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conservation law foundation

For a thriving New England

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Vermont Agency of Natural Resources
Via e-mail: jane.lazorchak@vermont.gov

Subject: Statewide GHG Lifecycle Emissions RFI Response

Dear Ms. Lazorchak,

Thank you for the opportunity for Conservation Law Foundation ("CLF") to respond to the Agency of Natural Resources' ("ANR") Request for Information concerning lifecycle greenhouse gas accounting. Pursuant to Vermont law, ANR must, in consultation with the Department of Public Service, adopt by rule greenhouse gas ("GHG") accounting protocols that achieve transparent and accurate lifecycle greenhouse gas accounting, as required by 10 V.S.A. § 582(g). Those protocols must capture at least the minimum lifecycle requirements specified by the Legislature in §§ 582(g) and 578(a), which are described below. ANR must also maintain in-bound sector-based accounting in the Greenhouse Gas Emissions Inventory and Forecast (the "Inventory"), and should add lifecycle accounting as stand-alone information that is updated annually. Doing so will fulfil the requirements of Vermont law and allow Vermonters to transparently compare sector-based and lifecycle emissions when drafting mitigation statutes, rules, and pathways.

Vermont Law Establishes Three Minimum Requirements for Lifecycle Accounting

The Vermont Legislature has already provided ANR with three minimum requirements for lifecycle accounting:

(1) The Global Warming Solutions Act ("GWSA") emissions reduction requirements are predicated on sector-based accounting *and* lifecycle accounting, and so both must occur.[1]

(2) Vermont must conduct lifecycle accounting for at least fossil fuels and renewable fuels.[2]

[1] *See* 10 V.S.A. § 578(a) (describing GHG reduction requirements) (incorporating 10 V.S.A. § 582(a) (sector-based emissions) *and* § 582(g) (lifecycle emissions)).

[2] *See* § 582(g) (emphasis added) (requiring "transparent and accurate life cycle accounting of greenhouse gas emissions, including emissions of such gases from the use of *fossil fuels and from renewable fuels.*"). Section 582(g) names fossil fuels and renewable fuels specifically, thereby creating a baseline below which ANR's protocols may not go. ANR may consider whether it is prudent to expand lifecycle

(3) The lifecycle accounting protocols must address *in-state* fossil and renewable fuel emissions and *out-of-State* emissions generated because of in-State fossil and renewable fuel uses.[3]

The following legislative history is illuminating.

The Legislature initially established sector-based accounting: In 2008, the Legislature required ANR to present GHG emissions "in the inventory by sources or sectors such as agriculture, manufacturing, automobile emissions, heating, and electricity production." *See* Vt. Laws, No. 209, S.350, Sec. 4 (2008), *codified as* 10 V.S.A. § 582(b). Vermont's Inventory has since then used in-bound sector-based accounting.[4] The meaningful work done by ANR in this regard has provided an important base of information from which the Legislature, Executive Branch, and Climate Council have begun assessing mitigation pathways.

The Legislature later recognized that in-bound sector-based accounting, by itself, is insufficient: The Legislature thus enacted Vt. Laws, No. 170, S.214, Sec. 14 (2012) ("Act 170"), which added to Vermont's "greenhouse gas inventories" the following requirement: "transparent and accurate life cycle accounting of greenhouse gas emissions, including emissions of such gases from the use of fossil fuels and from renewable fuels such as biomass." *See* Act. 170, Sec. 14, *amending* 10 V.S.A. § 582(g). Importantly, that lifecycle accounting requirement is *additional* to and *does not replace* in-bound sector-based accounting. *See* § 582(b) (requiring sector-based accounting); § 582(g) (requiring lifecycle accounting). Since 2012, ANR has been required to implement sector-based *and* lifecycle accounting. ANR has not yet implemented lifecycle accounting.

The Legislature doubled down on the lifecycle accounting requirement in the GWSA: In 2020, the Legislature predicated the GWSA's emissions reduction requirements on sector-based and lifecycle accounting. *See* Vt. Laws, No. 153, H.688, Sec. 3 (2020), *amending* 10 V.S.A. § 578(a). The GWSA states that "Vermont *shall* reduce emissions of greenhouse gases . . . *as measured and inventoried pursuant to section 582 of this title*." *See id.* (emphasis added). As noted, § 582 requires both lifecycle accounting, § 582(g), and sector-based accounting. *See* § 582(b).

In sum, the Legislature has established three minimum requirements. First, the GWSA's emissions reduction requirements are predicated on sector-based *and* lifecycle accounting.

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accounting to energy uses beyond fossil and renewable fuel uses.

[3] *See* § 578(a) (emphasis added) ("[A]s measured and inventoried pursuant to section 582 of this title" – which requires lifecycle accounting pursuant to subsection (g) – Vermont "shall reduce emissions of *greenhouse gases from within the geographical boundaries of the State* and those emissions *outside the boundaries of the State that are caused by the use of energy in Vermont*.").

[4] *See, e.g.*, *Greenhouse Gas Emissions Inventory Update: 1990-2008*, at 9-10 (2010) and *Greenhouse Gas Emissions Inventory and Forecast: 1990-2017*, at 13-14 (2021).

Second, lifecycle accounting must apply to at least fossil fuels and renewable fuels. Third, lifecycle accounting must count emissions generated in Vermont and those generated outside Vermont due the energy used inside the State. These requirements must inform ANR's lifecycle protocols.

Vermont's Annual GHG Inventory Should Maintain Sector-Based Accounting and Add Lifecycle Accounting as Stand-Alone Information That is Updated Annually

As noted, the GWSA requires both sector-based and lifecycle accounting and ANR is required to adopt lifecycle accounting protocols. ANR should adopt a protocol that meets the GWSA's legal requirements by maintaining sector-based accounting in the Inventory and supplementing the Inventory with stand-alone lifecycle accounting that is updated annually.

The lifecycle accounting required by the GWSA cannot be coherently folded into sector-based accounting.[5] As such, the required lifecycle accounting should be added to the Inventory as stand-alone information that can then be compared side-by-side with sector-based information. Doing so will assist the Legislature, Executive Branch, Climate Council, and other policymakers in "accurately and transparently" assessing the State's emissions. *See* § 582(g). Doing so will also help meet the minimum accounting requirements enumerated in the GWSA. *See* § 578(a) (incorporating § 582).

Lifecycle Accounting is Not Only Required by Vermont Law, it is Good Policy

In its *Fifth Assessment Report*, the Intergovernmental Panel on Climate Change explained that "[o]ptions to reduce GHG emissions in the energy supply sector reduce the lifecycle GHG-emissions intensity of a unit of final energy (electricity, heat, fuels) supplied to end users. . . . *In assessing the performance of these options, lifecycle emissions have to be considered*."[6] The Legislature's directive to ANR to promulgate lifecycle accounting protocols is intended to achieve an important policy that is essential to Vermont's efforts to stem climate change.

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[5] *See, e.g.*, *Greenhouse Gas Emissions Inventory and Forecast: 1990-2017*, at 26 (2021) ("Understanding the full emissions picture associated with different types of [energy] generation is important because of the focus on mitigation strategies . . . , but that comparison cannot be made using the annual gross emissions framework and would be more appropriate for a life cycle analysis.").

[6] IPCC, *Fifth Assessment Report, Climate Change 2014: Mitigation of Climate Change*, at 527 (2014) (emphasis added).

Thank you for your time and consideration. Please do not hesitate to reach out at any time with questions.

Sincerely,

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cc: Science & Data Subcommittee via public portal and email