



**VT Sierra Club Testimony on the Clean Heat Standard, H.715
Senate Natural Resources Committee**

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Bioenergy Challenges: Scale Really Matters

- Bioenergy is not carbon-neutral
- Non-GHG impacts may be minimal at small scale but damaging at large scale
- Biomass (solids, esp. wood) → Forest ecosystem destruction
- Biofuels (liquid fuels) →
 - Competition between food crops and energy crops
 - Erosion, nutrient and toxic runoff pollution
- Renewable Natural Gas →
 - Landfill gas use can leak or incentivize poor management
 - Bio-Digester methane involves large animal feeding operations
 - Methane leakage, plus severe local impacts

Bioenergy: Add Findings, #6

SECTION 1 (6) That bio-energy fuels, such as renewable natural gas, corn-based ethanol, biodiesel, and wood, demonstrate a wide range of potential greenhouse gas benefit, from worse than zero to very helpful. Other non-GHG impacts, such as forest loss, competition for agricultural land between energy crops and food crops, and localized community or ecosystem impacts, may be minimal at smaller scales, but they become substantial as these technologies are brought to larger scales.

Bioenergy: Clarify the charge to the TAG

- 8125 (a)(3) assessing the sustainability of the production of clean heat measures. *This shall include addressing:*
- a. *What is the potential for scaling up the various forms of bioenergy fuels?*
 - b. *For each of the many bioenergy pathways, what are the impacts in terms of ecosystem transformation or loss, competing land uses, impacts on food supply, and on local human communities and natural communities or resources; and how do these impacts evolve as bioenergy use increases here in VT and nationally?*
 - c. *What is the potentially available supply, and what are impacts of that, for bio-energy development within Vermont, and then for beyond our borders?*
 - d. *What environmental controls are in place that would ensure the impacts, not just from Vermont but from cumulative demand around the US, are limited to acceptable levels?*
 - e. *In the case of renewable natural gas, what are the potential sources? In the context of RNG that is connected to the VT delivery system by a “contractual pathway,” what is included in this source region? What is the overall potential in terms of quantity of RNG supply of various types, in light of an increasing demand for RNG throughout the US and Canada (and even exports to Europe)? What controls are in place to assure appropriately limited impacts? This includes impacts on water, air, and nearby communities, and in particular frontline communities with higher numbers of lower income or BIPOC individuals.*
 - f. *What is the potential for competition for land between energy crops and food crops, and the impact on the price of food? Climate change analysis already demonstrates a shrinking food supply with higher prices; how will this interact with a growing demand for energy crops? This assessment should include the indirect impacts through which an increased use of land for energy crops ripples through the global system and influences even remote changes, such as conversion of rainforest to palm oil plantation.*
 - g. *Identify potential parameters and guidelines for setting acceptable limits on the scaling up of the various forms of bioenergy fuels.*

Bioenergy : Enforceable Limits on Impacts

8125 (a) (4) The TAG shall recommend to PUC, and the PUC shall establish, enforceable limits on the scaling up the use of biofuels, biomass, and RNG, for thermal energy, to ensure sustainability.

Getting the Clean Heat Balance Right

EQUITY:

8123 (d)(2) add at the end: *This investment for Low and Moderate Income Vermonters shall be in the form of efficiency and other fossil fuel-reducing technology, which reduces ongoing costs, and not fuels, which perpetuate dependence.*

CREDIT SOURCE BALANCE:

ADD 8123(a)(5) *In any given calendar year, no Obligated Party shall generate more than 25 percent of that year's required credits from the sales of bioenergy fuels.*

Life Cycle Analysis

8124 (b) Clean heat credits shall be based on the lifecycle CO₂e emission reductions that result from the delivery of eligible clean heat measures to end-use customer locations in or into Vermont.

a. Add *including life-cycle emission assessment for the electricity that powers clean heat measures.*

8124(d) To promote certainty for obligated parties and clean heat providers, the Commission shall, by rule or order, establish a schedule of lifecycle greenhouse gas emission rates for heating fuels and eligible clean heat measures. The schedule shall be based on transparent and accurate emissions accounting adapting the Argonne National Laboratories GREET or an alternative of comparable analytic rigor to achieve the thermal sector greenhouse gas emissions necessary in order to meet the sector's share of the requirements of 10 V.S.A. § 578(a), and to deter substantial unintended harmful consequences. This shall address greenhouse gas emissions caused by the direct and indirect land use changes related to feedstock production, including any loss of carbon sequestration or damage to greenhouse gas sinks or reservoirs likely to be directly or indirectly caused by the heating fuel or eligible clean heat measure. The schedule may be amended based on changes in technology or evidence on emissions, but clean heat credits previously awarded shall not be adjusted retroactively. Heating fuel lifecycle GHG emission rates shall be re-assessed at least once every three years to detect the changes that may have been caused by increased production scale, advancements in lifecycle GHG emission assessment methodologies, rebound effects, production process modification, or other new knowledge.

Banking and Early Credits create system imbalance

Banking represents a challenge that can distort the markets and frustrate implementation; banking of credits should be limited in scale.

8123 (e) ADD No obligated party shall retain more than 50 percent of a year's credits, nor shall they apply more than 10 percent of the previous year's credits in any given year. Credits shall expire 5 years from the date the credit is created.

8123(c) Early Action Credits. Early accrual of credits will suppress clean heat investment once the system kicks off.

- *No early action credits shall be granted for the use of bioenergy.*
- *Early credits shall accrue only to the entity that invested the funds to create them.*

Clarify who owns the credits

8124(g) All eligible clean heat measures that are delivered in Vermont shall be eligible for clean heat credits and may be retired and count towards an obligated party's emission reduction obligations, regardless of who creates or delivers them ~~and regardless of whether their creation or delivery was required by other State policies and programs.~~ This includes individual initiatives, emission reductions resulting from the State's energy efficiency programs, *and* the low-income weatherization program ~~and the Renewable Energy Standard Tier 3 program.~~ *Credits shall be owned by the entity that provided the funding, whether that is the obligated party, the weatherization fund or other public source, the client/homeowner, or other directly investing party.*

8123 (d)(3) A clean heat measure delivered to a customer qualifying for a government-sponsored, low-income energy subsidy shall qualify for clean heat credits required by subdivision (2) of this section. *Such credits, to the extent supported by public funds, shall remain the property of the funding agency.*

Tier 3 Double Counting

Tier 3 investments or any required by other State policies and programs should not count toward both Tier 3, etc., and as Clean Heat Credits. This double dipping dilutes the value of both, or eliminates the value of Tier 3 and the other programs. Language allowing this should be deleted.

Default Delivery Agent: Conflict of Interest

The “**Default Delivery Agent**” is likely to become a very important and valuable part of this system, yet there is little structure or guidance for the default delivery agent. The bill allows that the Default Provider may be a market participant, which good unless that entity is in direct competition with other Obligated Parties.

8123 (f)(2) The Commission shall designate the default delivery agent. The default delivery agent shall be a single statewide entity capable of providing a variety of clean heat measures and hired for a multiyear period through a competitive procurement process. The entity selected as the default delivery agent may also be a market participant. *Obligated Parties shall not be eligible to serve as the default provider.*

TAG Make-up and Conflict of Interest

8125(b) (b) Members of the Clean Heat Standard Technical Advisory Group shall be appointed by the Commission and at a minimum shall include at least one representative from each of the following groups: ~~the obligated parties,~~ the Department of Public Service, the Department of Environmental Conservation, Efficiency Vermont, ~~the electric utilities,~~ and environmental organizations. *Obligated parties and utilities may play an advisory role. Additional make-up of the TAG shall be carefully based on the high level skill and knowledge base demanded for this group, such as:*

- a. Modeling skills necessary for evaluating and utilizing life cycle assessment of clean heat measures*
- b. Interdisciplinary computer scientist*
- c. Technical assessment of clean heat technology*
- d. High level of understanding of implementation for clean heat programs*
- e. Awareness and assessment of non-greenhouse gas impacts of upstream bioenergy feedstocks, such as with food systems, ecosystems, direct and indirect land use impacts, and human communities*
- f. Detailed familiarity with existing Vermont programs that support clean heat*
- g. Legal skills in the energy field to properly align the work of the TAG with the clean heat regulatory environment*
- h. Other skills required for the proper carrying out of TAG responsibilities*

Consumer Protection Disclosure and Labelling

The PUC shall develop a standard form that works both in online form and on paper and which includes: amount of GHG reduction (CO₂e) is attributable to this sale, the credit value according to PUC schedule, the dollar value of the credits, who owns the credit, where the credit goes (will it be retired, sold, etc.), along with other information gathered under 8124 (h)(2).

Renewable Gas Transparency

8124(c) For pipeline renewable natural gas and other renewably generated natural gas substitutes to be eligible, an obligated party shall purchase renewable natural gas and its associated renewable attributes and demonstrate that it has secured a contractual pathway for the physical delivery of the gas from the point of injection into the pipeline to the obligated party's delivery system, *and that the physical source of the gas is transparently available for third party verification of sustainable practices, absence of harmful impacts to communities, and absence of double-counting for greenhouse gas or any other attributes.*