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Capacity

September 21, 2022

# Accounting for the Greenhouse Gas Intensity of Products

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\* The views expressed here are those of the authors and may differ from those of other RFF experts, its officers, or its directors

## Our Work on GHG/Carbon Border Tax Adjustments

Recognize that GHG/carbon tax legislation will require border adjustments (to address labor, business and community concerns)

- With leading WTO experts developed a Framework for WTO acceptable BTAs (2018), updated 2020
- Key innovation is proposing a methodology to assign to products the GHG emissions related to their raw materials, electricity and process.
- Shared proposal with 13 US trade associations, academics, NGOs, former government trade lawyers, for comment and advice, not endorsements
- Any BA proposal presents a significant, ongoing administrative challenge: many products, many nations trade GHG-intensive products
- Based on our backgrounds and experience (industry, engineering, govt, WTO and climate), confident the Framework would be administratively feasible for governments and companies

Procedures to address GHG emissions associated with products could apply to a range of other policies and applications besides a GHG tax



## GGI: Determining GHG Emissions Associated with Products

In addition to VATs, for a specific manufacturer, the GGI accumulates covered sources of GHG emissions, both from the facility and purchased products (supply chain), required to create GHG-intensive products:

- Decades of experience determining and reporting GHG emissions from facilities, e.g., a steel mill or operation to produce coal
- Framework for products requires two significant extensions:
  - **Allocation:** of GHG emissions of facilities to their products
  - **Supply Chain:** include emissions (GGI) associated with GHG-intensive products from suppliers, especially feedstocks, fuels, and electricity
- Developed approaches for allocation based on straightforward systems, e.g., by carbon content or weight of core products
- By design GGI tracks covered GHG emissions from operations and the supply chain
- Border Tax Adjustment:  $BTA = GGI \text{ (tonnes CO}_2\text{/tonne of product)} \times \text{GHG Tax (\$/tonne CO}_2\text{)}$

Determination of a product's GGI is “just accounting” for information that is known or knowable by the manufacturer





## Determining the GGI

Sources of GHG emissions that contribute to a product's GGI (for a specific manufacturer):

- **Carbon content** of produced fossil resources (coal, oil, and natural gas) under the assumption that 100 percent of the carbon will ultimately be emitted as CO<sub>2</sub>
- **GHG process emissions** (if any) that occur to produce fossil resources or manufacture GHG-intensive products
- **Purchased GHG-intensive products** (e.g., electricity, commercial fuels, and feedstocks) purchased by the manufacturer from suppliers based on the product's GG
- **Essential characteristics:** comprehensive, explicit, applicable covered products in all sectors, adaptable, based on information known (or knowable) to manufacturers

GGI provides a quantitative metric for use with many policies and applications involving products, not just with a GHG tax

### Potential Applications

Border Adjustments  
Clean Manufacturing

...

Product Procurement  
Corporate Reports, Planning, R&D





## ADDITIONAL RESOURCES

- *Overview and summary blogs*
  - [Accounting for Emissions in Global Trade with a Greenhouse Gas Index](#), Brian Flannery
  - [Implementing a Framework for Border Tax Adjustments in US Greenhouse Gas Tax Legislation and Regulations](#), Brian Flannery
- Full reports Export Rebates, Import Charges, and a Greenhouse Gas Index
  - [Framework Proposal for a US Upstream GHG Tax with WTO-Compliant Border Adjustments: 2020 Update](#), Brian Flannery, Jennifer Hillman, Jan Mares, and Matthew Porterfield
  - [Policy Guidance for US Greenhouse Gas Tax Legislation and Regulation](#) Brian Flannery, Jennifer Hillman, Jan Mares and Matthew Porterfield
  - [Determining the Greenhouse Gas Index for Covered Products of Specific Manufacturers](#), Brian Flannery and Jan Mares
  - [Export Rebates and Import Charges for Border Tax Adjustments Under an Upstream US GHG Tax: Estimates and Methods](#), Brian Flannery and Jan Mares
- Upcoming Report
  - [The Greenhouse Gas Index for Products in 39 Industrial Sectors](#), Brian Flannery and Jan Mares



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