

Just Transition Working Group

Meeting #4

November 17, 2020
1:00-3:00 pm



Department
of Labor



NYSERDA



Climate Action
Council

Just Transition Working Group (JTWG)

Meeting #4 Agenda

1. Introduction / Roll Call
2. Member Updates
3. Business Impacts Subgroup Members
4. Business Impacts Work Plan
5. Report Out: Energy Intensive and Trade Exposed Industries Definitions
6. Presentation: Leakage
7. Other Updates
8. Next Steps

Member Updates

Recent highlights from Working Group / Advisory Panel Members

- > **Corning** – Achievement of EPA’s ENERGY STAR Challenge for Industry
 - Patrick Jackson, Corning – Member of Just Transition Working Group
 - “Corning Incorporated announced on Thursday that eight more of its global manufacturing facilities have recently reduced energy intensity by an average of 13.2%, meeting or exceeding the goals set by the U.S. Environmental Protection Agency’s ENERGY STAR® Challenge for Industry.”
 - Two New York State facilities earned this recognition (environmental technologies, specialty materials)
 - Corning launched global energy management division with technical and financial assistance from NYSERDA in 2006

- > **Nucor Steel** – Signs Virtual Power Purchase Agreement (VPPA) for 250 MW of solar in Texas
 - Jason Curtis, Nucor Steel – Member of EITE Advisory Panel
 - “Nucor Corporation announced today that it has signed a 15-year VPPA ... for 250 megawatts (MWac) of new solar energy in Texas. The agreement ... is Nucor's first VPPA and the largest of its kind for the steel industry.”

Business Impacts Subgroup Members

Subgroup Membership

From JTWG

- > Omar Freilla, Green Worker Cooperative
- > Patrick Jackson, Corning
- > Gary LaBarbera, Building and Construction Trades Council
- > Michael Padgett, Alcoa
- > Brian Raley, GLOBALFOUNDRIES
- > Randy Wolken, MACNY

From EITE

- > Heather Briccetti, Business Council of New York State
- > Jason Curtis, Nucor Steel
- > Carlos Garcia, NYC-EJA
- > Michael LeMonds, LafargeHolcim

Subgroup Supporting Staff

Supporting Agency Staff

- > Kara Allen – Senior Advisor, Policy & Regulatory Affairs, NYSERDA
- > Mark Coleman – Project Manager, Policy Development, NYSERDA
- > Todd Baldyga – Director, Industrial and Agriculture, NYSERDA
- > Sean Mulderrigg – Project Manager, Industrial and Agriculture, NYSERDA
- > Kevin Hansen – SVP and Head of Public Policy, ESD
- > Vincent Ravaschiere – SVP, Energy and Incentives, ESD
- > Erin Corrado – Deputy Director, Economic Analysis and Research, ESD
- > Mike Morse – VP of Industry Development, ESD
- > Dr. Don Applys – Director of Program Development & Community Initiatives, Workforce Development, NYSDOL
- > Chris Pinheiro – Workforce Programs Manager I, Division of Employment or Workforce Services, NYSDOL
- > Kevin Hannel – Chief, Bureau of Labor Statistics, NYSDOL
- > Chris LaLone – Assistant Program Director, Air Resources, NYSDEC
- > More may be added

Business Impacts Work Plan

Objectives

Subgroup to take lead on several tasks assigned to the Just Transition Working Group

Relevant Language from CLCPA:

- > Identify energy-intensive industries and related trades
- > With respect to potential for greenhouse gas emission limits developed by the department of environmental conservation pursuant to this article, advise the council on the potential impacts of carbon leakage risk on New York state industries and local host communities, including impacts of any potential carbon reduction measures on the competitiveness of New York state business and industry
- > Recommendations on how to address:
 - Issues and opportunities related to energy-intensive and trade-exposed industries
 - Measures to minimize the carbon leakage risk and minimize anti-competitiveness impacts of any potential carbon policies and energy sector mandates

Proposed Tasks

In alignment with the objectives, the subgroup will focus on:

- > Developing recommendations for an NYS EITE definition
- > Identifying EITE trades
- > Proposing ways in which an EITE definition may be applied
- > Understanding leakage: emissions and business
- > Discussing issues and opportunities for businesses and workers
- > Proposing to the Just Transition Working Group initial recommendations to maximize current and new economic opportunity and minimize leakage risk

Proposed Subgroup Work Plan

Meeting 3 (post JTWG 2nd November meeting)

Agenda Topic: Issues and Opportunities – Business

Meeting 4 (December/January)

Agenda Topic: EITE Definition for NYS and Application

Meeting 5 (January)

Agenda Topic: Issues and Opportunities – Workforce

Meeting 6 (February)

Agenda Topic: Initial Recommendations – Round 1

Meeting 7 (February)

Agenda Topic: Initial Recommendations – Round 2

JTWG Meetings

Nov. 17

Dec. 3

Jan. 6

Feb. 3

Mar. 3

Energy Intensive and Trade Exposed Industries Definition

EITE Industries - Concept

- > Energy-intensive: industries that consume a high amount of energy (electricity, fuel, etc.) relative to the value of their economic output. (*Example: chemical manufacturing*)
 - Historically, due to a lack of clean power, "energy-intensive" has also meant "emissions-intensive."
- > Emissions-intensive: industries that emit a high level of greenhouse gas emissions relative to the value of their economic output. (*Example: cement manufacturing*)
 - May consider emissions of multiple types – electricity use, fuel combustion and industrial processes.
- > Trade-exposed: industries in highly competitive markets with price-sensitive customers.
 - Often measured by the extent to which products are bought and sold across borders as opposed to industries whose customers cannot easily switch to competitors outside of the jurisdiction. (*Example: cut and sew apparel manufacturing vs. local retail stores*)
 - Less able to charge higher prices for their products because customers have access to numerous competitive substitutes and will simply shift their purchases away from any higher-cost producer.

EITE Industries - Implications

- > Industries that are both “EI” (in one or both forms) and “TE” may be most sensitive to leakage in jurisdictions with stricter emission controls and clean energy policies.
- > This risk stems from the fact that:
 - Due to their “EI” status, without mitigation, the sector will face the highest costs of compliance relative to their size with respect to energy or emission policies; and
 - Due to their “TE” status, the sector has the least ability to pass those costs along to their consumers, meaning that they may have limited ability to invest in high compliance cost jurisdictions.
- > As a result of these factors, jurisdictions seeking to enact significant energy or emission policies have sought to identify and protect EITE subsectors from leakage.

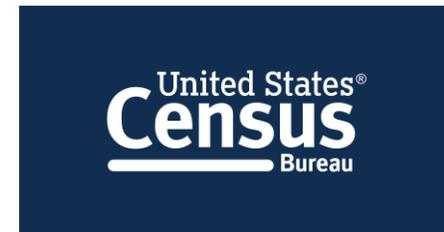
EITE Industries - Steps to Define

- > Several governments have previously passed measures that have sought to define EITE subsectors, including the United States, the European Union, Australia, Canada and the State of California.

- > Steps to define EITEs generally include:
 1. Define a set of industry activities to measure;
 2. Select metrics to quantify each industry's energy intensity, emissions intensity and exposure to trade;
 3. Set thresholds for qualifying under each definition; and
 4. Determine which industry activities should be treated as "EITE" based on their energy intensity, emissions intensity and/or trade exposure.

Step 1. Working Industry Classification: NAICS

- > U.S., Canada and California identified EITE industries based on "NAICS" code.
- > NAICS codes refer to the North American Industry Classification System (NAICS), a list of industry definitions maintained by the U.S. Census Bureau.
- > EITE subsectors have historically been concentrated in Manufacturing and Mining, but they may include certain others such as Data Centers.
- > Where operating under an "EITE subsector" is expected to convey a benefit, the NAICS code claimed by a business for an operating location should include government assignment or validation.



Step 2a. Working Definition: Energy Intensity

> Energy Intensity is the ratio of an industry's *energy consumption* relative to its *size*, or economic activity.

- The numerator contains the proxy for the amount of **energy used**, which has been represented by:
 - Cost of Electricity + Cost of Fuel. (US)
- The denominator contains the proxy for amount of **economic activity**, which has been represented by:
 - Value of Shipments (US)
- **Working formula for assessing energy intensity*:**

$$\frac{\$ \text{ Cost of Electricity } + \$ \text{ Cost of Fuel }}{\$ \text{ Value of Shipments, Sales or Revenue}^*} = \% \text{ Energy Intensity}$$

**Value of shipments" refers to the data collected by the U.S. Census Bureau for "Sales, Value of Shipments or Revenues." In the case of Manufacturing and Mining, this tends to be value of shipments. Among the jurisdictions reviewed, the US is the only jurisdiction that defined and relied on "Energy Intensity" in addition to Emissions Intensity.*

Step 2b. Working Definition: Emissions Intensity

- > **Emissions Intensity is the ratio of an industry's *emissions produced* relative to its *size*, or economic activity.**
 - The numerator contains the proxy for the amount of **emissions**, which appears to have been represented by:
 - Emissions (Australia, California) or Emissions x \$ Social Cost of Carbon* (US, Canada, EU)
 - The denominator contains the proxy for amount of **economic activity**, which appears to have been represented by:
 - Value of Shipments* (ACES), Revenue / Value Added (Australia, California), Gross Value Added (Canada, EU)
 - **Working formula for assessing emissions intensity*:**

$$\frac{\text{Emissions (tCO2e)}}{\text{\$ Value of Shipments, Sales or Revenues*}} = \text{tCO2e Emissions Intensity per \$ Million of Shipments}$$

The U.S. Census Bureau reports data for individual industries under the field of "Sales, Value of Shipments or Revenues." In the case of Manufacturing and Mining, data tends to be value of shipments.

***Pending a finalized rulemaking on the social cost of carbon, and on how and whether that cost is applied to industrial emissions, New York State may wish to incorporate such a figure into its emissions intensity formula.*

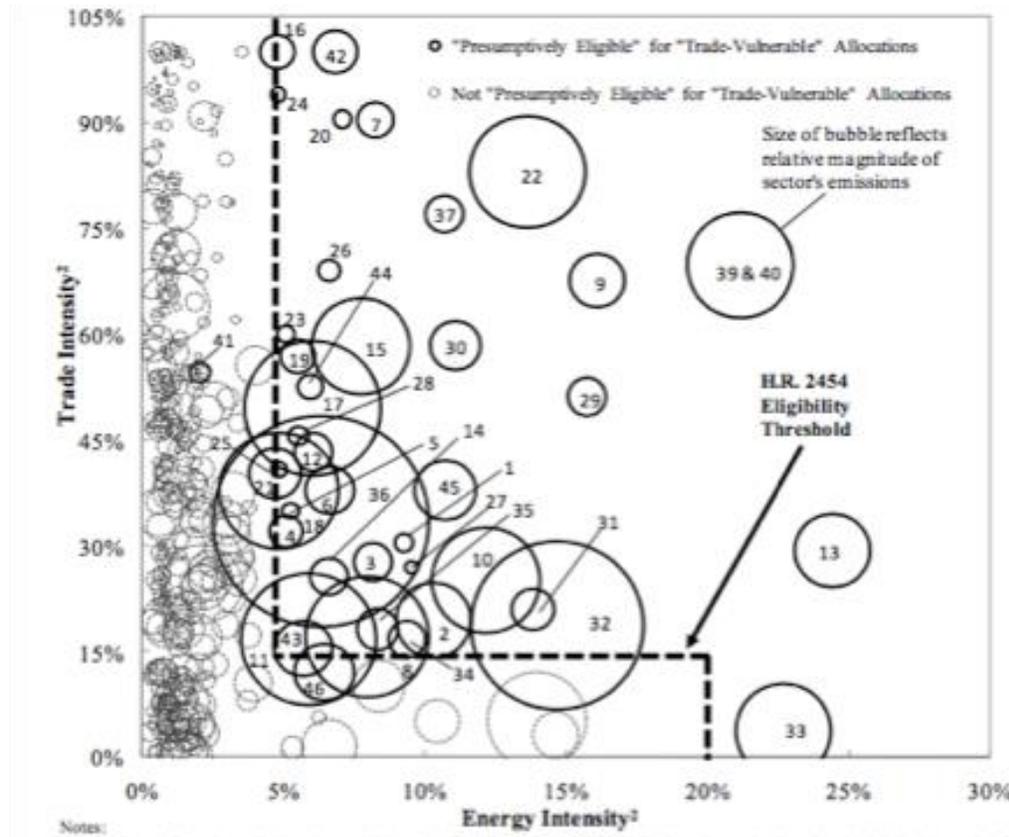
Step 2c. Working Definition: Trade Exposure

- > Trade Exposure is the ratio of an industry's cross-border *trade activity* relative to its total market *size*.
 - The numerator contains the proxy for the measurement of **trade**, as always represented by:
 - Imports + Exports (US, Australia, California, Canada, EU)
 - The denominator contains the proxy for total market size, which has been represented by:
 - Value of Shipments + Imports (US, California)
 - Sales + Imports (Canada)
 - Domestic Production (Australia)
 - Total Value of Turnover + Imports (EU)
 - Working formula for assessing trade exposure:

$$\frac{\$ \text{ Imports } + \$ \text{ Exports}}{\$ \text{ Value of Shipments, Sales or Revenues } + \$ \text{ Imports}} = \% \text{ Trade Exposure}$$

The U.S. Census Bureau reports data for individual industries under the field of "Sales, Value of Shipments or Revenues." In the case of Manufacturing and Mining, data tends to be value of shipments.

Preview: Defining EITE – Steps 3-4: Set Thresholds and Assess Which Industries Qualify as EITE



Source: Energy Intensity, Trade Intensity, and Emissions of U.S. Manufacturing Sectors at the Six-Digit NAICS Code Level, Federal Interagency Report on International Competitiveness and Emission Leakage in Energy-Intensive Trade-Exposed Industries, Figure 2, p. 11 (December 2, 2009).

U.S. ACES Example:

Industries generally qualified as EITE if they met at least one of two tests:

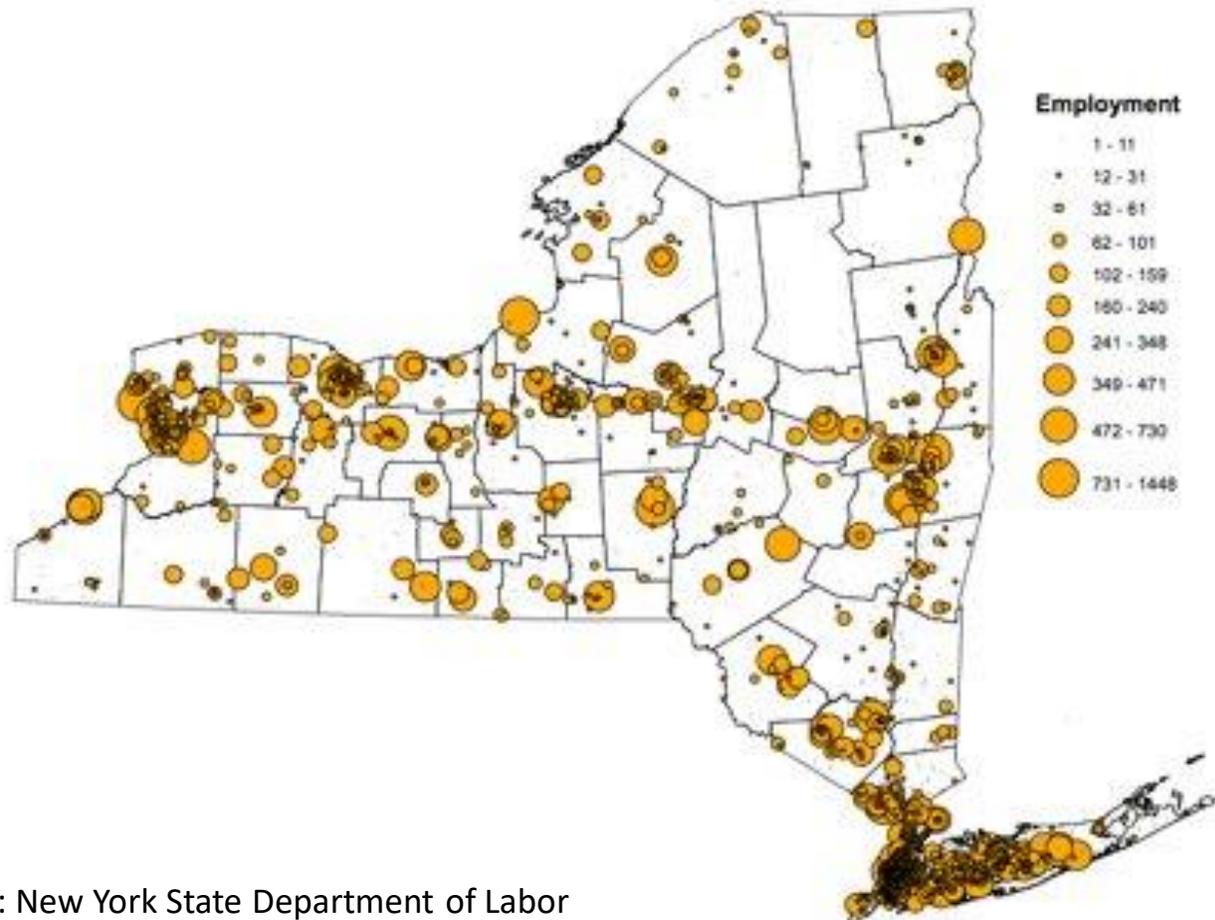
- >5% Energy or Emissions Intensity; AND >15% Trade-Exposed; OR
- >20% Energy or Emissions Intensity

Select EITE Sectors Under Definition

- Aluminum Production
- Cement Manufacturing
- Chemical Manufacturing
- Glass Manufacturing
- Iron, Copper and Nickel Ore Mining
- Iron and Steel Mills
- Paper, Pulp & Newsprint Mills
- Semiconductor Manufacturing

DRAFT AND PRELIMINARY

Preview: EITE Subsectors Likely Span the State



Source: New York State Department of Labor

Notes: Includes NAICS codes classified as EITE either under U.S. or CA approach

EITE Example:

- Applying the NAICS codes classified as EITE under prior U.S./California definitions produces this map.
- Over 2,400 Business Locations in EITE sectors
- Just under 100,000 Jobs in EITE Sectors
 - Almost 70,000 Upstate
 - Over 30,000 Downstate
- Top EITE Sectors (by employment)
 - Pharmaceutical preparation manufacturing
 - Commercial bakeries
 - Fluid milk manufacturing
 - Paper, except newsprint, mills

DRAFT AND PRELIMINARY - ILLUSTRATIVE ONLY

Next Steps: Review Industry Data to Establish Working Thresholds and Identify EITE Subsectors

- > Staff will assess industry data to determine which subsectors would qualify as energy intensive, emissions intensive, and/or trade exposed based on different thresholds.
- > Thresholds for qualifying will be proposed (and/or tiered) based on results.
- > Industries will be preliminarily identified as “EITE” if they exceed proposed thresholds.
- > Certain industries may require additional assessment or alternative procedures (e.g., appeal process, alternative qualification criteria) where data is not available or where traditional metrics may be lacking (e.g., assessing interstate trade exposure).

Leakage

Emissions Leakage

*Presentation to the Just
Transition Working Group*

Nov. 17, 2020

ASST. Prof. Greg Dotson
University of Oregon School of Law



Overview

- What is Leakage?
- Leakage v. Competitiveness
- How did Congress Propose to Handle Leakage in 2009?
- What Relevant Developments have Happened Since then?

What is Leakage?

- “Leakage” occurs when there is an increase in greenhouse gas emissions in one jurisdiction as a result of an emissions reduction in another jurisdiction.
- Leakage can occur when economic activity that emits greenhouse gases relocates from a jurisdiction that has adopted climate change mitigation policies to another jurisdiction that has not.
- Leakage could have undesirable environmental, economic, and political effects.

How Can Leakage Occur?

- Most often discussed as occurring between nations
- Could occur from market effects of internationally-traded fossil fuels
- Could occur between a covered sector and an uncovered sector.
- Could occur between two states with differing regulatory approaches.

How Much of a Problem is Leakage?

- Empirical studies of European cap-and-trade and carbon tax effects have not found leakage to have occurred on a significant scale (World Bank, 2015).
- Theoretical “ex ante” modeling analyses suggest a wide range of potential leakage rates indicating large uncertainty (World Bank, 2015).
- A review of literature: most studies project less than 10% leakage, many project less than 5% leakage (Aldy, 2017).

Why Focus on “Leakage” Instead of “Competitiveness”?

- The World Trade Organization has indicated that some state clean energy policies designed to incentivize local renewable energy manufacturing and generation may be inconsistent with the U.S. obligations under the General Agreement on Tariffs and Trade (GATT).
 - *World Trade Organization, United States – Certain Measures Relating to the Renewable Energy Sector, Report of the Panel, WT/DS510/R, June 27, 2019.*

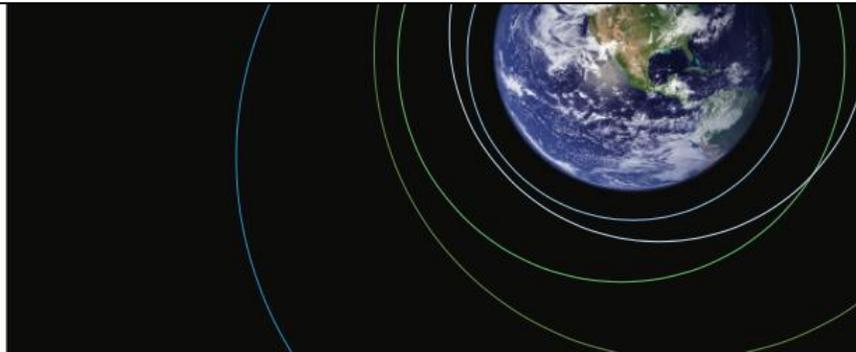
WTO: State and Local Measures at Issue

- State and local policies adopted in Washington, California, Montana, Massachusetts, Connecticut, Michigan, Delaware and Minnesota were challenged.
- Commonalities: Incentives relating to energy that are increased if achieved with products manufactured in state.
- The WTO Panel found that all of the measures at issue are inconsistent with Article III:4 of the GATT 1994 because they provide an advantage for the use of domestic products, which amounts to less favorable treatment for like imported products.

U.S. Climate Action Partnership A Call to Action

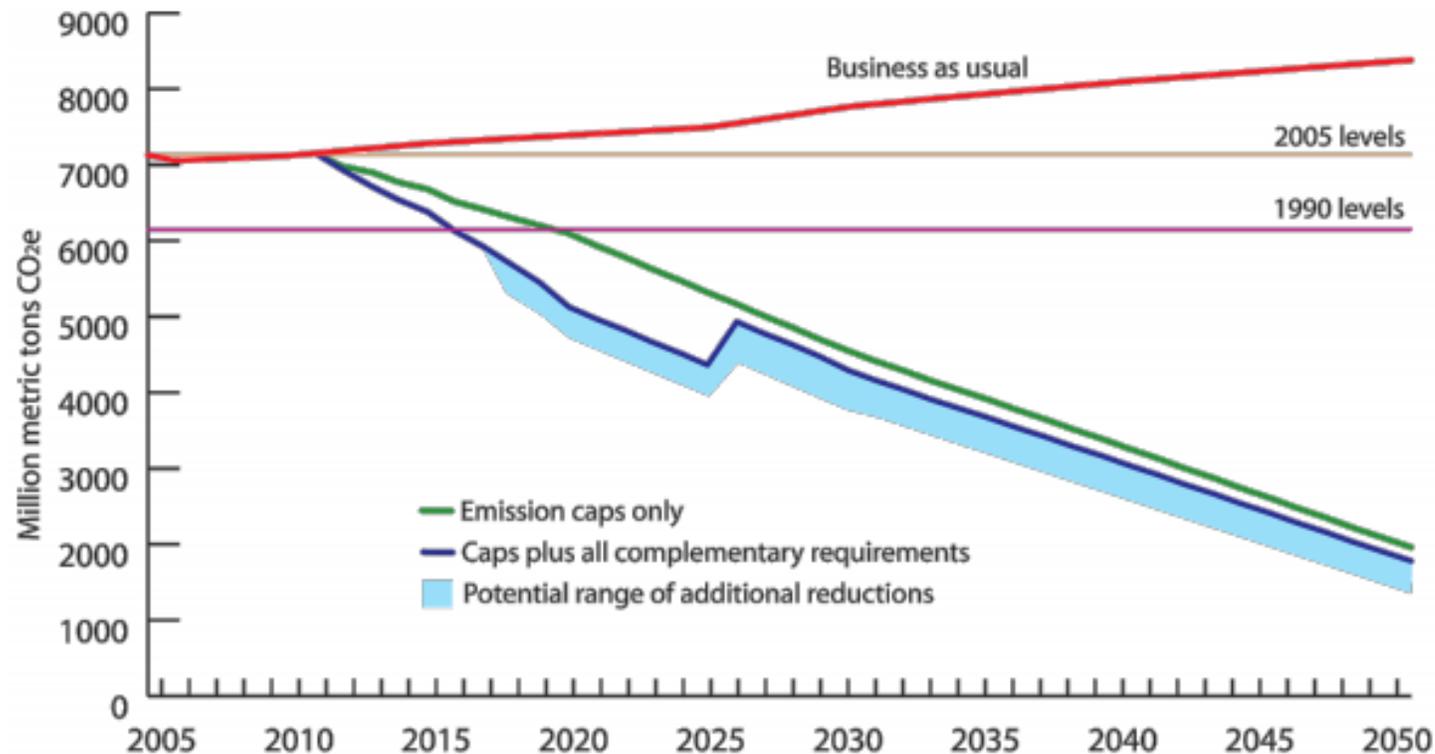


“... care should be taken that policies do not merely push emissions from U.S. facilities to overseas plants ...”



H.R. 2454, the American Clean Energy and Security Act (Waxman-Markey)

Emission Reductions Under H.R. 2454,
the American Clean Energy and Security Act, 2005-2050
May 19, 2009



WORLD RESOURCES INSTITUTE

This analysis reflects the amendment in the nature of a substitute to H.R. 2454 released on May 18, 2009. For a full discussion of underlying methodology, assumptions and references, please see <http://www.wri.org/usclimatetargets>. WRI does not endorse this proposal.

Emission Allowance Rebate Program in H.R. 2454

- Element of Overarching Cap-and-Trade Program
- Criteria to be Presumptively Eligible
 - Trade intensity of at least 15 percent, and
 - Energy intensity of at least 5 percent, or
 - Greenhouse gas intensity of at least 5 percent
- Provisions to Allow Other Industrial Sector to Participate
- Transition: 90% of allowances in 2026, declining to 0% in 2035
- Petroleum Refining Excluded

Interagency Report on EITEs, Dec. 2009

Figure 1. Energy Intensity of U.S. Manufacturing Sectors in 2007

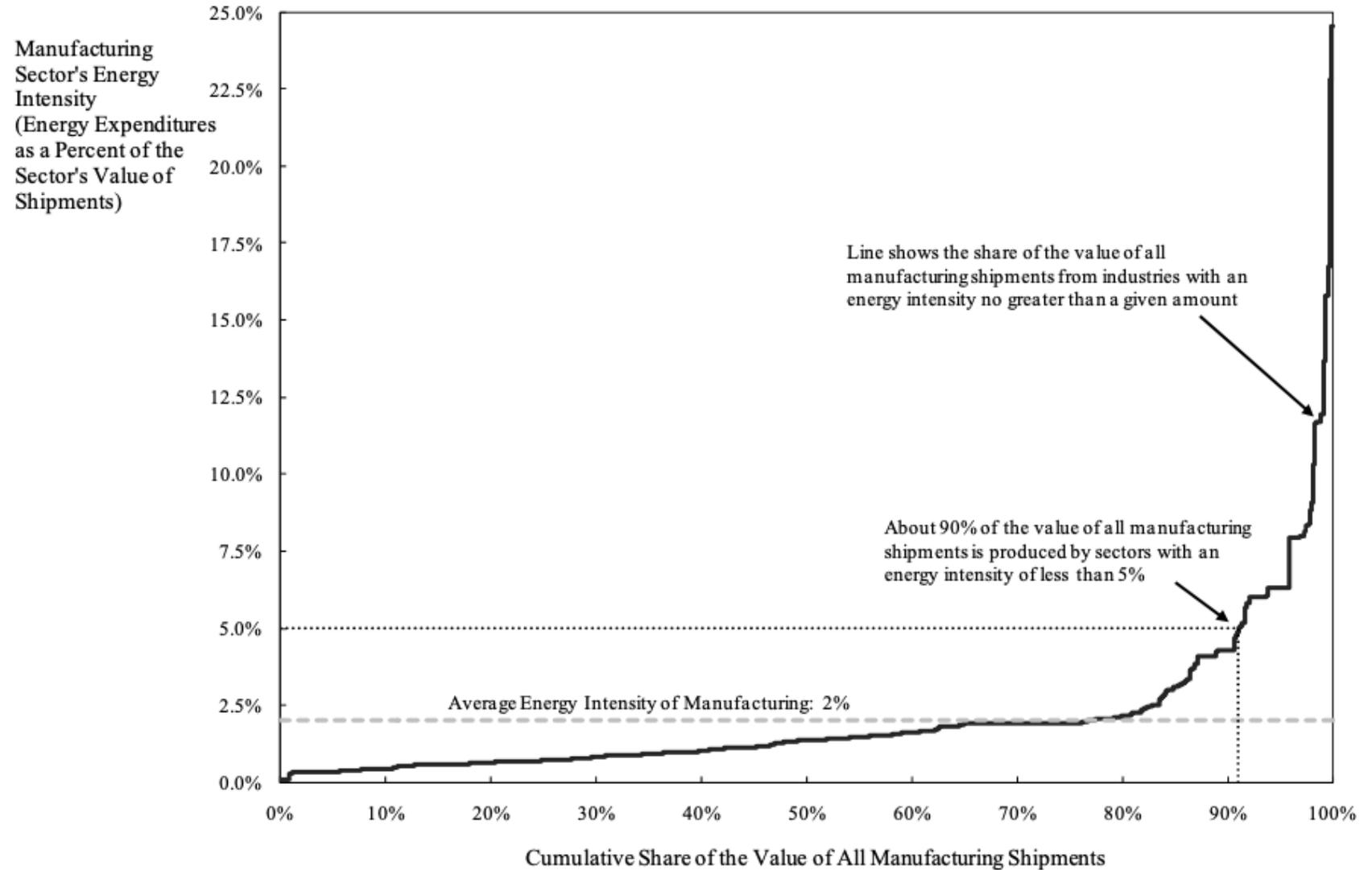
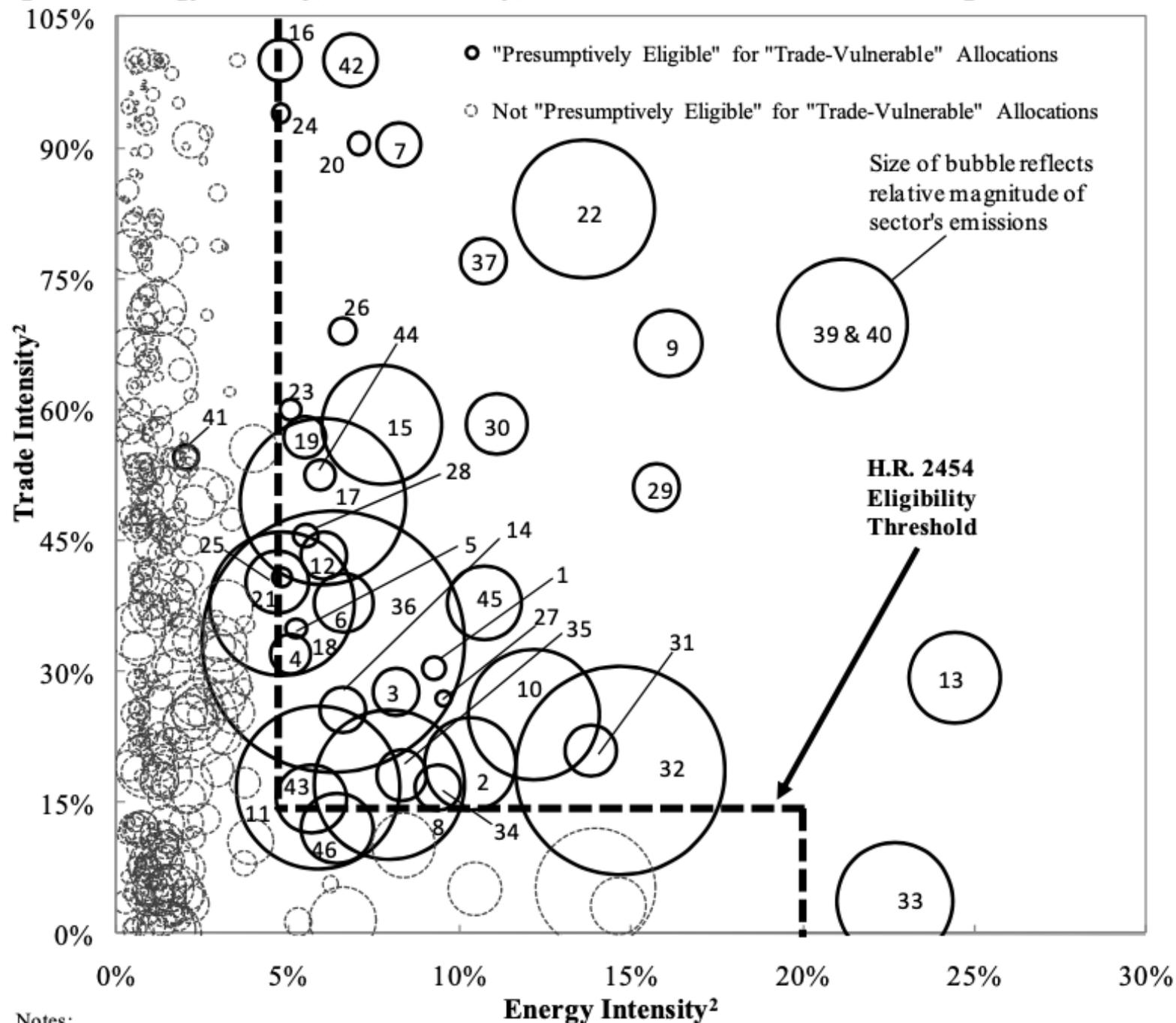


Figure 2. Energy Intensity, Trade Intensity, and Emissions of U.S. Manufacturing Sectors at the Six-Digit NAICS Code Level¹



1. Malt Manufacturing (31 1213)
2. Wet Corn Milling (31 1221)
3. Rendering and Meat Byproduct Processing (31 1613)
4. Yarn Spinning Mills (31 3111)
5. Tire Cord and Tire Fabric Mills (31 4992)
6. Reconstituted Wood Product Manufacturing (32 1219)
7. Pulp Mills (32 2110)
8. Paper (except Newsprint) Mills (32 2121)
9. Newsprint Mills (32 2122)
10. Paperboard Mills (32 2130)
11. Petrochemical Manufacturing (32 5110)
12. Inorganic Dye and Pigment Manufacturing (32 5131)
13. Alkalies and Chlorine Manufacturing (32 5181)
14. Carbon Black Manufacturing (32 5182)
15. All Other Basic Inorganic Chemical Mfg. (32 5188)
16. Cyclic Crude and Intermediate Manufacturing (32 5192)
17. All Other Basic Organic Chemical Mfg. (32 5199)
18. Plastics Material and Resin Manufacturing (32 5211)
19. Synthetic Rubber Manufacturing (32 5212)
20. Cellulosic Organic Fiber Manufacturing (32 5221)
21. Noncellulosic Organic Fiber Manufacturing (32 5222)
22. Nitrogenous Fertilizer Manufacturing (32 5311)
23. Vitr. China Plumbing Fixture and Other Mfg. (32 7111)
24. Vitreous China and Other Pottery Mfg. (32 7112)
25. Porcelain Electrical Supply Manufacturing (32 7113)
26. Ceramic Wall and Floor Tile Manufacturing (32 7122)
27. Other Structural Clay Product Manufacturing (32 7123)
28. Nonclay Refractory Manufacturing (32 7125)
29. Flat Glass Manufacturing (32 7211)
30. Other Pressed/Blown Glass and Glasswr. Mfg. (32 7212)
31. Glass Container Manufacturing (32 7213)
32. Cement Manufacturing (32 7310)
33. Lime Manufacturing (32 7410)
34. Ground or Treated Mineral and Earth Mfg. (32 7992)
35. Mineral Wool Manufacturing (32 7993)
36. Iron and Steel Mills (33 1111)
37. Electrometallurgical Ferroalloy Product Mfg. (33 1112)
38. Iron/Steel Pipe/Tube Mfg. from Purchsd. Steel (33 1210)

Notes:

California has implemented anti-leakage policies

- **Electricity** -- California Independent System Operator imposes a carbon adder on imported electricity.
- **Industry** -- Output-based free allocation of allowances to a facility based on the facility's output and an industry-specific emission benchmark. Politically difficult and have been awarding full allowances to industry.
- **Early Assessment** -- “an effective mechanism to address concerns about competitive impacts on EITE sectors.”

Canada's Output-based Pricing System Regulations Under The Greenhouse Gas Pollution Pricing Act

- “The objective of the Regulations is to retain a price on carbon pollution that creates an incentive for emissions-intensive and trade-exposed facilities to reduce emissions per unit of output, while mitigating the risk of decreased domestic production and of carbon leakage to other jurisdictions.”
- Covered facilities compensate for greenhouse gas (GHG) emissions that exceed an annual facility emissions limit. This creates an ongoing financial incentive for facilities to reduce their emission intensity.
- Goes into effect this year.

A Note on Output-Based Systems Without a Cap-and-Trade Program

- Compliance is determined with the formula:

$$\frac{\text{Emissions}}{\text{Output}}$$

- Creates financial incentive, but two ways to reduce emissions: reduce emissions or increase output

European Union's Approach to Leakage

- In Sept. 2019, European Commission charged with developing carbon border adjustment mechanism (CBAM).
- In October 2020, the EU Parliament expresses support for proposing a CBAM in 2021 “compatible with World Trade Organization rules as well as the 2015 Paris Agreement on climate change.”
- CBAM would go into effect in 2023 and apply to the power sector and energy-intensive industrial sectors such as cement, steel, chemicals and fertilizers.
- EU Parliament: “this mechanism should serve to better address GHG emissions embedded in international trade, thereby incentivizing climate action both within the Union and by our trading partners, and not as an instrument for protectionism.”

House Select Committee on the Climate Crisis

Staff Report Recommendation, June 2020:

“Congress should establish performance standards to guarantee emissions reductions from industrial facilities and pair them with border adjustment mechanisms to level the playing field with foreign goods made with higher-polluting processes.”

Questions and Discussion

Other Updates

- > Jobs Study – A scoring committee convened on 11/9 and 11/11 to score/rank three proposals that were submitted. The committee selected a winning bidder. NYSERDA is in process of contracting with the winning bidder.
 - Expect a formal announcement on contractor and initial scope of work by December.
 - JTWG will be made aware of the scope in the same timeframe, in order to provide feedback

- > Power Plant Inventory and Reuse Subgroup
 - Subgroup is preparing to present at the December 3rd JTWG Meeting

Next Steps

- > Just Transition Principles – Staff are in the process of integrating JTWG Member feedback from the Nov. 4th meeting to develop an initial draft set of JT Principles. Please share any additional feedback with Kara Allen (Kara.Allen@nyserda.ny.gov)
- > Next meeting: December 3 from 1 – 3 pm
- > Please note: meeting #5 of the Climate Action Council (CAC) is next week, on Tuesday, November 24, from 2-5pm.