Addressing Carbon Leakage Concerns: Recent US Analysis

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Carbon Leakage

- What causes leakage?
  - Relative price differentials shift production of emission-intensive goods outside of climate policy area
  - Spill-over effects of reduced oil demand, which dampens world oil price, ultimately increasing demand in countries outside the policy area
- What is the problem?
  - Carbon leakage can undermine emission reductions, leading to reduced environmental benefits from policies
- Politically sensitive issue
  - Competitiveness concerns for domestic energy-intensive industries
  - Highly dependent on international climate actions

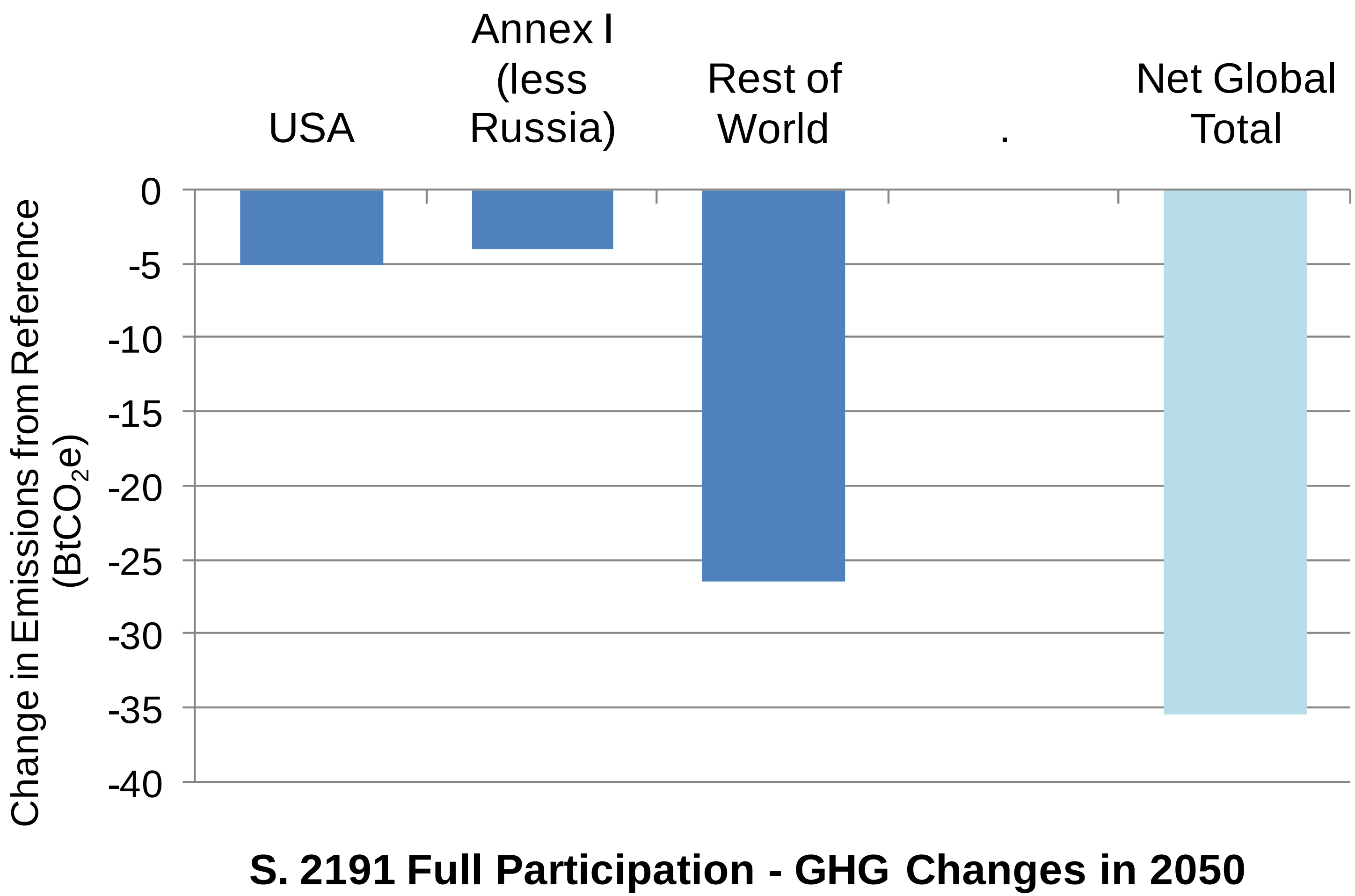
Addressing Leakage

- Mechanisms designed to address leakage
  - Global agreements or international sectoral approaches
  - 2nd best mechanisms such as border tax adjustments, or compensation to domestic emission-intensive industries
- 2nd best mechanisms may raise economic, political, and legal concerns
  - GDP impacts – higher overall economic costs
  - Implementation/data required could be complex
  - Potential political retaliation (trade wars)
  - WTO compatibility?

Recent US Analysis of Leakage and Border Taxes

- Lieberman-Warner Climate Security Act of 2007
  - Declining GHG cap for covered US sectors to reach 70% below 2005 by 2050
  - International Reserve Allowance Requirement provision aims to:
    - Control competitiveness impacts on US industries
    - Incite greater international action
- US EPA analysis of Lieberman-Warner Bill
  - Scenario with Full Participation
  - Scenario with Low International Action

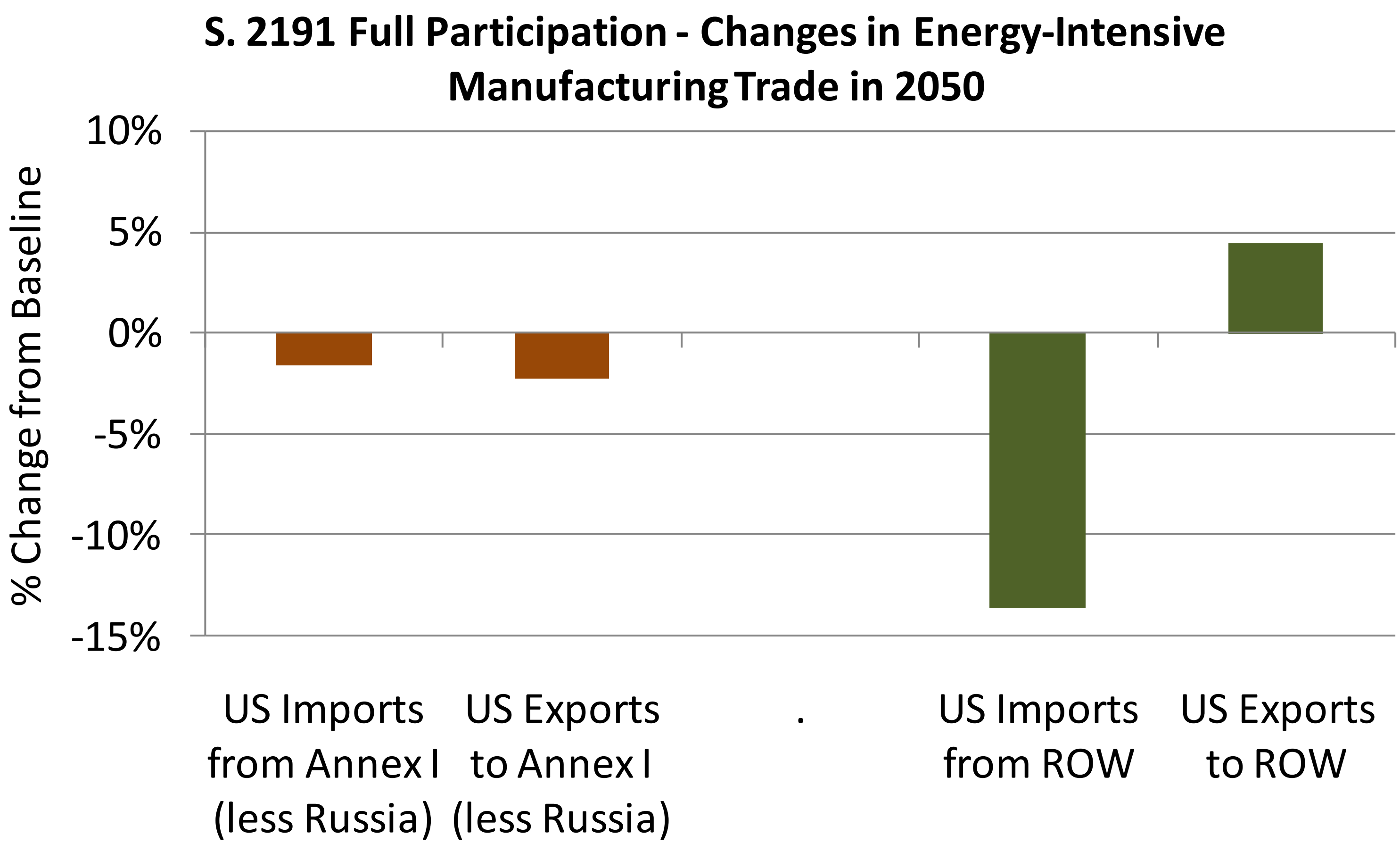
Emissions Reduction With Full Participation



No emissions leakage occurs with full international participation

Source: US EPA Analysis of S. 2191 Lieberman-Warner Climate Security Act of 2008

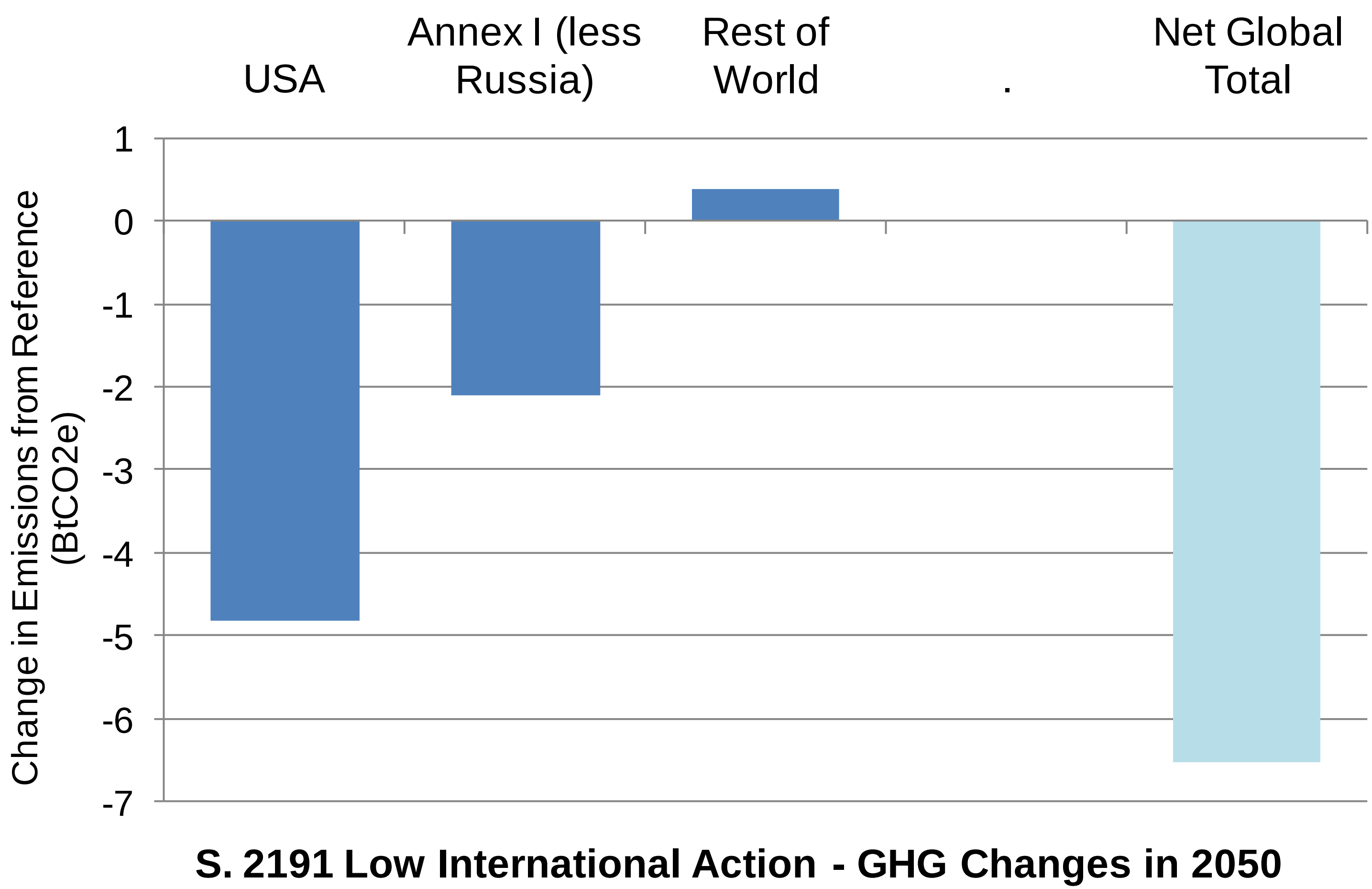
Trade Impacts With Full Participation



No need for border tax adjustment with full participation

Source: US EPA Analysis of S. 2191 Lieberman-Warner Climate Security Act of 2008

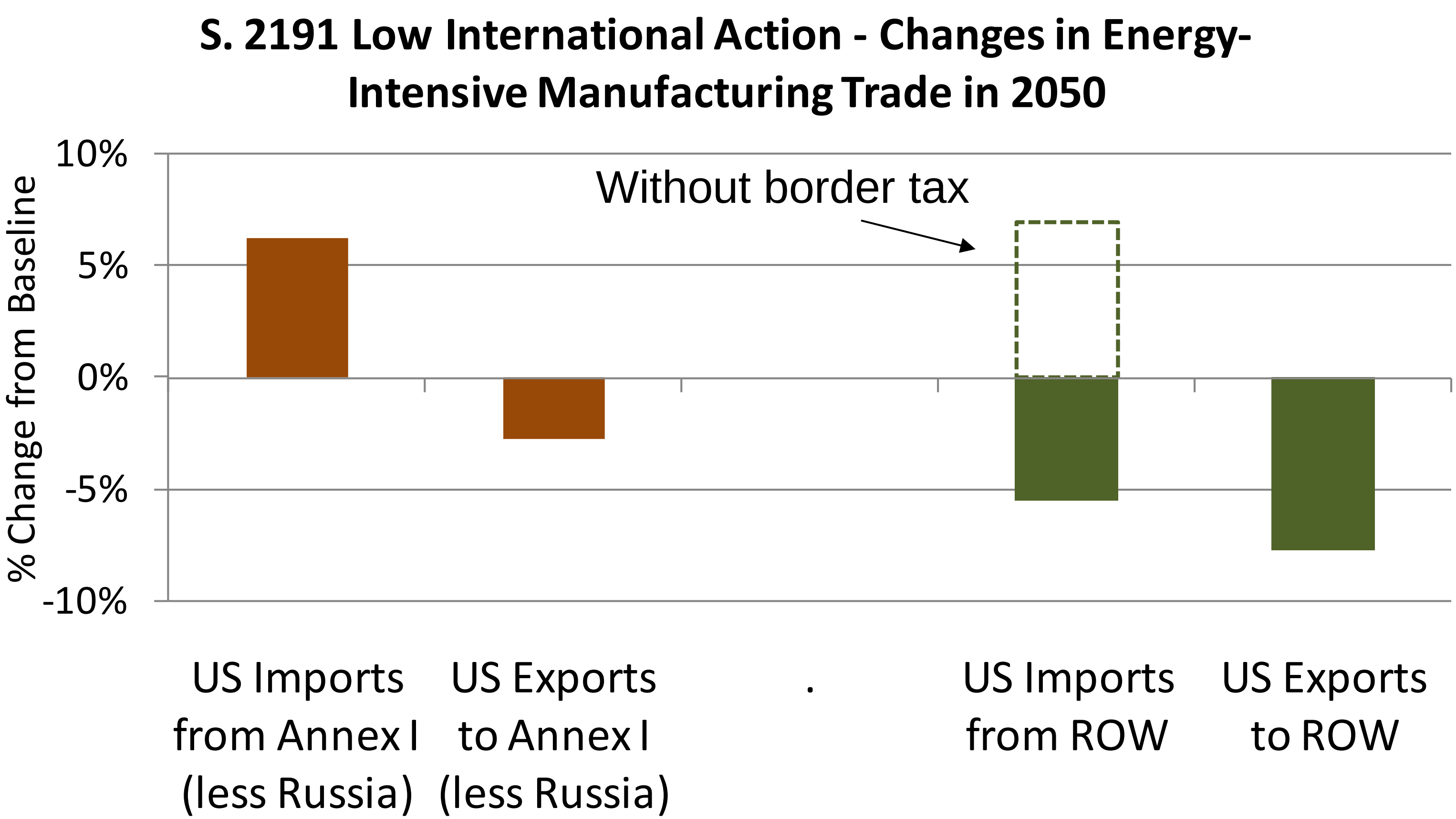
Emissions Leakage Under Low International Action



Emissions leakage occurs with low international participation, but border taxes not very effective at reducing carbon leakage

Source: US EPA Analysis of S. 2191 Lieberman-Warner Climate Security Act of 2008

Trade Leakage Under Low International Action



Border tax adjustments can control imports, but result in lower GDP in the long-run

Source: US EPA Analysis of S. 2191 Lieberman-Warner Climate Security Act of 2008

Effectiveness of Border Taxes

- With enhanced participation, leakage is not an issue.
- Border tax adjustments
  - Can potentially reduce competitiveness impacts
  - But have little impact on carbon leakage
  - And are not without a cost (GDP loss due to distortionary effect, as well as potential political, legal and implementation issues)

Going Forward

- Competitiveness and leakage will continue to be key issues.
- US Context:
  - "There must be a global response, with truly significant actions by all major economies." - Todd Stern, US Special Envoy for Climate Change
  - Congressional activity: Waxman-Markey "American Clean Energy & Security Act of 2009"

For Further Information

OECD Climate Change Work:
www.oecd.org/env/cc

US EPA Climate Economic Analyses:
www.epa.gov/climatechange/economics