

# VALUE OF CARBON

## Frequently Asked Questions



Office of  
Climate Change

This document answers frequently asked questions regarding the Department of Environmental Conservation (DEC) guidance document “Establishing a Value of Carbon: Guidelines for Use by State Agencies” released in December 2020. This guidance was developed to fulfil the requirements of the 2019 Climate Leadership and Community Protection Act (CLCPA).

### What is the Value of Carbon?

The term value of carbon is any representation of monetary cost applied to a unit of greenhouse gas emissions, expressed in terms of the net cost of societal damages (i.e., the “social cost of carbon”), marginal greenhouse gas abatement cost, or using another approach. DEC recommends that State agencies use a damages-based value of carbon for cost-benefit analysis, for describing societal benefits, and evaluating other types of decisions, such as state procurement, contracts, grants, or permitting. DEC currently provides damages-based estimates for carbon dioxide, methane, nitrous oxide, and six HFCs for discount rates of 1%, 2%, and 3%, but values can be estimated for any greenhouse gas, as well as other pollutants such as PM 2.5 or black carbon.

### What is the Difference between the Social Cost of Carbon and DEC’s Recommended Damages-based Value of Carbon?

The damages-based value of carbon recommended by DEC is the same as the federal Social Cost of Carbon, but DEC has applied lower discount rates. The Social Cost of Carbon is an estimate, in dollars, of the presented discounted value of the future damage caused by a metric ton increase in emissions into the atmosphere in that year or, equivalently, the benefits of reducing emissions by the same amount in that year. It is intended to provide a comprehensive measure of the net damages – that is, the monetized value of the net impacts – from global climate change that result from an additional ton of emissions.

### Is the Value of Carbon a Tax or Fee?

No. The damages-based value of carbon recommended by DEC does not impose any monetary costs to the state or to any private entities. It is an analytic tool to be used in state decision-making processes to properly account for the impacts on society from greenhouse gas emissions.

### Why does DEC use a Global Value?

Greenhouse gases have a global impact regardless of where the emissions occur. Emissions from sources in New York will have impacts in areas outside the State, and emissions from other jurisdictions will result in damages experienced in New York. DEC is also required under ECL 75-0113(2) to consider the “global economic, environmental, and social impacts of emitting a marginal ton of greenhouse gas emissions into the atmosphere.”

### Why does DEC use Different Discount Rates than the Federal Government?

The federal government uses a range of rates of 2.5% to 5% with a 3% rate for decision-making, while the CLCPA directed DEC to take public comment and consider rates as low as 0%. DEC recommends using a range of 1% to 3% with a 2% rate for decision-making. DEC recommends lower discount rates to better reflect the intergenerational effects of greenhouse gas emissions, account for some uncertainties within the methodology of the calculations for the estimates, and to address the underestimation of potential damages from climate change. DEC’s rates were chosen based on public input strongly favoring lower discount rates and a central rate of 2% rather than 2.5%.

## Do Legal Challenges to the Federal Government's use of the Social Cost of Carbon Prevent New York from using the Value of Carbon?

No, any legal challenges to the federal government's use of the Social Cost of Carbon would not limit New York from using the damages-based value of carbon which was established by the CLCPA. However, legal challenges to the federal government's work could impede future updates to the values and prevent New York from consulting with the federal government on such an update and in estimating the value of other gases.

## How is the Value of Carbon Calculated?

DEC recommends using the same methodology established by the federal Interagency Working Group to calculate the damages-based value of carbon. This methodology uses three integrated assessment models (IAMs) to translate: (1) marginal emissions into atmospheric greenhouse gas concentrations, (2) greenhouse gas concentrations into changes in temperature, and (3) changes in temperature into various economic damages. The outputs from these IAMs are averaged and discounted to get the values used by New York.

## How is the Value of Carbon used?

The damages-based value of carbon can be used whenever an NYS agency program, policy, or project has a projected change in greenhouse gas emissions. A proper analysis will multiply the annual change in greenhouse gas emissions by the appropriate value for each of the 1%, 2%, and 3% discount rates for all years in which emissions occur. To calculate the net present value, the values for each year should be discounted back to the start year using the same discount rate. For example, the net present value for the 2% discount rate would use 2% as the value for discounting. If emissions are expected to increase, this analysis will calculate the costs to society, while a decrease in emissions would represent a benefit to society.

## Why does DEC Recommend Reporting a Range of Values?

There is no "correct" discount rate for decision-making purposes, so to ensure a full analysis, DEC recommends using a range of discount rates from 1% to 3%. A higher rate may be appropriate for guiding long-term investment of private funds, but less appropriate for decisions regarding public safety and welfare. A lower discount rate may help address the underestimation of potential damages from climate change. Reporting a range of discount rates shows the potential range of benefits that could result from a reduction in greenhouse gas emissions.

## How does DEC recommend treating non-CO2 gases like methane and HFCs?

DEC's Guidelines recommend that State entities estimate the damages associated with all relevant pollutants, not just carbon dioxide. The CLCPA also requires that State entities consider the statewide GHG emission limits for all greenhouse gases and these Guidelines can help in that assessment. DEC specifically provides damage values for all major greenhouse gases covered by the CLCPA, including methane, nitrous oxide, and six HFCs. There is also published literature on the damages from other climate pollutants and DEC will continue to expand the Guidelines to include more pollutants and make updates where needed. Please contact the Office of Climate Change for updates, comments, or questions.

### CONTACT INFORMATION

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