

What Price Carbon?

Comments on RI Carbon Pricing Study

In 2014, the Rhode Island General Assembly enacted the Resilient Rhode Island Act, which in turn created an Executive Climate Change Coordinating Council (EC4) composed of major state agencies (Departments of Energy, Environment, Transportation, Administration, as well as Infrastructure Bank , Coast Resources, Public Utilities etc.) EC4's mission is to *“assess, integrate, and coordinate climate change efforts throughout state agencies to reduce emissions, strengthen the resilience of communities, and prepare for the effects of climate change.”*

The Climate Change Carbon Pricing Study

In 2017, the General Assembly amended the Resilient Rhode Island Act requiring the EC4 to study carbon pricing. It charged the EC4 to *“study the effectiveness of the state and/or multi-state carbon pricing program to incentivize institutions and industry to reduce carbon emissions. The study shall include the effectiveness of allocating revenues generated from such carbon pricing program to fund enhanced incentives to institutions and industry for targeted efficiency measures; projected emissions reductions; economic impact to businesses; any economic benefits to Rhode Island; and impacts to the state's economic competitiveness if the program were implemented.”*

The Carbon Pricing study would examine scenarios, policies and programs to reduce carbon emission reductions by 2035 and by 2050 from the state's thermal and transportation sectors, but also to assess the impact of existing natural gas and electric carbon reduction programs currently in effect. It must be finalized and submitted to the EC4 by February 2020. The EC4 drafted guidelines to govern what the consultant needed to address and asked for comments on these guidelines. RICOSH submitted the following to the EC4 to guide the Carbon Pricing study.

Although it might overtly and overwhelmingly complicate the task assigned, we do need, at some point in the estimation of the supply chain, to acknowledge what some refer to as *embodied energy*. One key reason why is that we may grossly underestimate the actual remission profile by sector.

Embodied energy is the sum of all energy inputs to produce goods and services. This includes various energy sources used during the raw material extraction, transport, manufacturing, assembly, construction and end of life (disposal) phases. Each might rely at different stages on a variety of energy sources (fossil

fuels, wood, water solar etc.) with an accompanied measure (often estimates) of Green House Gas (GHG) emissions.

There is energy required to use a product such as a car or air conditioner but there is also energy used to make these products. For example, the GHG emission profile of electric cars should include the raw materials extracted and used to make the vehicle, GHG emissions during manufacture and transport of the vehicle to the retailer as well as GHG emissions imbedded in the safe disposal of vehicles and parts like lithium batteries.”

The best source for better understanding the assessment of embodied energy is at the Lawrence Berkeley National Laboratory Post-Carbon Institute at www.resilience.org.

Linking GHG Assessments to GHG Mitigation Programs

The Ninth Circuit court of Appeals ruled in 2007 that the National Highway Traffic Safety administration *had to take climate impacts into consideration when devising its automobile fuel-efficiency standards*. During the Obama administration, the social cost of carbon was pegged by the Environmental Protection Agency (EPA) at \$45 per ton. Using this calculus, an average car emits a ton of GHG every two months. To offset the car’s GHG, an annual expense would be added to a car’s price; roughly \$250 a year for the life of the car.

A Basic GHG Tax Assessment Approach

The end result of assessing the impacts of carbon pricing is *linking carbon pricing policies to resiliency, mitigation and reduction strategies and policies that reduce or at least slow the pace of overall GHG emissions*. This approach has already been battle tested in California by a number of corporations that have adopted various mitigation and reduction approaches internally. In 2015, 437 companies calculated an internal price on carbon, up sharply from 150 in 2014. As a result of the California climate approach many organizations have been created carbon pricing policies for companies.

For example, since 2012, Microsoft business unit managers have been required to calculate in the price of carbon emissions in their unit when reporting profits or losses each quarter. Microsoft business units are then charged an internal tax by based on each unit’s energy usage. The money is transferred into a common fund that invests in environmental sustainability projects.

Microsoft’s environmental sustainability team inventories the amount of energy each business unit will consume in a quarter; whether from office space, data centers or business air travel. Those kilowatt-hours and gallons of fuel are then converted into metric tons of carbon. The environmental sustainability team proposes projects and plans clean energy production. These plans include making buildings more efficient and requiring commitments to long-term sustainable power infrastructure offsetting the emissions.

In three years, the company reduced its emissions by the equivalent of 7.5 million metric tons of carbon dioxide and saved more than \$10 million through reduced energy consumption. Microsoft charged its business units about \$20 million for their emissions in 2016.

Investors also appear to be more interested in linking GHG emissions to investment choices. The California Public Employees' Retirement System, for example, which manages more than \$300 billion, has publicly announced support for carbon pricing efforts in its investment decisions.



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