington state must use calculation methodology 2 described in 40 C.F.R. § 98.403 (a)(2) for calculating CO₂ emissions. For liquefied petroleum gas, the importer must sum the emissions from the individual components of the gas to calculate the total emissions. If the composition is not supplied by the producer, the importer must use the default value for liquefied petroleum gas presented in Table C-1 of 40 C.F.R. Part 98. The importer of compressed natural gas or liquefied natural gas into Washington state must estimate CO₂ using calculation methodology 1 as specified in 40 C.F.R. § 98.403 (a)(1), except that the product of HHV and fuel is replaced by the annual MMBtu of the imported compressed natural gas and liquefied natural gas.

(x) Operators of facilities that make liquefied natural gas products or compressed natural gas products must estimate CO₂ using calculation methodology 1 as specified in 40 C.F.R. § 98.403 (a)(1), except that the product of HHV and fuel is replaced by the annual MMBtu of the liquefied natural gas sold or delivered in Washington state.

(xi) Operators of facilities that make liquefied natural gas products or compressed natural gas products, importers of liquefied petroleum gas, compressed natural gas, or liquefied natural gas into Washington state, natural gas liquid fractionators, and local distribution companies must estimate and report CH₄ and N₂O emissions using Equation C-8 and Table C-2 as described in 40 C.F.R. § 98.33 (c)(1) for all fuels where annual CO₂ emissions are required to be reported. Operators of facilities that make liquefied natural gas products or compressed natural gas products must estimate CH₄ and N₂O emissions based on the MMBtu of liquefied natural gas sold or delivered. Local distribution companies must use the annual MMBtu determined in (b)(ii) through (vi) of this subsection above in place of the product of the fuel and HHV in Equation C-8 when calculating emissions.

(xii) Local distribution companies must separately and individually calculate end user emissions of CH₄, N₂O, CO₂ from biomass-derived fuels, and CO_{2e} by replacing CO₂ in Equation 122-2 with CH₄, N₂O, CO₂ from biomass-derived fuels, and CO_{2e}. CO₂ emissions from biomass-derived fuel are based on the fuel the LDC has contractually purchased on behalf of and delivered to end users. LDCs can elect to report biomethane directly purchased by an end user and delivered by the LDC if the LDC can provide the relevant documentation including invoices, shipping reports, in-kind nomination reports, and contracts to demonstrate the receipt of eligible biomethane and the following information for each contracted delivery:

(A) Name and address of the biomethane vendor from which biomethane is purchased;

(B) Annual MMBtu delivered by each biomethane vendor;

(C) Name, address, and facility type of the facility from which the biomethane is produced;

Emissions from contractually purchased biomethane are calculated using the methods for natural gas required by this section, including the use of the emission factor for natural gas found in 40 C.F.R. § 98.408, Table NN-1. Biomass-derived fuels directly purchased by end

users and delivered by the LDC must be reported as natural gas by the LDC, unless the LDC has elected to report the delivery as biomethane and can provide the necessary documentation during verification as stated above.

(xiii) All suppliers in this section must also estimate CO₂e emissions using Equation A-1.

(c) *Monitoring and QA/QC requirements.* For each emissions calculation method chosen under this section, the supplier must meet all monitoring and QA/QC requirements specified in 40 C.F.R. § 98.404, except as modified in WAC 173-441-050, 173-441-120, and below.

(i) All natural gas suppliers must measure required values at least monthly.

(ii) All natural gas suppliers must determine reporter specific HHV at least monthly, or if the local distribution company does not make its own measurements according to standard business practices, it must use the delivering pipeline measurement.

(iii) All natural gas liquid fractionators must sample for composition at least monthly.

(iv) All importers of liquefied petroleum gas into Washington state must record composition, if provided by the supplier, and quantity in barrels, corrected to 60 degrees Fahrenheit, for each shipment received.

(d) *Data reporting requirements.*

(i) For the emissions calculation method selected under (b) of this subsection, natural gas liquid fractionators must report, in addition to the data required by 40 C.F.R. § 98.406(a), the annual volume of liquefied petroleum gas, corrected to 60 degrees Fahrenheit, that was produced on-site and sold or delivered to others, except for products for which a final destination outside Washington state can be demonstrated. Natural gas liquid fractionators must report the annual quantity of liquefied petroleum gas produced and sold or delivered to others as the total volume in barrels as well as the volume of the individual components for all components listed in 40 C.F.R. Part 98 Table MM-1. Fractionators must also include the annual CO₂, CH₄, N₂O, and CO₂e mass emissions (metric tons) from the volume of liquefied petroleum gas reported in 40 C.F.R. § 98.406 (a)(5) as modified by this regulation, calculated in accordance with (b) of this subsection.

(ii) For the emissions calculation method selected under (b) of this subsection, local distribution companies must report all the data required by 40 C.F.R. § 98.406(b) subject to the following modifications:

(A) Publicly owned natural gas utilities that report in-state receipts at the city gate under 40 C.F.R. § 98.406 (b)(1) must also identify each delivering entity by name and report the annual energy of natural gas received in MMBtu.

(B) Local distribution companies that report under 40 C.F.R. § 98.406 (b)(1) through (b)(7) must also report the annual energy of natural gas in MMBtu associated with the volumes.

(C) In addition to the requirements in 40 C.F.R. § 98.406 (b)(8), local distribution companies must also include CO₂, CO₂ from biomass-derived fuels, CH₄, N₂O, and CO₂e annual mass emissions in metric tons calculated in accordance with 40 C.F.R. § 98.403 (a) and (b)(1) through (b)(3) as modified by (b) of this subsection.

(D) Local distribution companies and intrastate pipelines that deliver natural gas to downstream gas pipelines and other local distribution companies, must report the annual energy in MMBtu, and the

information required in 40 C.F.R. § 98.406 (b)(12). These requirements are in addition to the requirements of 40 C.F.R. § 98.406 (b)(6).

(E) Local distribution companies and intrastate pipelines must also report the annual energy in MMBtu, customer information required in 40 C.F.R. § 98.406 (b)(12), and ecology reporter ID if available, for all end users required to report under WAC 173-441-030(1). In addition to reporting the information specified in 40 C.F.R. § 98.406 (b)(13), local distribution companies and intrastate pipelines that deliver to end users must report the annual energy in MMBtu delivered to the following end use categories: Residential consumers; commercial consumers; industrial consumers; electricity generating facilities; and other end users not identified as residential, commercial, industrial, or electricity generating facilities. Local distribution companies must also report the total energy in MMBtu delivered to all Washington state end users.

(F) Local distribution companies that report under 40 C.F.R. § 98.406 (b)(9) must report annual CO₂, CO₂ from biomass-derived fuel, CH₄, N₂O, and CO_{2e} emissions (metric tons) that would result from the complete combustion or oxidation of the natural gas supplied to all entities calculated in accordance with (b) of this subsection.

(iii) In addition to the information required in 40 C.F.R. § 98.3(c), the operator of an interstate pipeline, which is not a local distribution company, must report the customer name, address, and ecology reporter ID along with the annual energy of natural gas in MMBtu for natural gas delivered to each customer, including themselves.

(iv) In addition to the information required in 40 C.F.R. § 98.3(c), the operator of an intrastate pipeline that delivers natural gas directly to end users must follow the reporting requirements described under Subpart NN of 40 C.F.R. Part 98 and this section for local distribution companies. The intrastate pipeline operator must also report the summed energy (MMBtu) of natural gas delivered to each entity receiving gas from the intrastate pipeline for purposes of estimating the CO_{2i} parameter as specified in (b)(ii) of this subsection. Additionally, intrastate pipeline operators are required to estimate a value for CO_{2j} as specified in (b)(iii) of this subsection for natural gas delivered to local distribution companies, interstate pipelines, and other intrastate pipelines. The CO_{2l} parameter as specified in (b)(iv) of this subsection must have a value of zero for calculating emissions.

(v) In addition to the information required in 40 C.F.R. § 98.3(c), the importer of liquefied petroleum gas into Washington state must report the annual quantity of liquefied petroleum gas imported as the total volume in barrels as well as the volume of its individual components for all components listed in 40 C.F.R. Part 98 Table MM-1, if supplied by the producer, and report CO₂, CH₄, N₂O, and CO_{2e} annual mass emissions in metric tons using the calculation methods in (b) of this subsection. All importers of compressed or liquefied natural gas into Washington state and liquefied natural gas production facilities must report the annual quantities imported, and delivered or sold, respectively, in MMBtu, and report CO₂, CH₄, N₂O, and CO_{2e} annual mass emissions in metric tons separately for compressed natural gas and liquefied natural gas using the calculation methods in (b) of this subsection.

(vi) In addition to the information required in 40 C.F.R. § 98.3(c), all local distribution companies that report biomass emis-

sions from biomethane fuel that was contractually purchased by the LDC on behalf of and delivered to end users, and all liquefied natural gas production facilities reporting biomass emission from biomethane, must report, for each contracted delivery, the information specified in (b) (x) of this subsection.

(vii) All operators of facilities that make liquefied natural gas products must report end user information for deliveries of liquefied natural gas to industrial facilities and natural gas utility customers, including customer name, address, and the annual quantity of liquefied natural gas delivered to each customer in MMBtu.

(viii) All natural gas liquid fractionators and importers of liquefied petroleum gas must report the total quantity in barrels of liquefied petroleum gas that is excluded from emissions reporting due to demonstration of final destination outside Washington state.

(e) *Procedures for estimating missing data.* Suppliers must follow the missing data procedures specified in 40 C.F.R. § 98.405. The operator must document and retain records of the procedure used for all missing data estimates pursuant to the recordkeeping requirements of WAC 173-441-050.

(5) **Fuel suppliers other than suppliers of natural gas.** Any supplier of petroleum products, biomass-derived fuels, or coal-based liquid fuels with emissions calculated under this subsection that exceeds the reporting threshold in WAC 173-441-030(2) must comply with 40 C.F.R. Part 98 Subparts LL and MM in reporting emissions and related data to ecology, except as otherwise provided in this section. Also use the methods in this section for threshold calculations. For the purposes of this subsection, fuel products do not include products reported under subsection (4) of this section but do include all fuel products listed in 40 C.F.R. Part 98 Subpart MM Tables MM-1 and MM-2, including products listed in Table MM-1 of Subpart MM that are coal-based (coal-to-liquid products). Renewable or biogenic versions of fuel products listed in Table MM-1 are also considered fuel products.

(a) *GHGs to report.*

(i) In addition to the CO₂ emissions specified under 40 C.F.R. § 98.392, all refiners that produce liquefied petroleum gas must report the CO₂, CO₂ from biomass-derived fuels, CH₄, N₂O and CO_{2e} emissions that would result from the complete combustion or oxidation of the annual quantity of liquefied petroleum gas sold or delivered, except for fuel products for which a final destination outside Washington state can be demonstrated.

(ii) Refiners, position holders of fossil fuel products, and biomass-derived fuel products that supply fuel products at Washington state terminal racks, and enterers that import fuel products for distribution outside the bulk transfer/terminal system must report the CO₂, CO₂ from biomass-derived fuels, CH₄, N₂O, and CO_{2e} emissions that would result from the complete combustion or oxidation of each fuel product. However, emissions reporting is not required for fuel products in which a final destination outside Washington state can be demonstrated to ecology's satisfaction, or for fuel products that can be demonstrated to ecology's satisfaction to have been previously delivered by a position holder or refiner out of an upstream Washington state terminal or refinery rack prior to delivery out of a second terminal rack. The volume of all fuel products that are excluded from emissions reporting based on the criteria in this paragraph must be reported pursuant to the requirements in (d)(ix) of this subsection. No fuel product shall be reported as finished fuel. Fuel products must

be reported as the individual fuel product. For purposes of this chapter, CARBOB blendstocks are reported as RBOB blendstocks.

(b) *Calculating GHG emissions.*

(i) Refiners, position holders at Washington state terminals, and enterers that import fuel products for distribution outside the bulk transfer system must use Equation MM-1 as specified in 40 C.F.R. § 98.393(a)(1) to estimate the CO₂ emissions that would result from the complete combustion of the fuel product. Emissions must be based on the quantity of fuel product removed from the rack (for refiners and position holders), fuel product imported for distribution outside the bulk transfer/terminal system (by enterers), and fuel product sold to unlicensed entities as specified in (d)(iii) of this subsection (by refiners). For fuel products that are blended, emissions must be reported for each individual fuel product separately, and not as motor gasoline (finished), biofuel blends, or other similar finished fuel product. Emissions from denatured fuel ethanol must be calculated as 100 percent ethanol only. The volume of denaturant is assumed to be zero and is not required to be reported. Emission factors must be taken from column C of 40 C.F.R. Part 98 Table MM-1 or MM-2 as specified in Calculation Method 1 of 40 C.F.R. § 98.393 (f)(1), except that the emission factor for renewable diesel is equivalent to the emission factor for Distillate No. 2. The emission factor for a renewable or biogenic version of a fuel product is equivalent to the emission factor for the corresponding nonrenewable or nonbiogenic version of the fuel product listed in Table MM-1. If a position holder in diesel or biodiesel fuel does not have sealed or financial transaction meters at the rack, and the position holder is the sole position holder at the terminal, the position holder must calculate emissions based on the delivering entity's invoiced volume of fuel product or a meter that meets the requirements of 40 C.F.R. § 98.394 either at the rack or at a point prior to the fuel product going into the terminal storage tanks.

(ii) Refiners that produce liquefied petroleum gas must use Equation MM-1 as specified in 40 C.F.R. § 98.393 (a)(1) to estimate the CO₂ emissions that would result from the complete combustion of the fuel product supplied. For calculating the emissions from liquefied petroleum gas, the emissions from the individual components must be summed. Emission factors must be taken from column C of 40 C.F.R. Part 98 Table MM-1 as specified in Calculation Method 1 of 40 C.F.R. § 98.393 (f)(1).

(iii) Refiners, position holders at Washington state terminals, and enterers identified in this section must estimate and report CH₄ and N₂O emissions using Equation C-8 and Table C-2 as described in 40 C.F.R. § 98.33 (c)(1), except for fuel products listed in Table 122-1, which must use the emission factors in Table 122-1 and Equation C-8 as described in 40 C.F.R. § 98.33 (c)(1). Renewable or biogenic versions of a fuel product must use the same emission factor as required for the corresponding nonrenewable or nonbiogenic version of the fuel product.

Table 122-1. Fuel Product CH₄ and N₂O Emission Factors

Fuel	CH₄ (g/bbl)	N₂O (g/bbl)
Blendstocks or finished gasoline	20	20
Distillate and diesel-other	2	1
Ethanol	37	27

Fuel	CH ₄ (g/bbl)	N ₂ O (g/bbl)
Biodiesel and renewable diesel	2	1
Oxygenates	13	3
Residuum	18	4
Waxes	17	3
Still gas	19	4
Miscellaneous products	17	3

(iv) All fuel suppliers in this section must estimate CO₂e emissions using Equation A-1.

(c) *Monitoring and QA/QC requirements.* The operator must meet all the monitoring and QA/QC requirements as specified in 40 C.F.R. § 98.394, and the requirements of 40 C.F.R. § 98.3(i) as further specified in WAC 173-441-050 and below.

(i) Position holders are exempt from 40 C.F.R. § 98.3(i) calibration requirements except when the position holder and entity receiving the fuel product have common ownership or are owned by subsidiaries or affiliates of the same company. In such cases the 40 C.F.R. § 98.3(i) calibration requirements apply, unless:

(A) The fuel supplier does not operate the fuel billing meter;

(B) The fuel billing meter is also used by companies that do not share common ownership with the fuel supplier; or

(C) The fuel billing meter is sealed with a valid seal from the county sealer of weights and measures and the operator has no reason to suspect inaccuracies.

(ii) As required by 40 C.F.R. § 98.394 (a)(1)(iii), for fuel products that are liquid at 60 degrees Fahrenheit and one standard atmosphere, the volume reported must be temperature- and pressure-adjusted to these conditions. For liquefied petroleum gas the volume reported must be temperature-adjusted to 60 degrees Fahrenheit.

(d) *Data reporting requirements.* In addition to reporting the information required in 40 C.F.R. Part 98 Subpart MM, the following entities must also report the information identified below:

(i) Washington state position holders must report the annual quantity in barrels, as reported by the terminal operator, of each fuel product, that is delivered across the rack in Washington state, except for fuel products for which a final destination outside Washington state can be demonstrated to ecology's satisfaction, or for fuel products that can be demonstrated to ecology's satisfaction to have been previously delivered by a position holder or refiner out of an upstream Washington state terminal or refinery rack prior to delivery out of a second terminal rack. Denatured fuel ethanol will be reported with the entire volume as 100 percent ethanol only. The volume of denaturant is assumed to be zero and is not required to be reported.

(ii) Washington state position holders that are also terminal operators and refiners must report the annual quantity in barrels delivered across the rack of each fuel product, except for fuel products for which a final destination outside Washington state can be demonstrated to ecology's satisfaction, or for fuel products that can be demonstrated to ecology's satisfaction to have been previously delivered by a position holder or refiner out of an upstream Washington state terminal or refinery rack prior to delivery out of a second terminal rack. Denatured fuel ethanol will be reported with the entire volume as 100 percent ethanol only. The volume of denaturant is assumed to be zero and is not required to be reported. If there is only

a single position holder at the terminal, and only diesel or biodiesel is being dispensed at the rack then the position holder must report the annual quantity of fuel using a meter meeting the requirements of 40 C.F.R. § 98.394 or billing invoices from the entity delivering fuel to the terminal.

(iii) Refiners that supply fuel products within the bulk transfer system to entities not licensed by the Washington state department of licensing as a fuel supplier must report the annual quantity in barrels delivered of each fuel product, except for fuel products for which a final destination outside Washington state can be demonstrated to ecology's satisfaction. Denatured fuel ethanol will be reported with the entire volume as 100 percent ethanol only. The volume of denaturant is assumed to be zero and is not required to be reported.

(iv) Enterers delivering fuel products for distribution outside the bulk transfer/terminal system must report the annual quantity in barrels, as reported on the bill of lading or other shipping documents of each fuel product that is imported as a blended component of a finished fuel product, except for fuel products for which a final destination outside Washington state can be demonstrated to ecology's satisfaction, typically based on bills of lading. The denatured fuel ethanol component of a finished fuel products must be reported with the entire denatured ethanol volume as 100 percent ethanol only. The volume of denaturant is assumed to be zero and is not required to be reported. Biomass-derived blends containing no more than one percent petroleum-derived fuel by volume are considered to be 100 percent biomass-derived fuel. Individual biomass-derived fuels and biomass-derived fuels that are a blended component of an imported fuel product must be reported by enterers.

(v) In addition to the information required in 40 C.F.R. § 98.396, refiners must also report the volume of liquefied petroleum gas in barrels supplied in Washington state as well as the volumes of the individual components as listed in 40 C.F.R. Part 98 Table MM-1, except for fuel for which a final destination outside Washington state can be demonstrated.

(vi) All fuel suppliers identified in this section must also report CO₂, CO₂ from biomass-derived fuels, CH₄, N₂O, and CO_{2e} emissions in metric tons that would result from the complete combustion or oxidation of each fuel product calculated according to Equation A-1.

(vii) All fuel suppliers identified in this section, except for refiners that report pursuant to WAC 173-441-120, must report the total quantity of each fuel product that was imported from outside of Washington state for use in Washington state. In addition, for fuel product imports, the designated percentage of oxygenate must be reported.

(viii) Fuel suppliers identified in this section, except for refiners that report pursuant to WAC 173-441-120, must report the total quantity of biomass-derived fuel blended in Washington state petroleum-derived fuel for use in Washington state.

(ix) Fuel suppliers identified in this section must report the total quantity in barrels of each fuel product that is excluded from emissions reporting due to demonstration of final destination outside Washington state, or demonstration to ecology's satisfaction, typically based on bills of lading, that the fuel product was previously delivered by a position holder or refiner out of an upstream Washington state terminal or refinery rack prior to delivery out of a second terminal rack.

(x) Owners and operators of petroleum refineries and biofuel production facilities required to report or voluntarily reporting under WAC 173-441-030 (1) or (5) must submit a complete refiner report, as defined in 40 C.F.R. Part 98 Subpart MM, that includes all products listed in Tables MM-1 and MM-2, as part of their facility GHG report under WAC 173-441-070(1) regardless of the amount of fuel products produced.

(xi) Owners and operators may separately indicate the quantity of each fuel type if the fuel supplier can demonstrate to ecology's satisfaction that the fuel is used for one of the following purposes:

(A) Aviation fuels;

(B) Watercraft fuels that are combusted outside of Washington state; or

(C) Motor vehicle fuel or special fuel that is used exclusively for agricultural purposes by a farm fuel user. The supplier must demonstrate to ecology's satisfaction that the buyer of the fuel provided the seller with an exemption certificate as described in RCW 82.08.865. Fuel used for the purpose of transporting agricultural products on public highways may be included if it is flagged separately and meets the requirements in RCW 82.08.865. For the purposes of (d)(xi) of this subsection, "agricultural purposes" and "farm fuel user" have the same meanings as provided in RCW 82.08.865 and motor vehicle fuel and special fuel have the same meanings as provided in RCW 82.38.020.

(e) *Procedures for missing data.* For quantities of fuel products that are purchased, sold, or transferred in any manner, fuel suppliers must follow the missing data procedures specified in 40 C.F.R. § 98.395. The supplier must document and retain records of the procedure used for all missing data estimates pursuant to the recordkeeping requirements of WAC 173-441-050.

[Statutory Authority: RCW 70A.15.2200. WSR 22-05-050 (Order 21-07), § 173-441-122, filed 2/9/22, effective 3/12/22.]