

## **VCC SDSC Definitions of Technological Feasibility and Cost-Effectiveness. DRAFT FOR DISCUSSION PURPOSES ONLY 9.20.21**

### Recommended Definition:

Technological Feasibility: “the degree to which the required technologies are developed and available.”

Source: IPCC (<https://www.ipcc.ch/sr15/faq/faq-chapter-4/>)

### Notes:

- The task group discussed a broader definition. We found that while *feasibility* was addressed broadly by the IPCC, the broad definition depended on *enabling conditions* (defined below) which go beyond the scope of what should be considered Technological Feasibility.
- From IPCC glossary (italics removed): Enabling Conditions: Conditions that affect the feasibility of adaptation and mitigation options, and can accelerate and scale-up systemic transitions that would limit temperature increase to 1.5°C and enhance capacities of systems and societies to adapt to the associated climate change, while achieving sustainable development, eradicating poverty and reducing inequalities. Enabling conditions include finance, technological innovation, strengthening policy instruments, institutional capacity, multilevel governance, and changes in human behaviour and lifestyles. They also include inclusive processes, attention to power asymmetries and unequal opportunities for development and reconsideration of values. <https://www.ipcc.ch/sr15/chapter/glossary/>

### Recommended Definitions

Cost-Effectiveness: The measure of a mitigation option’s direct and indirect benefits and costs, as measured by benefit-cost analyses. For purposes of mitigation measures, 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.\*\*\*

Primary Benefit-Cost Analysis: 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.

Note: 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 perspective or a public investment perspective.

Notes:

\*Lifetime shall mean the total emissions avoided, per measure, over the lifetime of the measure.

\*\*Whether measured in carbon dioxide equivalent (CO<sub>2</sub>e) or in a cost per ton for each greenhouse gas is still to be determined, depending on the findings and recommendations of the federal Interagency Working Group (IWG) on the Social Cost of Greenhouse Gases.

[https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument\\_SocialCostofCarbonMethaneNitrousOxide.pdf](https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf)

\*\*\* <https://www.imf.org/external/pubs/ft/fandd/2019/12/the-true-cost-of-reducing-greenhouse-gas-emissions-gillingham.htm>