
Framework Proposal for a Possible US Upstream GHG Tax with WTO-Compliant Border Adjustments

Industrial Energy Consumers of America
May 2, 2018
Jan W. Mares
Resources for the Future
www.rff.org; mares@rff.org

Summary

- Per WTO, taxes directed at trade (imports or exports) may not discriminate in favor of domestic producers over foreign producers
- Indirect taxes (e.g., on products) like an “upstream” GHG tax on produced oil, gas and coal may be border adjusted “downstream” on products for EITE sectors
- As proposed in the RFF web posted Framework co-authored by Georgetown Law School professors, export rebates and import charges are WTO compliant
- GHG measuring and reporting methods exist and are used by EITE industries but they must be extended from facilities to products, as we explain
- Methodologies to convert GHG emissions of EITE industries to WTO acceptable border adjustments for 35 sectors are described here
- Enacting a GHG tax with appropriate border adjustments will take many, many months, if not years
- Affected industries will have the opportunity to improve methodologies
- Enforcement and Compliance Office of Dept. of Commerce and Internal Revenue Service should be selected to implement this process
- US trading partners with help from related trade associations and firms should determine whether to adjust their GHG-related regulations to account for proposed US approach to border adjustments

The Case For Border Adjustments

- Ambitious climate policies may shift production in energy-intensive industry to nations with less stringent policies, resulting in
 - Leakage of GHG emissions
 - Loss of business, jobs and investment
- Proposed remedies typically rely on border adjustment for Energy-Intensive, Trade-Exposed (EITE) Industries with relief for exports and charges on imports
- However, some remedies proposed, like with Waxman Markey, may not be consistent with WTO obligations
- Differences in ambition and climate policies in Nationally Determined Contributions in the Paris Agreement prolong and heighten concerns regarding Trade and Climate compatibility through at least 2030
- Achieving ambitious goals of Paris Agreement will exacerbate tensions between Trade and Climate now and over the longer-term

Desirable to formulate domestic climate policies that are consistent with both WTO and UNFCCC obligations

General WTO Rules

1. Countries are free to tax domestic producers and consumers in whatever amounts and through whatever mechanisms they choose—so long as those taxes are not directed at international trade -- exports or imports.
2. Taxes directed at trade (imports or exports) may not discriminate in favor of domestic producers over foreign producers.
3. Border adjustments are permitted for indirect taxes but not for direct taxes.
 - Direct taxes = on wages, profits, interest, rents, royalties (i.e., income taxes)
 - Indirect taxes = sales, value added, excise (i.e., taxes on products)

Export Rebates

General Rule: May not rebate an amount that exceeds the amount paid if the goods are consumed domestically.

- US producers of EITE products would be eligible for a rebate upon export of their products. Rebate amount = corporate average GHG Emissions for Product X GHG Tax
- For most industries, amount is entirely based on use of energy; others may also include on-site process emissions and carbon content
- If not considered an export subsidy, then rebate is permissible, so long as the amount does not exceed the amount paid if the same good were consumed in US.

Charges on Imports

- **No additional tariffs or customs duties →** may charge at time of importation “a charge equivalent to an internal tax” or “in respect of an article from which the imported product has been manufactured.” (GATT Article II(2))
- **National treatment on internal taxes →** imports may not be subject, directly or indirectly, to internal taxes or charges in excess of those applied to like domestic products. (GATT Article III(2))

Framework: EITE Sectors

(Energy-Intensive, Trade-Exposed Industries)

No commonly accepted definition. Framework includes

- Those listed by 2010 Interagency Report plus industrial gases
- Also: Oil & Gas Production, Coal Production, Petroleum Refining, Electricity
 - These sectors are energy-intensive industries with exports and imports
 - Conditions have changed since 2009, especially for oil and gas
- RFF will post soon a Compendium describing principles for determining export rebates and import charges for Oil & Gas, Coal, Refining and Electricity and 31 other sectors

Compendium will be a “work-in-progress”
to be updated as information improves

Framework: Designed To Be WTO-Compliant

Some of the elements utilized to be consistent with WTO:

- Based on indirect domestic tax on products
- Follows cumulative GHG emissions from upstream fuel and raw material suppliers to downstream manufacturers (in a manner analogous to VAT)
- Utilizes average firm-wide emissions for products, or sector-average if firm data unavailable
- Relies in most cases on objective standards to track emissions from suppliers to producers (for exports and imports)
- Applies equally to imports from all nations

For nations that adopt it, this proposal fundamentally shifts costs to mitigate emissions for internationally traded products from where they are produced to where they are consumed.

Does not rely on “environmental exceptions” in WTO, likely consistent with them

Methodologies for GHG Emissions

- Long experience with existing systems: GHG emissions from facilities and operations (GHG Reports, Cap-and-Trade, GHG Tax)
 - Voluntary EITE industry-endorsed guidelines:
 - + Include all GHGs CO₂e not just CO₂
 - + Include emissions from both Operations and Suppliers
 - + Used for, e.g., Corporate Reports, Carbon Disclosure Project, ...
 - Regulatory systems, e.g., US EPA, EU-ETS
 - Voluntary and regulatory systems produce consistent information
- **Framework requires extensions of existing systems:**
 - **Border Adjustments apply to products: need to determine how GHG emissions from facilities and operations are allocated to products**
 - **Account for cumulative GHG emissions required to produce and (for fossil fuels and some other products) to utilize products**

Provide an objective, non-discriminatory basis to determine GHG emissions associated with products anywhere in the world

Industry-endorsed reporting guidelines are available throughout the world for most EITE sectors

Framework: Upstream GHG Tax

For administrative simplicity and comprehensive, economy-wide coverage, the GHG Tax is applied to:

- The carbon content of produced natural fossil resources:
 - Coal at the mine mouth
 - Oil and Gas at the wellhead
- On-site process emissions (if any) from all EITE sectors, e.g. venting and flaring of associated gas, methane leaks, calcination of lime (a few others)
- A few other EITE sectors also produce as-yet-untaxed GHG products, e.g., HFCs, PFCs, CO₂

All sectors experience the economic impact of the GHG tax as the price signal flows through supply chains, e.g., in higher prices for electricity and fuels

Framework: Export Rebates, Import Charges

An administrative procedure to determine rebates and import charges, not a new domestic fee – does not affect pass through costs from Upstream GHG Tax

- For a **specific manufacturer** in an EITE sector, determine **Cumulative GHG Emissions for Product P (PCGE)** (CO₂e per tonne) based on:
 1. Inputs from all products purchased from suppliers including fossil resources, electricity, commercial fuels, other energy intense inputs, e.g. oxygen, hydrogen, CO₂...
 2. On-site GHG process emissions

And for Upstream producers of Oil & Gas, Coal, also include:

 3. Carbon content of the produced resource (at the wellhead for oil and gas, mine mouth for coal) under the assumption that all carbon will be emitted as CO₂ upon combustion by downstream users
- For products of a given **company** use its national average PCGE for all production, **if available**, otherwise average for such products for the entire EITE sector
- Rebate or import charge rate (US\$ per tonne)=(PCGE)X(GHG Tax)

Analogous to growth of VAT along a supply chain leading to product P, but here based on cumulative GHG emissions to produce and (for fossil fuels) to later use the product

Some Key Issues in Determinations of CO₂ Emissions

Manufacturing lime or glass or other products that emit CO₂ in the process

Approaches to determine border adjustments for varying numbers of Products in a given NAICS Code

- Each product
- Average of small portion of products with exporter/importer able to provide data for their products
- Aggregation of products with no allowance for individual variation
- **Approaches to determine CO₂ emissions resulting from production of purchased scrap aluminum, steel, glass, etc. used in new manufacture**

Ongoing and additional work

- Some cross-cutting issues needing more attention
 - Cogeneration
 - Recycling & scrap
- Work with Trade Associations to better define procedures:
 - Allocating Cumulative GHG Emissions to products, product slates
 - Treatment of cross-cutting issues: Cogeneration, Recycling
 - Estimate export rebate or import charge based on an assumed GHG tax
- Address additional sectors
 - Remaining presumptively eligible sectors
 - Biofuels
 - Industrial gases
 - ...

RFF intends to develop ongoing projects, including efforts with sectors willing to pursue pilot efforts to develop methodologies, better definition of administrative tasks, and discussion with international sectoral associations

Closing Comments

- Data and methodologies exist to determine WTO-compatible export rebates and related import charges for products of EITE industries to be created based on an upstream GHG tax at the mine or wellhead
- Office of Enforcement and Compliance at Dept. of Commerce and Internal Revenue Service are most logical and experienced agencies to manage such border adjustments
- The government agency selected will desire to work with the affected industries to develop an effective system
- To improve the likelihood of an administratively workable and fair border adjustment system, EITE industries should start determining what border adjustment methodologies work best for them
- Trading partners of US and industries thereof would probably evaluate whether to adjust some of their GHG related regulations
- RFF plans to continue working in this space, evaluating other NAICS, and talking to any and all about this work

Thank You & Discussion

posted on RFF Web Site:

Framework proposal for a US upstream greenhouse gas tax with WTO-compliant border adjustments

Brian P. Flannery, Jennifer Hillman, Jan W. Mares, Matthew Porterfield

Soon to be posted on RFF Web Site:

A Compendium: WTO-compatible methodologies to determine export rebates and import charges for products of energy-intensive, trade-exposed industries, if there is an upstream tax on greenhouse gases,

Jan W. Mares and Brian P. Flannery