

September 22, 2014

Michael S. Waugh  
Chief, Transportation Fuels Branch  
California Air Resources Board  
*Via email*

**Subject: Comments on ARB's Low Carbon Fuel Standard Reconsideration – CA-GREET Model Update as presented at the August 22, 2014 workshop**

Dear Michael,

We appreciate the opportunity to comment on ARB's preliminary proposal for updates to the CA-GREET model presented August 22<sup>nd</sup> in Sacramento. VNG builds compressed natural gas (CNG) refueling stations to serve light-duty natural gas vehicles (NGVs) – including cars, vans, and pickups operated by fleets as well as everyday drivers. While we are developing our initial station networks in Pennsylvania, Massachusetts, and Texas, VNG is strongly interested in bringing consumer-friendly NGV fueling to the California market as well, and has joined the California Natural Gas Vehicle Coalition (CNGVC).

California's leadership in innovative environmental regulations and its long-running support for clean fuels is a major driver of interest by VNG and other alternative fuel providers in making investments in the state, and the Low Carbon Fuel Standard (LCFS) policy has potential to be a core overarching policy driver over the long term. However, ARB's recent proposal to change the carbon intensities (CI) of some fuel pathways under the CA-GREET model threatens to undermine confidence in the program's stability:

- **Changes Based on National, Not Regional Data:** Based on ARB's Aug 22<sup>nd</sup> presentation, it seems as if the proposed CA-GREET changes are based solely on nationwide data used in the 2013 version of the GREET model maintained by the Argonne National Laboratory. This national data is likely to overestimate the methane leakage in the California pipeline system, since the pipeline systems of western states – and California in particular – are generally newer and less leak-prone than older systems in the eastern part of the country. ARB itself acknowledges the importance of regionally-specific data in its subsequent 9/3 Technology Assessment presentation, but this type of data does not seem to be factored into the preliminary LCFS proposal.
- **Does Not Incorporate Upcoming Methane Leakage Studies:** The August 22 presentation states that “additional efforts to quantify [methane leakage] are ongoing,” and ARB itself is still in the process of determining a “California NG leakage rate.” ARB's September 3 presentation further notes that there are also studies being conducted by the California Energy Commission and UC-Irvine on California-specific leakage rates. Similarly, the national data that informs Argonne's GREET model are also in the process of being updated through a wide range of studies currently being conducted by several different institutions (including EPA, the Environmental Defense Fund, and the Gas Technology Institute, among others). Given the unprecedented amount of improved data on methane leakage that is in the process of being collected and analyzed at both the state and the national level, it's clear that any estimates made based on previous data – including ARB's proposed changes – will be necessarily provisional and in need of updating again sooner rather than later, which will further undermine regulatory certainty.

- **Unrealistic Landfill Gas Processing Estimates:** As explained in detail in the comments of the Renewable Natural Gas Coalition, the proposed 2% leakage rate for landfill gas processing and treatment operations is based on an inappropriate apples-to-oranges comparison. The Argonne National Labs study cited by ARB is reliant on a nearly decade-old study of Swedish farm waste-to-biogas operations at facilities that faced much less stringent methane control standards than landfills in the U.S. today. As a result, the preliminary CI almost certainly understates the GHG reductions achieved by landfill biomethane – the only commercially-available “drop-in” biofuel today and a key strategy to reducing the overall lifecycle GHGs of California’s natural gas supply.
- **Uneven application of changes to natural gas leakage rates:** Determining natural gas leakage rates isn’t only important for determining the CI of CNG and LNG fuels. Natural gas is a critical input in the production of electricity, hydrogen, and ethanol, and any increases in methane leakage rates will impact the CI of these fuels as well. However, it is not clear from the August 22 presentation that this will be reflected in changes to CA-GREET CIs for these other fuels, which would be inaccurate as well as unfair to CNG/LNG fuel providers.

VNG strongly supports the goals of the LCFS regulation and understands the importance of keeping the CI pathways appropriately updated in order to effectively achieve real-world reductions in the carbon intensity of the state’s fuel pool. We also recognize the importance as well as the inherent difficulty of determining methane leakage rates, which in practice involves triangulating results obtained by a wide range of both top-down and bottom-up methodologies. ARB acknowledges this in its September 3<sup>rd</sup> presentation, noting that there is “no standardization of methodology” and that researchers “can get more than 3 different rates with the same emissions data depending on your methodology.” Given these constraints, we understand that it is unlikely that there will ever be a “perfect” or “final” rate determined for methane leakage by ARB or anyone else.

However, considering the importance of the LCFS to the state’s long-term clean fuels strategy as well as the significant uncertainty already faced by fuel retailers trying to determine the likely values of LCFS credits going forward, it would be unwise to make changes to CI intensities at a time when understanding of methane leakage rates is so clearly in flux. It would be more prudent to wait until the myriad of state and national-level studies currently underway are completed, and *then* update CA-GREET, rather than establish a preliminary update today that will have to be updated again soon after.

In order to preserve the integrity of the LCFS program, we urge ARB to ensure that any changes are based on data that is as settled and thoroughly vetted as possible, and that this data is applied to all fuels in a fair and transparent manner. VNG hopes to make investments in bringing low-carbon CNG and RNG to the state’s light-duty NGVs in the near future, and a stable regulatory framework for the LCFS and other policies will play a key role in enabling this.

Sincerely,

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