Low Carbon Fuel Standard (LCFS) Regulatory Guidance 16-02

Draft Guidance on Low Carbon Fuel Standard Reporting - Clarification of Energy and Mass Density of Natural Gas

SCOPE

The Air Resources Board (ARB) is issuing a draft guidance to clarify energy and mass density of natural gas for LCFS reporting purposes.

By issuing this draft guidance, ARB is seeking feedback from stakeholders.

ENERGY AND MASS DENSITY OF NATURAL GAS FOR REPORTING IN LRT-CBTS

As quarterly and annual fuel transactions are reported to the LRT-CBTS[1], the system calculates the credits (or deficits) associated with the reported volumes using the formula specified in section 95486(b)(3)(A) in the LCFS regulation. This formula requires the use of one's fuel energy density.

Table 3 of the LCFS regulation provides energy densities of LCFS fuels and blendstocks. Only the values listed in Table 3 may be used for calculating credits/deficits. Regulated parties selling compressed natural gas (CNG) must report their transactions in units of standard cubic feet (scf). However, Table 3 specifies the energy density of natural gas in units of megajoules per cubic foot (MJ/ft^3) instead of scf. Therefore, ARB staff has recalculated an equivalent value in the units of MJ/scf. This adjusted value is shown in the table below and will be used in LRT-CBTS to calculate the credits/deficits associated with CNG fuel transactions. Note that the energy density value remains unchanged from the old LCFS regulation and therefore, there will be no change in credits calculated in the LRT-CBTS.

Energy Density for Natural Gas

Fuel (units)	Energy Density (units)		
	Old regulation	New regulation	Value used in LRT-CBTS
CNG (scf)	0.98 (MJ/scf)	1.04 (MJ/ft^3)	0.98 (MJ/scf)

Section 95491(a)(3)(C)(1) of the LCFS regulation provides an example of converting CNG in lbs to CNG in scf. This conversion requires a mass density of natural gas which is given incorrectly as 20.4 g/scf in the rule. This is an old value based on CA-GREET1.8. The new value based

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[1] The Low Carbon Fuel Standard (LCFS) regulation is supported by the LCFS Data Management System, including the Reporting Tool (LRT), the Credit Banking and Transfer System (CBTS), and the Alternative Fuels Portal (AFP). Those three modules of LCFS are related and share data but because LRT and CBTS are so closely integrated and can be accessed from the same account they are referred to as one system and designated as LRT-CBTS.

on CA-GREET2.0 is 20.8 g/scf as shown in the table below. The mass density of 20.4g/scf will be used for the conversion until ARB corrects this error.

Revised Mass Density for Natural Gas

Fuel (units)	Mass Density (units)		
	Old regulation	New regulation	Value to be used for conversion
CNG (scf)	20.4 (g/scf)	20.4 (g/scf)	20.8 (g/scf)

CONTACT INFORMATION AND STAKEHOLDERS FEEDBACK

For any questions regarding this regulatory guidance and for submitting feedback, please contact Dr. Manisha Singh, Manager, Fuels Section at (916) 327-1501 or via email at Manisha.Singh@arb.ca.gov, or Dr. Veronika Pesinova, Lead Staff at (916) 324-8153, or via email at Veronika.Pesinova@arb.ca.gov.