



GERDAU



EO-57

Development Of Carbon Reduction Strategies For Electric Power Generation Facilities
An Energy Intensive Trade Exposed Industrial's Perspective



Richmond, Virginia
February 28th 2017

Gerdau Long Steel North America

- Annual manufacturing capacity of over 12 million tons of finished steel products in North America
- Employs approximately 11,000 people in the United States and Canada (29 U.S. states and 2 Canadian provinces)
- 2015 revenue of Gerdau Long Steel North America is US\$5.0B



Gerda Long Steel North America Mill Locations



Gerdau Petersburg

PETERSBURG IS STEEL PROUD

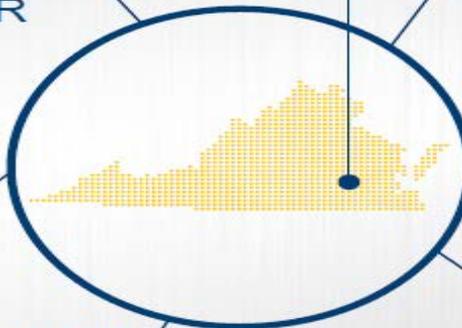
MELT SHOP CAPACITY:

1,200,000
TONS PER YEAR

ANNUAL PROPERTY TAXES:

US **\$3.44M**

Data as of 12/31/2015



TOTAL WAGES AND BENEFITS:

US **\$32M**

EMPLOYEES:

332
EMPLOYEES



1998



Production started

2007



Acquired by
Gerdau Ameristeel

Gerdau Petersburg



PRODUCTS

Structural steel produced in Petersburg is used in applications from industrial facilities and healthcare to commercial buildings and multi-family residential projects.



WF beams



H piling

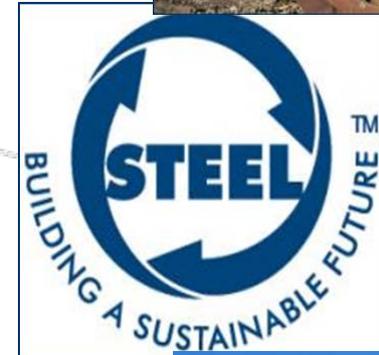


Sheet piling

Did you know? Located along the Appomattox River, Petersburg is an area rich with history, forested regions and wildlife. Of the total 1,350 acres that the Petersburg Mill occupies, 570 are green space of untouched forest areas, including a large vegetative berm.

Our Commitment to Efficiency & the Environment

- The DOE completed a study in 2012 that concluded the US steel industry is the most energy efficient globally
- Gerdau's North American steel mills produce steel using an electric arc furnace, which involves the melting and conversion of recycled steel scrap into high quality steel products
- The consumption of scrap, which would otherwise sit in landfills, makes Gerdau one of the top recyclers in the world
- Gerdau has a team of Energy and Technology specialists that drive best practices globally.



Gerdau Petersburg



SOCIAL RESPONSIBILITY

In addition to its focus on sustainability and the environment, Gerdau locations share a common goal of improving the communities where they are located. Gerdau partners with several organizations at the Petersburg Mill.

HABITAT FOR HUMANITY

THE LOCAL LITERACY COUNCIL

RED CROSS

UNITED WAY

MEALS ON WHEELS



Costs

- Modeling Virginia's Carbon Reduction Strategy should be done on multiple scenarios to achieve the lowest cost outcome for ratepayers
- Modeling should be thorough and consider:
 - the potential flow of inframarginal revenues to non-carbon emitters
 - costs of infrastructure upgrades
 - Natural gas pipelines
 - Transmission to accommodate renewables
 - Ancillary costs
 - Potentially trading allowances with other jurisdictions
 - PJM's modeling results

Leakage

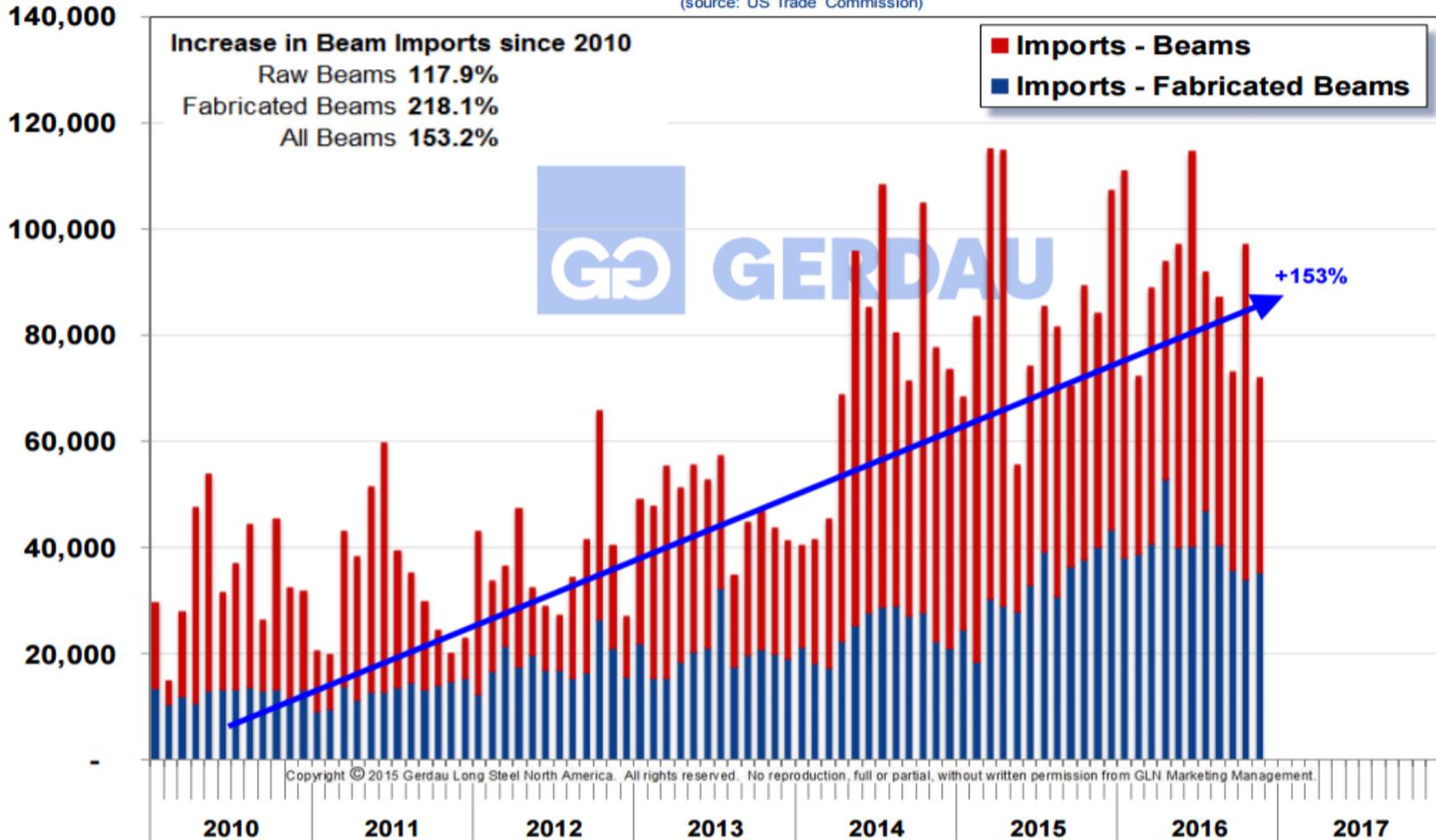
- What's missing is the discussion of leakage in the industrial sector
- Industrials that manufacture commodity type products like steel are unable to pass their costs through
- If costs are imposed on this sector that their out of state, or worse yet, off-shore competitors do not face, then leakage of emissions and jobs will occur
- This results in a lose-lose for the environment and the economy
- In the steel sector we are already seeing 30% of steel consumed in the country being imported

Leakage



US Beam & Fabricated Beam Imports January 2010 - YTD November 2016

(source: US Trade Commission)



Leakage Mitigation

- In California leakage was identified as an issue and protection for EITE industrials was implemented
 - Revenue from the auction of allowances is returned to EITE customers to offset their electricity cost increase
- American Clean Energy and Security Act of 2009 (Waxman-Markey)
 - Identified leakage was an unintended outcome for U.S. manufacturing if protection was not included for EITE's
- Duke University – Nicholas Institute recently published a Working Paper on Options for Allowance Allocation
 - Suggested States could grant allowances to EITE industry designed to offset the program cost
- Virginia Legislature 2015 – S 1349 (Wagner Bill)
 - That the General Assembly finds that.... (v) the enactments herein are intended to promote balanced environmental management and rate stability, to protect the Commonwealth's economy and its consumers of electric energy, **including those energy-intensive customers who are most vulnerable and rate sensitive....**

Preventing Leakage

Leakage protection:

- Must be in place until competing jurisdictions both on and off-shore have equivalent standards/costs
- Mitigation that equals the cost imposed on each facility

How do we mitigate Leakage in Virginia?

- If Virginia pursues a Mass-Based Approach like RGGI
 - Direct allocations of allowances to Energy Intensive Trade Exposed Companies
 - Auction allowance proceeds to EITEs
- If an IRP is directed to include Renewables
 - Utilities allocate all costs associated with GHG reduction in a Rider and exempt the EITE and vulnerable customers

Preventing Leakage

Level the playing field:

- If VA cares about reducing CO₂ emissions in the power sector, it must also look at other ways to reduce emissions
- Virginia has invested heavily in low carbon generation resources and clean energy.
- Government procurement for all infrastructure projects and tax payer funded projects should ensure that it procures the lowest Carbon Content products
- The products made by local manufacturers such as cement, steel, and glass will all have lower Carbon footprints than product from offshore.

EO 57– Recommendations

- Virginia should:
 - develop a plan that results in the lowest cost option for ratepayers
 - design a Plan that does not adversely affect local industry’s ability to compete in domestic and international markets
 - Leakage Protection must be provided for EITE industry
 - recognize that leakage will increase global emissions and negate efforts made in the State to be a global leader in climate change
 - Invoke a Green Procurement policy for all government procurement and infrastructure projects.