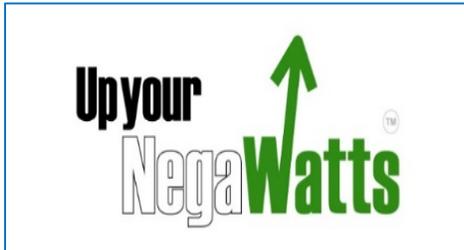


Up Your NegaWatts

By Robert S. Block, Managing Partner



The U.S. Environment Protection Agency (EPA) has been directed, by President Obama, to develop regulations to reduce greenhouse gas emissions in the U.S. The EPA expects the reductions to yield important health, economic and environmental benefits in the U.S. and world-wide.

In pursuit of this goal, the EPA and other federal agencies have developed [Social Cost of Carbon \(SC-CO₂\)](#) estimates to assess the economic benefits of rulemakings that reduce carbon dioxide (CO₂) emissions. When government agencies prepare to issue regulations implementing the laws enacted by Congress, or promulgated by Presidential order, they are required to justify proposed regulations by assessing their cost and benefits to the economy and society. The SC-CO₂ approach is typically used in the benefits part of the cost-benefit analysis. For a regulation that decreases emissions, the SC-CO₂ represents the damage avoided--or the benefit of the regulation--for marginal reductions of CO₂.

The required [supporting technical documentation](#) (PDF, 21 pp, 1 MB) are not yet complete because current computer models do not capture all of the important physical, ecological, and economic impacts of rising levels of CO₂ in the atmosphere. According to the EPA, "Nonetheless, these estimates and the discussion of their limitations in the supporting technical documentation represent the best available information about the social benefits of CO₂ reductions to inform benefit-cost analysis."

The EPA is, "Exploring approaches to further understand the benefits of CO₂ reductions that complement the analysis conducted with the SC- CO₂. While the SC- CO₂ is a useful metric to assess marginal changes in CO₂ emissions in the context of cost-benefit analysis, bottom-up approaches, such as the Climate Change Impacts and Risks Analysis (CIRA) project, may offer additional insights about the impact of significant global action." CIRA is a peer-reviewed study comparing impacts in a future with significant global action on climate change to a future in which current greenhouse gas emissions continue to rise.

In 2015, EPA released a report, "[Climate Change in the United States: Benefits of Global Action](#)", estimated the physical and monetary benefits to the U.S. of reducing global greenhouse gas emissions. Although no specific mitigation policies were analyzed, the report concludes that

global action on climate change will, “Significantly benefit Americans by saving lives and avoiding costly damages across the U.S. economy.”

Research Underlying EPA Economic Modeling of Climate Policies

Climate Economic Modeling

EPA uses a variety of economic models and analytical tools when conducting climate economic analyses of climate legislation or policy. These models help researchers estimate the future effects of proposed policies on energy production, the economy, emissions of CO₂, and land use trends in agriculture and forestry.

Air Quality and Climate Modeling

EPA is creating decision support tools to evaluate policy options for both air quality and climate change.

International Emissions Projections for Non CO₂ Gases

EPA conducts studies of projected global emissions of the methane, nitrous oxide, and fluorinated greenhouse gases which account for about 30 percent of human-caused warming. Projected emissions studies for the non- CO₂ gases provide a benchmark that can be used to measure the potential environmental and economic impact of proposed climate policies across all relevant gases.

International Mitigation Technologies to Reduce Emissions of Non CO₂ Gases

Numerous technologies are available to reduce emissions of methane, nitrous oxide, and fluorinated greenhouse gases. EPA develops reports that evaluate the costs of various technologies to reduce non- CO₂ greenhouse gas emissions. These reports also provide cumulative marginal abatement cost curves which are used by researchers to represent mitigation costs in their models.”

AMICIMPTS Effects on Greenhouse Gasses

The MPTS reductions in electric current (Amps) by 20% to 40% eliminate the need for the generation of these conserved Watts, (“NegaWatts”). Therefore, MPTS reduces CO₂ and other Greenhouse emissions in direct proportion to the NegaWatts saved.