

Discussion – Step Down of Biofuel Carbon Intensities 2031-2050

October 1, 2024

Question for TAG Consideration:

How should carbon intensity (CI) threshold values for liquid and gaseous biofuels decline from below 60 in 2030 to below 20 in 2050?

- Option 1: Linear annual decline in CIs from 2030 to 2050
- Option 2: Step down in CIs from below 60 in 2030-2049 to below 20 in 2050

The table below illustrates how the carbon intensity value relative to No. 2 fuel oil would decline from 2025 to 2050 under both options.

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
Linear Decline (Option 1)	80	80	80	80	80	60	58	56	54	52	50	48	46	44	42	40	38	36	34	32	30	28	26	24	22	20
Step Down (Option 2)	80	80	80	80	80	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	20

Relevant Sections of CHS Statute for Reference:

30 V.S.A. § 8127(f) requires the Commission to establish and publish carbon intensity values. Statute language is provided here in full for reference:

(f) Carbon intensity of fuels.

(1) To be eligible as a clean heat measure, a liquid or gaseous clean heat measure shall have a carbon intensity value as follows:

(A) below 80 in 2025;

(B) below 60 in 2030; and

(C) below 20 in 2050, provided the Commission may allow liquid and gaseous clean heat measures with a carbon intensity value greater than 20 if excluding them would be impracticable based on the characteristics of Vermont's buildings, the workforce available in Vermont to deliver lower carbon intensity clean heat measures, cost, or the effective administration of the Clean Heat Standard.

(2) The Commission shall establish and publish the rate at which carbon intensity values shall decrease annually for liquid and gaseous clean heat measures consistent with subdivision (1) of this subsection as follows:

(A) on or before January 1, 2025 for 2025 to 2030; and

(B) on or before January 1, 2030 for 2031 to 2050.

(3) For the purpose of this section, the carbon intensity values shall be understood relative to No. 2 fuel oil delivered into or in Vermont in 2023.

Background:

The May 29, 2024 PUC Straw Proposal on Pacing proposed that, on January 1, 2025, the Commission will adopt a step change in carbon intensity values – adopting the threshold limit of “below 80 in 2025” and “below 60 in 2030” with no rate of decline in in-between years. The PUC proposal did not take a position on how carbon intensity values for liquid and gaseous fuels should decline from 2031-2025: “In preparation for establishing carbon intensity values on January 1, 2030, for the years 2031-2050, the Commission will offer an opportunity for public input to help inform the step change or rate of decline proposed during that period.”

On June 26, 2024 the TAG submitted comments on the May 29 PUC Staff Proposal on Pacing. The TAG supported the step change for declining carbon intensity from 2025 to 2030, noting that it “provides a simple and predictable target for the marketplace.” The TAG did not take a position on how carbon intensity values for liquid and gaseous fuels should decline from 2031-2050, other than appreciating the PUC’s incorporation of a public input opportunity and the ability to apply insights gained over the initial years of implementation.

Discussion:

Option 1 is arguably more consistent with legislative intent, since the legislation directs the Commission to “publish the rate at which carbon intensity values shall **decrease annually**” (emphasis mine).

Option 2 is possibly less complex to manage, as it may be easier for obligated parties to keep track of which fuels are eligible for clean heat credits in a given year.

Use of option 1 vs. 2 has a meaningful impact on which liquid and gaseous biofuels are eligible for clean heat credits in the 2031-2049 period. According to CLF comments and supporting analysis submitted on September 10, 2024, using OD’s draft carbon intensities yields the following results for options 1 and 2:

- Option 1 (linear annual decline) – corresponds to CLF’s corrected enclosure 3:
 - Renewable diesel (soy and canola) becomes ineligible in 2042
 - Biodiesel (soy and canola) becomes ineligible in 2046
 - Biomethane (wastewater) becomes ineligible in 2043
 - Biomethane (fats, oils, grease) becomes ineligible in 2050
- Option 2 (step down) – corresponds to CLF’s corrected enclosure 1:
 - The above biofuels are eligible until 2050, when they become ineligible

These results may change based on the final CI values for liquid and gaseous fuels.

During earlier discussions of the Pacing Subgroup, the PSD noted a risk that option 2 effectively creates a declining CI requirement that lags the emissions reduction requirement. As a hypothetical, fuels with significantly lagging carbon intensities would continue to receive credits but could contribute inadequate emissions reductions to keep pace with the RCI sector GHG reduction requirements.