

## **Foundational Criteria Definitions and Guidance for Ranking, 10/7/21**

### **I. Impact**

#### ***Cross Sector Mitigation***

Consideration of actions' contribution to achieving 2025, 2030 and 2050 emission reduction requirements. Actions will be ranked as HIGH, MODERATE or LOW. The following scale will be used:

- High impact recommendations are those that can reasonably be expected to get Vermont more than 10 percent of the way towards either our 2025 and/or 2030 emissions reduction requirements. High impact will also speak to enabling actions that are needed to advance actions that are high impact as defined here. A compelling case will need to be made that the enabling action is the only pathway to success of the high impact action.
- Moderate impact recommendations are those that can reasonably be expected to get Vermont between 2.5 percent and 10 percent of the way towards either our 2025 and/or 2030 emissions reduction requirements. Moderate impact will also speak to enabling actions that are needed to advance actions that are high impact as defined above. Rather than high enabling actions above, moderate enabling actions are supportive of the high impact action, rather than the only pathway.
- Low impact recommendations are those that can reasonably be expected to get Vermont less than 2.5 percent of the way towards our 2025 and/or 2030 emissions reduction requirements.

Note: the gross GHG emissions reductions required by 2025 are 1.26 MMTCO<sub>2</sub>e below our most recent (2018) levels. 3.46 MMTCO<sub>2</sub>e of reductions are required by 2030.

Note: 2018 emissions levels were estimated to be the same as 1990 emissions levels (8.64 MMTCO<sub>2</sub>e). The requirement for 2025 is at or below 7.38 MMTCO<sub>2</sub>e and for 2030 is at or below 5.18 MMTCO<sub>2</sub>e.

So, the 10% threshold for 2025 is at least 126,000 tons of CO<sub>2</sub>e reduction (or .126 MMTCO<sub>2</sub>e)

The 2.5% threshold for 2025 is equal to 31,500 tons of CO<sub>2</sub>e reduction (or .0315 MMTCO<sub>2</sub>e).

The 10% threshold for 2030 is 346,000 tons of CO<sub>2</sub>e reduction (.346 MMTCO<sub>2</sub>e).

The 2.5% threshold for 2030 is 86,500 tons of CO<sub>2</sub>e reduction (.0865 MMTCO<sub>2</sub>e).

#### ***Agriculture and Ecosystems/Rural Resilience and Adaptation***

Both of these subcommittees will use the following definition and assessment tool. The assessment of impact for adaptation, resilience, and sequestration actions will take into consideration both the scale at which a particular action occurs and the effects (both short and long term) of that action.

Impact will be assessed at a high, moderate, and low rating:

- High impact actions are those actions that significantly improve the ability of [the built and/or natural environment and working lands OR people/vulnerable populations OR the economy] to adapt to or build resilience to climate change impacts and by doing so avoid costly actions from a future event. These actions may also significantly increase the ability to sequester and store

carbon. High impact actions are actions that would affect broad scale change at the municipal, regional, or statewide level.

- Moderate impact actions are those actions that moderately improve the ability of [the built and/or natural environment and working lands OR people/vulnerable populations OR the economy] to adapt to or build resilience to climate change impacts and by doing so moderate the need for costly actions from a future event. These actions may also moderately increase the ability to sequester and store carbon. Moderate impact actions are actions that would affect moderate scale change at the municipal, regional, or statewide level.
- Low impact actions are those actions that marginally improve the ability of [the built and/or natural environment and working lands OR people/vulnerable populations OR the economy] to adapt to or build resilience to climate change impacts. These actions may also slightly increase the ability to sequester and store carbon. Low impact actions are actions that would affect small scale change at the municipal, regional, or statewide level.

A finer point for Rural Resilience and Adaptation Subcommittee will be also to consider if the action makes progress towards 2025, 2030, or 2050 goal?

## **II. Cost-Effectiveness**

### ***Cross Sector Mitigation***

For evaluation of mitigation actions, cost-effectiveness shall refer to the lifetime net cost per ton of GHG emissions avoided (acknowledging that some mitigation measures do not generate net costs and actually save money). Cost-effectiveness shall also be understood to account for lifetime or dynamic costs, not merely up-front or static costs.<sup>1</sup> The following HIGH, MODERATE and LOW definitions will be used for prioritization:

- Highly cost-effective are actions that have a net savings per ton of GHG emissions reduced
- Moderately cost effective are actions that essentially break even per ton of GHG emissions reduced
- Least cost-effective actions are ones that will have a net cost per ton of GHG emissions reduced

To estimate costs and benefits in determining cost-effectiveness, estimated benefits and costs shall be inclusive of direct and indirect benefits and costs *to Vermont and Vermonters* (i.e., “resource benefits and costs” for the State, including program implementation and management costs, not simply the “consumer costs and benefits”). Benefit-cost analysis shall estimate social and environmental “externalities”, including health costs and benefits and a Social Cost of Carbon, reflecting the global damage-based assessment of the cost of Vermont’s climate pollution, consistent with the Social Cost of Carbon report and recommendations presented to the Climate Council on August 23, 2021. In many circumstances, additional benefit-cost tests may be appropriate for further analyzing specific proposed policies and programs, including benefits and costs from a consumer and equity perspective or a public investment perspective.

### ***Agriculture and Ecosystems/Rural Resilience and Adaptation***

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<sup>1</sup> Ultimately the mitigation supply curve being developed by Cadmus and Energy Futures Group may provide a resource to be used to determine cost-effectiveness.

Cost-effectiveness shall refer to the relative lifetime net cost\* of the action compared to the desired outcome or impact. As such, the action will first receive an impact ranking of high, medium and low in the prioritization framework (as discussed in Section I). From there, the action's cost should be considered as significant, moderate or low. Significant will be defined as an ongoing cost or a more than ten-year investment to Vermonters which will need to be raised from new revenues. Moderate will be defined as an ongoing or more than ten-year investment from Vermonters that has an existing revenue source OR an action that needs a new revenue source for a short-term period (less than ten years). Low will be defined as an action that has an existing revenue identified to utilize over a short-term period (less than ten years). Overall cost-effectiveness will be compiled by considering the actions impact (high, medium, low) relative then to its cost (Significant, moderate, low). The cumulative summation of overall ranking will be as follows:

High/Moderate, High/Low, Medium/low – HIGH

High/Significant, Medium/Moderate, Low/Low – MEDIUM

Medium/Significant, Low/Significant, Low/Moderate – LOW

\*this definition only deals with the true cost to Vermonters and does not speak to the cost of avoided damages which we know is very important. By incorporating the actions impact into how we evaluate cost-effectiveness, I hope this give some assurances that the most impactful actions can still be considered cost-effective overall even if they present significant upfront investments, indirectly getting at the cost of inaction.

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### **III. Co-Benefits**

Comprehensive climate policy will advance actions that work to mitigate climate pollution, while also building resilience, adaptation and storing and sequestering carbon. Actions will also seek to advance broader societal benefits such as public health, equity (specific focus on impacted communities), economic prosperity, biodiversity conservation, workforce opportunities and other benefits that improve the quality of life in Vermont broadly. Identifying actions that address co-benefits and elevating them will be key to ensuring our actions are working for all Vermonters. Co-benefits will be evaluated based on HIGH, MEDIUM, LOW RANKING using the following guidance:

HIGH – an action that can easily be communicated with broad and varied benefits to Vermonters and Vermont itself.

MEDIUM – an action that clearly addresses multiple climate action buckets (mitigation, resilience, adaptation and sequestration/storage) but its broader societal benefits are harder to measure and speak to.

LOW – an action that advances mitigation, resilience, adaptation or sequestration/storage but does not clearly advance other benefits.

#### **IV. Technical Feasibility**

This speaks to the degree to which the required technologies are developed and reasonably available. As this is called out in the GWSA, it is important to simply answer yes or no to ensure the action is implementable.

#### **V. Cumulative Priority Ranking**

The overall priority ranking will be come together as follows for HIGH and MEDIUM priorities (all other combinations will be LOW priorities). HIGH priorities will move forward with an equity screening and consensus at the subcommittee will need to be reached to advance a MEDIUM or LOW priority action.

IMPACT	COST-EFFECTIVENESS	CO-BENEFITS	TECHNICAL FEASIBILITY	OVERALL PRIORITIZATION
HIGH	HIGH	HIGH	Yes	HIGH
HIGH	HIGH	MEDIUM	Yes	HIGH
HIGH	HIGH	LOW	Yes	MEDIUM
HIGH	MEDIUM	HIGH	Yes	HIGH
HIGH	MEDIUM	MEDIUM	Yes	HIGH
HIGH	LOW	HIGH	Yes	MEDIUM
MEDIUM	HIGH	HIGH	Yes	HIGH
MEDIUM	HIGH	MEDIUM	Yes	MEDIUM
MEDIUM	MEDIUM	HIGH	Yes	MEDIUM