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From: Jared Duval, Rich Cowart, Peter Walke, and Ryan Patch

To: Cross-Sector Mitigation Sub-committee

Subject: DRAFT Memo re: Establishing the Reference Year for Proportional Emissions Reduction by Sector and Interpreting 10 V.S.A. § 592 (d)

The Global Warming Solutions Act (GWSA), specifically 10 V.S.A. § 592 (d), states that:

“The specific initiatives, programs, and strategies contained in the [Climate Action] Plan and updates to the Plan shall further the following objectives:

(1) to prioritize the most cost-effective, technologically feasible, and equitable greenhouse gas emissions reduction pathways and adaptation and preparedness strategies informed by scientific and technical expertise;

(2) to provide for greenhouse gas emissions reductions that reflect the relative contribution of each source or category of source of emissions;

(3) to minimize negative impacts on marginalized and rural communities and upon individuals with low and moderate income;

(4) to ensure that all regions of the State benefit from greenhouse gas emissions reductions, including sharing in the resulting economic, quality-of-life, and public health benefits;

(5) to support economic sectors and regions of the State that face the greatest barriers to emissions reductions, especially rural and economically distressed regions and industries;

(6) to support industries, technology, and training that will allow workers and businesses in the State to benefit from greenhouse gas emissions reduction solutions;

(7) to support the use of natural solutions to reduce greenhouse gas emissions and increase resilience, including the use of working lands to sequester and store carbon and protect against severe weather events; and

(8) to maximize the State's involvement in interstate and regional initiatives and programs designed to reduce regional greenhouse gas emissions and build upon state, national, and international partnerships and programs designed to mitigate climate change and its impacts.”

Section (d) raises at least two questions of interpretation that we wish to address now, in the interest of gaining agreement and clarity for our shared work moving forward.

1. Regarding section 10 V.S.A. 592 (d) (2), how should the “relative contribution of each source or category of source of emissions” be interpreted?
2. How should we interpret and assess the eight objectives listed in 10 V.S.A. 592 (d) relative to each other?

Let’s address each of these questions in turn:

1. While the *baseline years* against which we measure our emissions reduction requirements are clearly laid out in the Global Warming Solutions Act (GWSA) (2005 for 2025 requirements; 1990 for 2030 and 2050 requirements), the *reference year* that we use to establish “relative contributions” by sector is not established in statute.

It is our recommendation that we do not need to, nor should we, conflate the questions of baseline years and reference years by defaulting to use either 1990 or 2005 regarding the question of assessing "relative contributions" by sector. Here is our rationale:

- a. The latest available data after the GWSA went into effect and that is presently at hand while we are working on the first Climate Action Plan (CAP) is 2018 data as published in Table 10 of the Vermont Greenhouse Gas Emission Inventory and Forecast: 1990 – 2017 report. It makes the most sense to use the reference point of where we are now (or as close to present data as we have), rather than going back in time to a very different set of circumstances.
- b. If we use 1990 or even 2005 data as the reference year for sectoral proportionality, very odd things can result (see attached spreadsheet), given how much sectors and emissions have shifted over the last 15 and 30 years. For instance, while electricity sector emissions were 2% of statewide total emissions as of 2018, they were 13% of Vermont’s emissions back in 1990. Or take the Industrial Processes sector, which makes up 6% of Vermont’s emissions as of 2018 but only made up 2% of statewide emissions back in 1990. The world has changed significantly since 1990 and 2005, and our assigning of shares of responsibility should reflect that. Otherwise, for instance, one result of using 1990 or 2005 reference years would be that our electricity sector could *increase* its emissions far above its recent levels between now and 2025 and 2030. In contrast, *if we use a 2018 reference year, no sector would be able to increase its emissions above current (2018) levels*. Also, even using a 2018 reference year, the electricity sector should have no problem meeting it’s share of responsibility for emissions reduction going forward simply via continued compliance with the Renewable Energy Standard (RES).¹

Share of Statewide Emissions by Sector and Year

	1990	2005	2018
Transportation	38%	41%	40%
Thermal (RCI)	29%	30%	34%
Electricity	13%	6%	2%
Agriculture	14%	13%	16%
Industrial Processes	2%	6%	6%

¹ Note: as of 2019, Vermont’s electricity purchases were 66% renewable: 63% from Tier 1 resources (renewable electricity regardless of scale or location) plus 3% from Tier 2 resources (small-scale, in-state renewable electricity). Per the current RES, by 2032, Vermont’s electricity portfolio is required to be 75% renewable by 2030, of which 10% would have to come from Tier 2 resources. Of course, if the emerging recommendation from the electricity task group of the Cross-Sector Mitigation Sub-committee for a 100% carbon-free or a 100% renewable energy standard moves forward, the electricity sector would likely meet/surpass any sectoral share of responsibility by 2030.

Waste Management	3%	3%	2%
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- c. The actors in these sectors did not know in 1990 or 2005 that they would be measured against their sectoral emissions in those years and much has changed over the intervening years. Vermont did not even set GHG reduction goals until 2007, and binding requirements were not set until 2020, with the passage of the GWSA.
2. Section (d) of 10 V.S.A. 592 directs the Climate Council to further eight objectives in the consideration of the initiatives, programs and strategies put forward in the Climate Action Plan. (See list above) Individual objectives listed are not to be rigidly determinative on their own, nor should they be interpreted as being prioritized or weighed differently based on the order they are written given the presence of the word, “and” at the end of objective (7). It is reasonable to anticipate some objectives may conflict. Therefore, we recommend that it is the Council’s responsibility to use its best judgment as to what will be in the best interest of meeting the overall intent, goals, and requirements of the GWSA. For example, in the instance of a conflict between objectives (1) and (2), when certain sectors do not have cost-effective, technologically feasible, or equitable greenhouse gas emissions reduction pathways, it would be reasonable to require lower reductions from that sector while requiring more reductions from other sectors, in line with other listed objectives, so long as the overall gross emissions reduction requirements are still met.