



U.S. TRADE IN ENVIRONMENTAL GOODS

UPDATED REPORT

to

**MAJOR OPPORTUNITIES AND
CHALLENGES TO U.S. EXPORTS OF
ENVIRONMENTAL GOODS**

Senator Ron Wyden

December 14, 2010

Summary

U.S. Trade in Environmental Goods Updated Report, the third in a series of reports, is a continuation of my office's efforts to estimate U.S. and global trade in environmental goods.

Key highlights of this report show:

- U.S. exports of "*real*" environmental goods increased by 23 percent to \$2.3 billion in 2010 compared to 2009, while U.S. imports declined by 6 percent to \$5.5 billion, resulting in a narrowing of the U.S. trade deficit.
- Despite an overall narrowing of the U.S. trade deficit, the estimated U.S. deficit in *real* environmental goods trade with China increased by 57 percent to \$954 million in 2010 compared to 2009.
- U.S. exporters of environmental goods continue to lose market share to China in both the largest and the fastest-growing markets throughout the world.
- EU and Japanese exporters of environmental goods are also losing market share to China in most major markets in the world.
- The United States runs a trade surplus with Trans-Pacific Partnership (TPP) countries. The TPP agreement presents an opportunity to expand U.S. exports of environmental goods to the Asia-Pacific region and provide U.S. exporters an additional competitive advantage vis-à-vis China.

Introduction

Increasing U.S. production, use, and export of environmental goods can contribute to reducing greenhouse gas emissions and to creating and sustaining good-paying, American jobs. Eliminating trade barriers and unfair trade practices that discriminate against U.S.-produced environmental goods is a priority of the Obama Administration and mine.

In November 2009, I and Senators Crapo, Kerry, and Stabenow urged the Obama administration to consider pursuing a plurilateral agreement within the World Trade Organization to reduce trade barriers to environmental goods.

In December 2009, my office produced a special report entitled *Major Opportunities and Challenges to U.S. Exports of Environmental Goods*. The report showed that the global market for environmental goods was quickly growing, but that the U.S. was losing market share to China. It also identified trade barriers in fast-growing markets abroad that constrain U.S. environmental goods exports.

The December 2009 report coincided with a hearing in the Senate Committee on Finance that I chaired that put on view that the United States lacked a coherent strategy to promote U.S. exports and that environmental goods represented a segment of the economy that provides new opportunities for American producers. Following this hearing, a bipartisan majority of the Members of the Senate Committee on Finance wrote to President Obama asking him to develop a national strategy to increase U.S. exports. The president announced the *National Export Initiative* to double U.S. exports over five years at his State of the Union address on January 27, 2010.

In May 2010, my office produced a landmark follow-up report entitled *U.S. Trade in Environmental Goods*. That report was the first of its kind to estimate U.S. trade flows of “real” environmental goods, or goods that have a specific environmental purpose, contained within the broader product groupings in which these goods are classified. It has been cited extensively, and forms the basis of estimates of renewable energy exports in President Obama’s *Renewable Energy and Energy Efficiency Export Initiative*, a component of the President’s *National Export Initiative*.

In October 2010, I and 42 other Senators wrote to President Obama in strong support of the petition filed under Section 301 of the Trade Act of 1974 by the United Steel Workers in September 2010. The petition identified several alleged subsidies, market access barriers, and other market-distorting policies employed by China that severely limit U.S. export opportunities and undermine fair competition in environmental goods used in the clean energy technology sector. This 301 petition relied on *Major Opportunities and Challenges to U.S. Exports of Environmental Goods* that my office produced in 2009.

Background, Methodology, and Data Sources

Environmental goods and services cover a wide range of products and services that cut across many different industry sectors. Although there is not an internationally accepted definition, environmental goods and services are generally defined as goods and services associated with environmental protection, including those related to air, water, or soil pollution control and prevention; waste management; environmental monitoring and recycling; and renewable energy, among others. President Obama's *Renewable Energy and Energy Efficiency Export Initiative* focuses on a subset of environmental goods—equipment and services related to electricity production from renewable energy sources, as well as to the products and services used to promote energy efficiency improvements.¹

Similar to the previous two reports produced by my office, this report focuses on 43 environmental goods categories identified by the World Bank as broadly being “climate friendly.” Full-year 2010 data are estimated on first through third quarter 2010 trade data.

Two distinctions are made within this report. First, the U.S. trade balance, U.S. imports, U.S. exports of *real* environmental goods (i.e., those goods that serve a specific environmental purpose) for 2007–2010 are calculated by applying the percentage estimates for each of the 43 environmental products reported in the May 2010 report, *U.S. Trade in Environmental Goods Follow-Up Report*. Only figures 1–3 estimate trade in *real* environmental goods. The bilateral U.S. trade balance with China, including U.S. exports and imports, were calculated by applying the percentage estimates for each of the 43 environmental products on a bilateral basis. This method assumes that the percentage of *real* environmental goods contained within the broader 6-digit code levels of the Harmonized Commodity Description and Coding System (HS) for total U.S. exports or imports of environmental goods as reported in the May 2010 report is identical to the percentage of *real* environmental goods contained within the broader HS 6-digit product groups for U.S. exports to or imports from China.² In reality, the proportion of *real* environmental goods contained within the broader 6-digit HS product groups will vary country by country depending on which environmental products are manufactured in a given country.

Second, export market shares are based on trade data for the broader 43 HS 6-digit product groups. Because of the inherent difficulties of estimating bilateral trade flows of *real* environmental goods and given the paucity of available data, the report does not estimate the U.S. and China market shares of the more narrowly defined list of *real* environmental goods in global markets. Export market shares should therefore be viewed as illustrative of broad trends and potential trade patterns of environmental goods.

Trade data for the latest five-year period (2005–09) were obtained from Global Trade Information Service's Global Trade Atlas online database and from the U.S. International Trade Commission. Bound and applied tariff rates of TPP partner countries and China were obtained from the WTO's Tariff Download Facility.

¹ TPCC Working Group on Renewable Energy and Energy Efficiency, *Renewable Energy and Energy Efficiency Export Initiative*, 15, available at <http://www.export.gov>.

² Others have used a similar methodology to estimate U.S.-China bilateral trade flows of *real* environmental goods. For example, see Robert Scott, “China's Subsidies to Green Industries Lead to Growing Trade Deficits in Clean Energy Products,” October 18, 2010, available at <http://www.epi.org/publications/entry/ib287>.

U.S. Merchandise Trade Balance

The U.S. trade balance in environmental goods improved in 2010 compared to 2009, as exports increased by 23 percent while imports declined by 6 percent (figure 1). In contrast, the estimated bilateral U.S. environmental goods trade balance with China deteriorated in 2010 compared to 2009, as imports from China grew faster than exports to China (figure 2). Between 2007 and 2010, the U.S. trade deficit in environmental goods with China increased 170 percent while the U.S. trade deficit with the rest of the world declined by 30 percent (figure 3).

Figure 1. U.S. Trade Balance in Environmental Goods

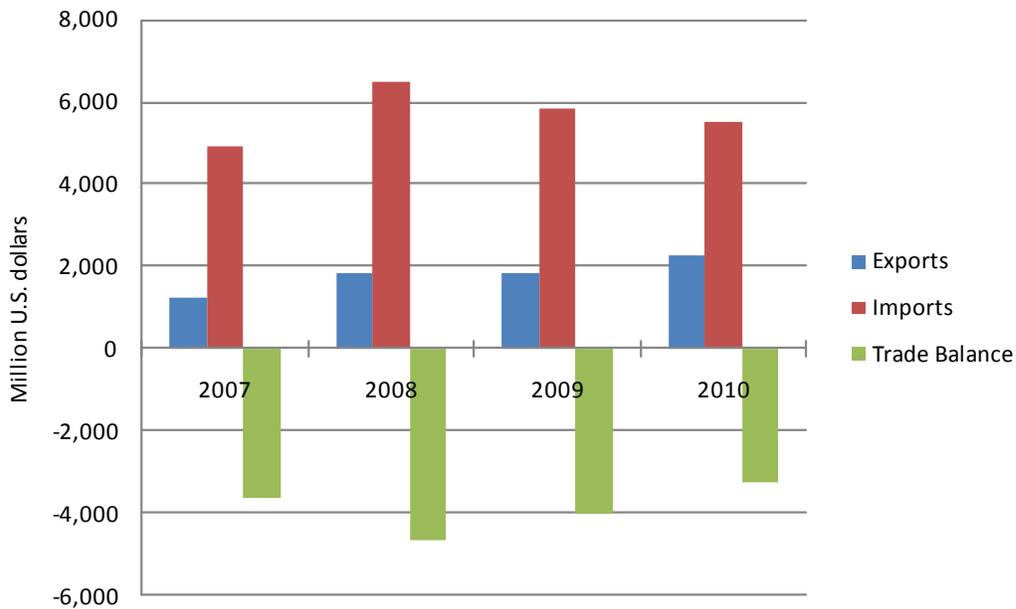
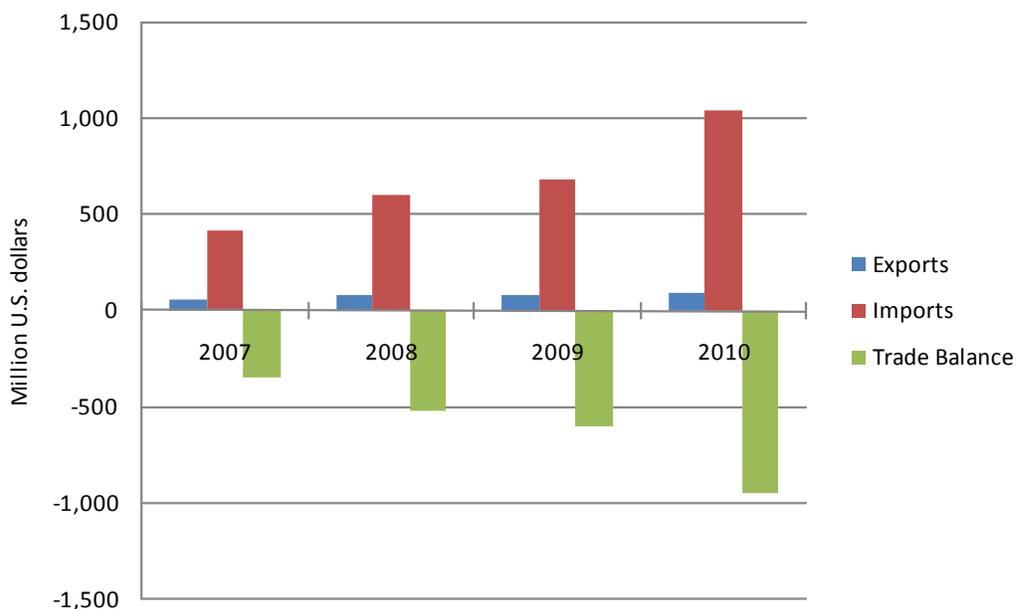
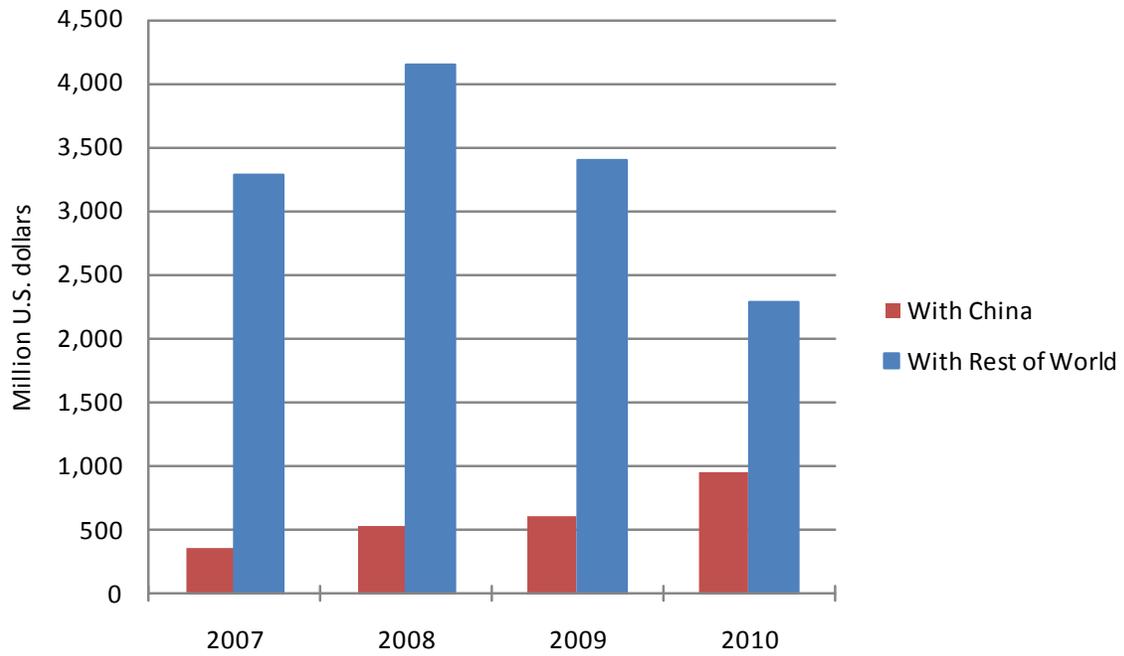


Figure 2. U.S. Trade Balance in Environmental Goods with China



U.S. Merchandise Trade Deficit

Figure 3. U.S. Trade Deficit in Environmental Goods



Export Market Shares of Environmental Goods

Between 2005 and 2009, China's exports of environmental goods increased substantially and captured a larger and growing share of the largest import markets, as well as the fastest growing markets (figure 4). During the same period, the U.S. share of exports to the same markets declined (figure 5).

Figure 4. China Export Market Shares by Largest and Fastest Growing Import Markets, 2005 and 2009

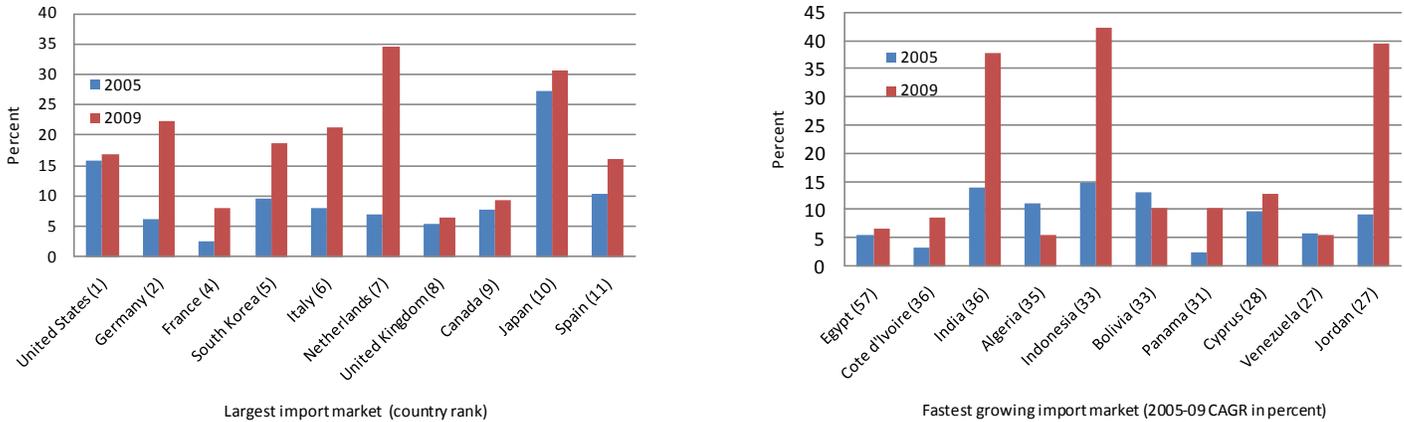
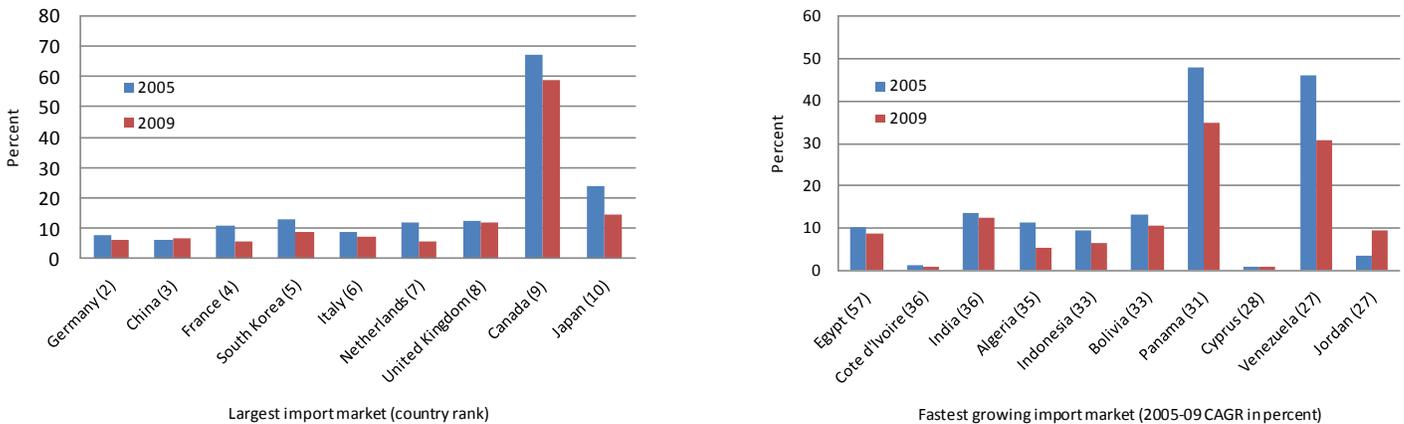


Figure 5. U.S. Export Market Shares by Largest and Fastest Growing Import Markets, 2005 and 2009



Export Market Shares of Environmental Goods (cont'd)

China's rise as a dominant producer and exporter of environmental goods coincides with not only declining U.S. export market shares, but also those of European Union (EU) member countries, collectively the largest exporter of environmental goods, and Japan, the fourth largest exporter of environmental goods after the EU, China, and the United States (figures 6 and 7). Likewise, China's regional market shares of environmental goods exports increased considerably during the 2005–09 period, and coincide with declining U.S., EU member country, and Japan export market shares in most of the top regional markets (figures 8–13).

Figure 6. EU Export Market Shares by Largest and Fastest Growing Import Markets, 2005 and 2009

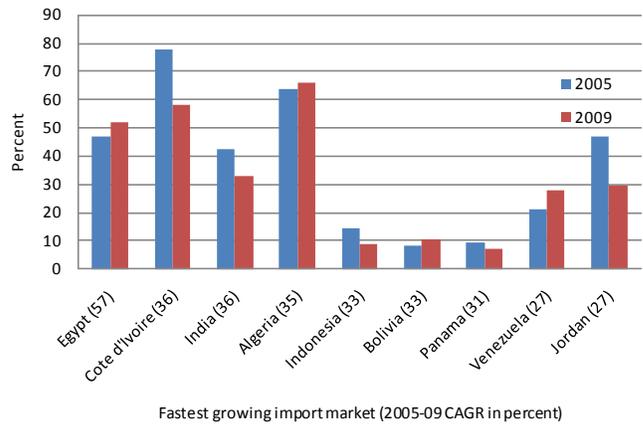
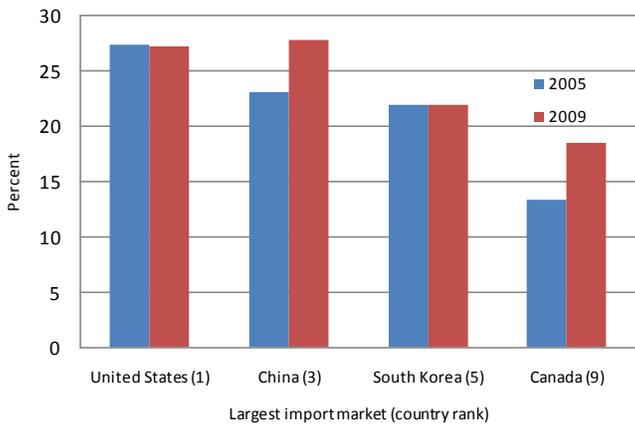
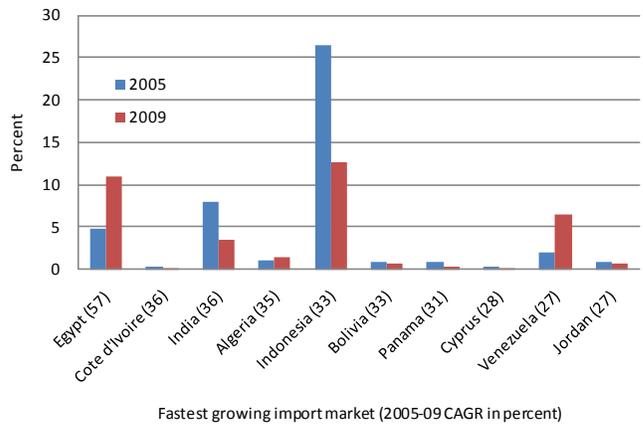
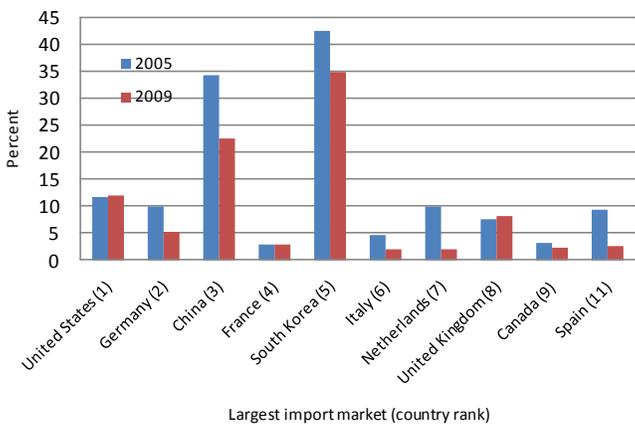


Figure 7. Japan Export Market Shares by Largest and Fastest Growing Import Markets, 2005 and 2009



Export Market Shares of Environmental Goods (cont'd)

Figure 8. Export Market Shares in Latin America

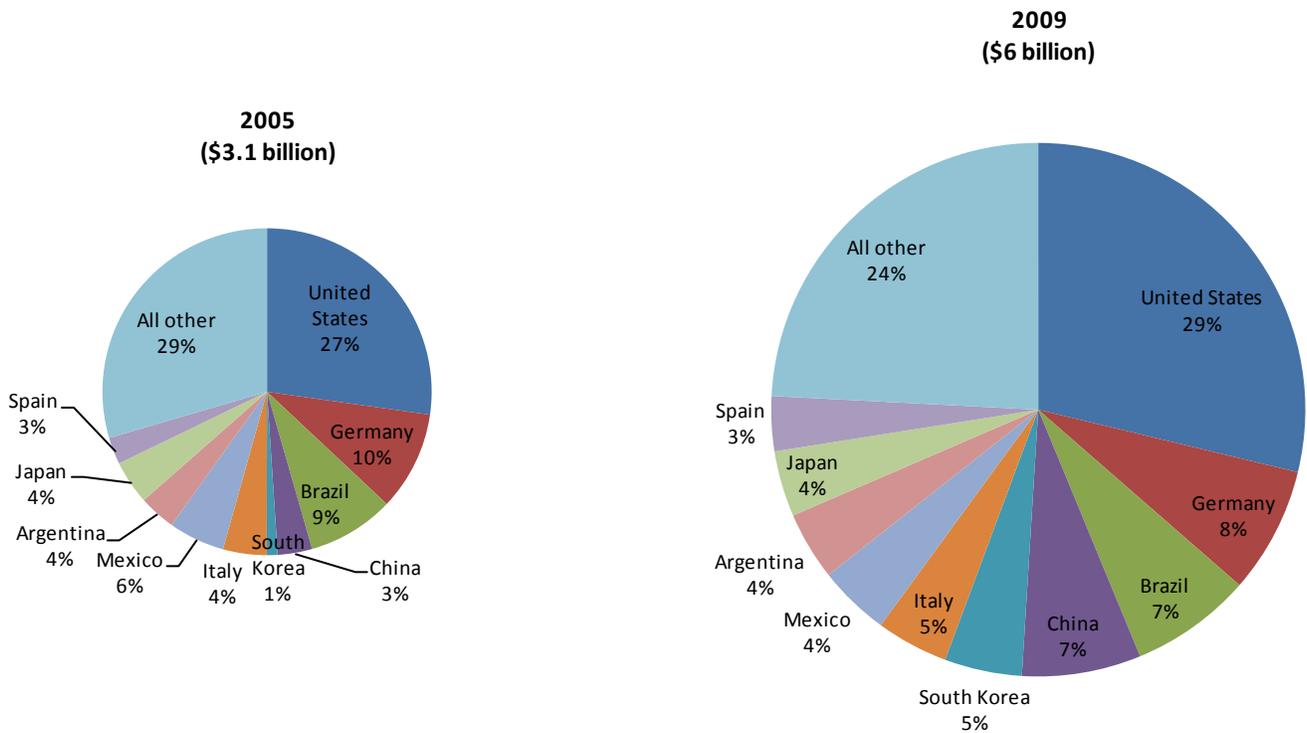
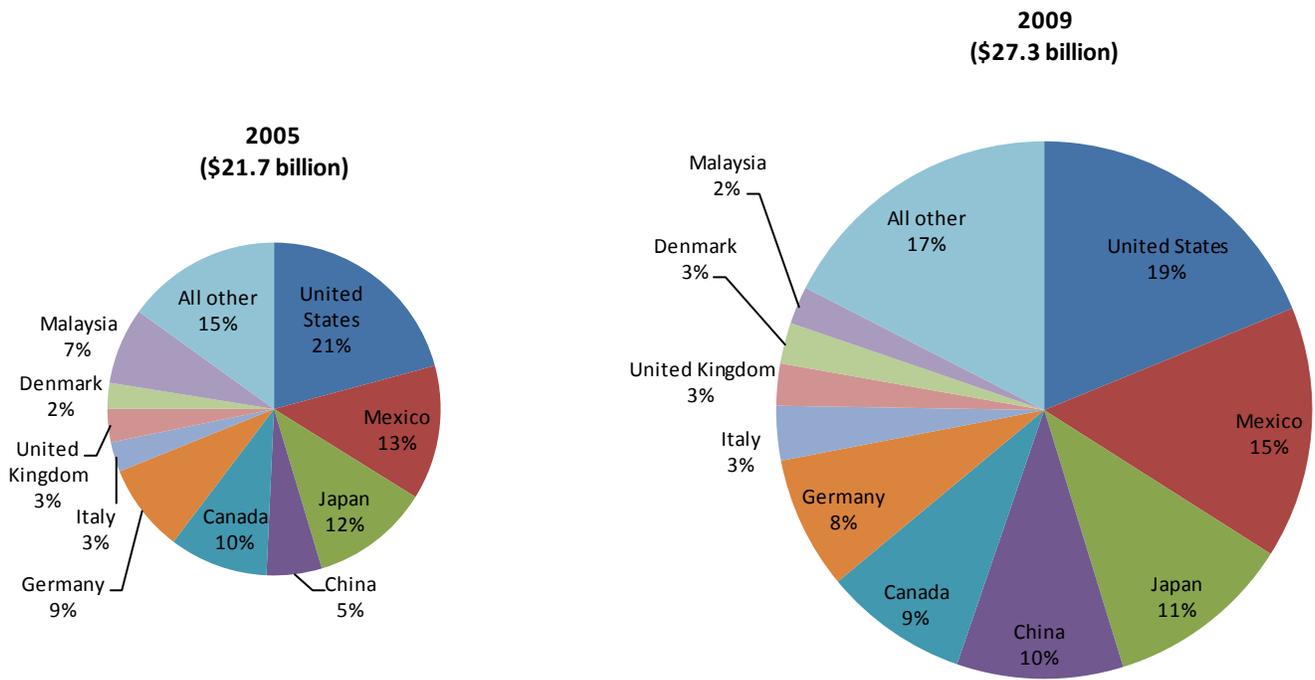


Figure 9. Export Market Shares in NAFTA partners



Export Market Shares of Environmental Goods (cont'd)

Figure 10. Export Market Shares in the Middle East

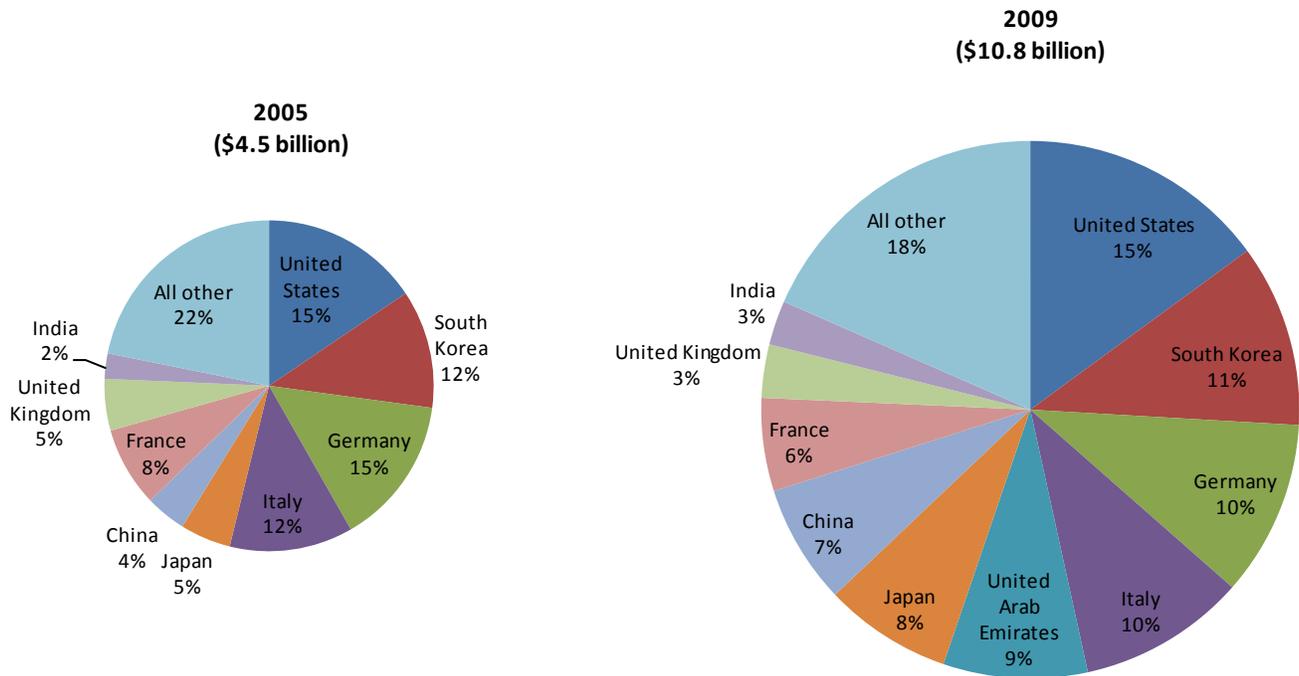
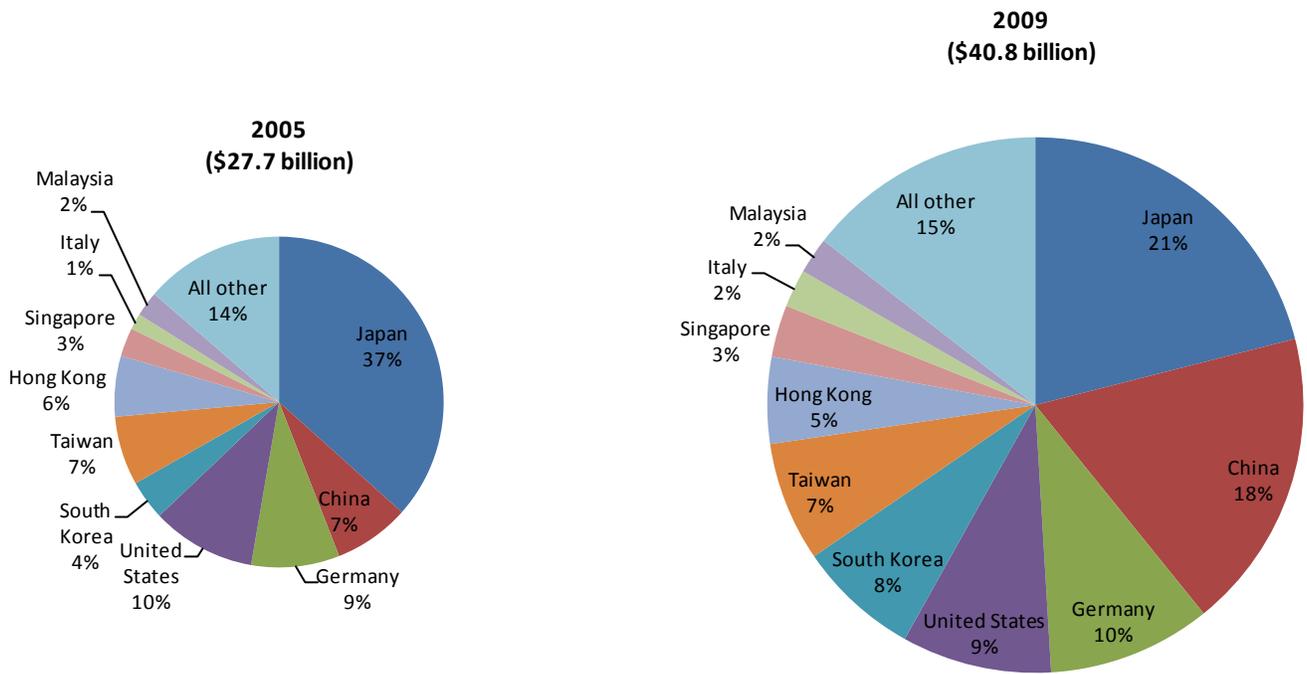


Figure 11. Export Market Shares in Asia



Export Market Shares of Environmental Goods (cont'd)

Figure 12. Export Market Shares in Africa

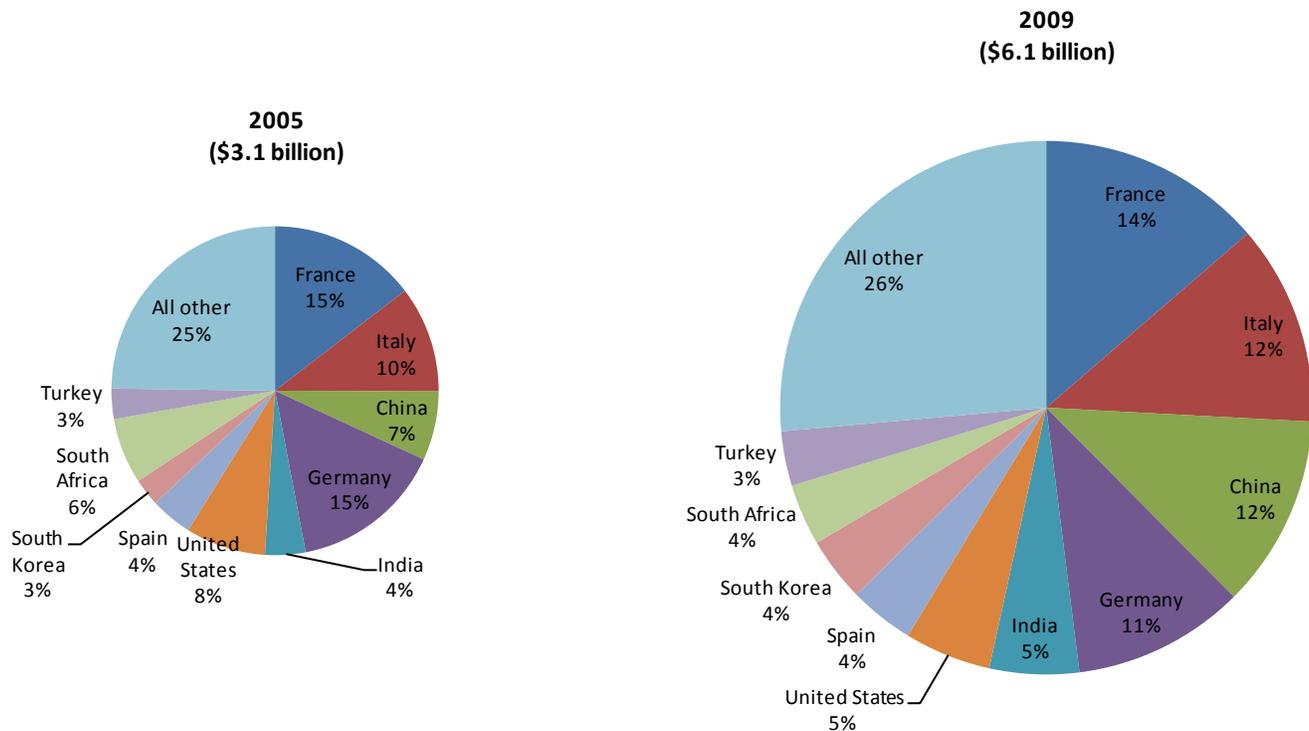
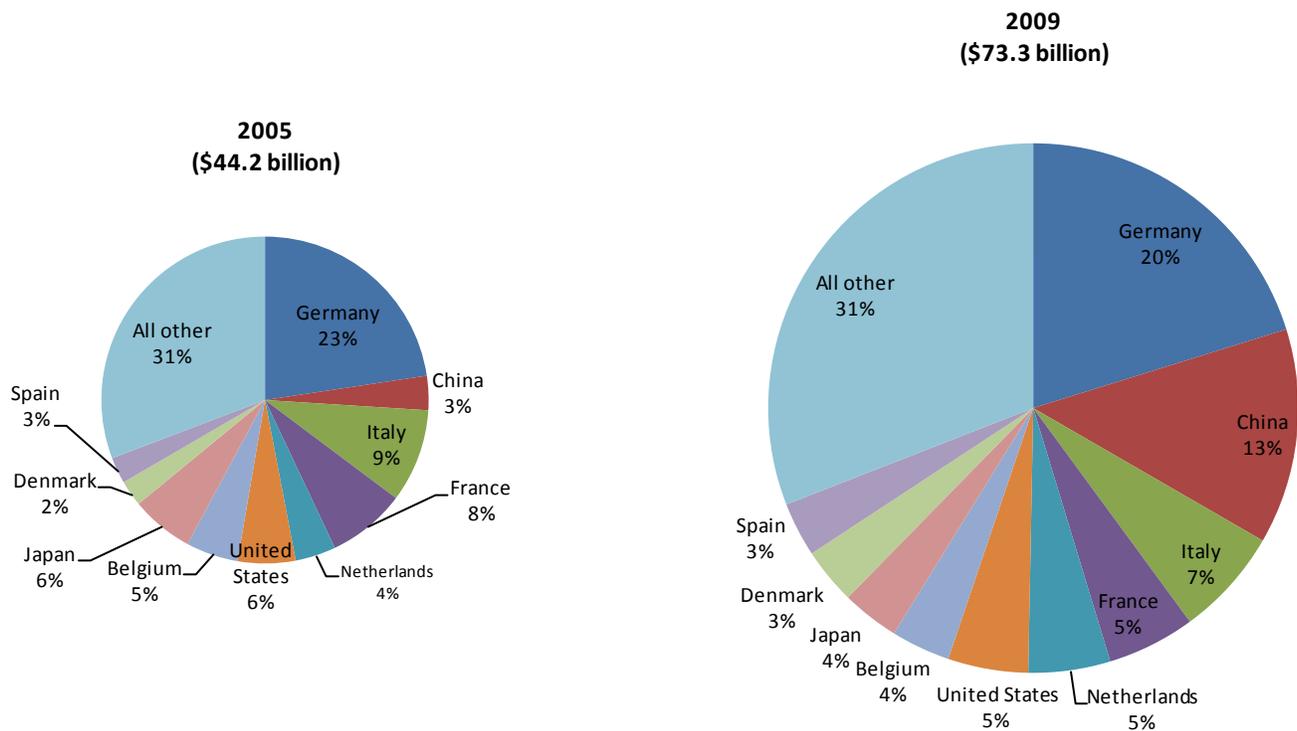


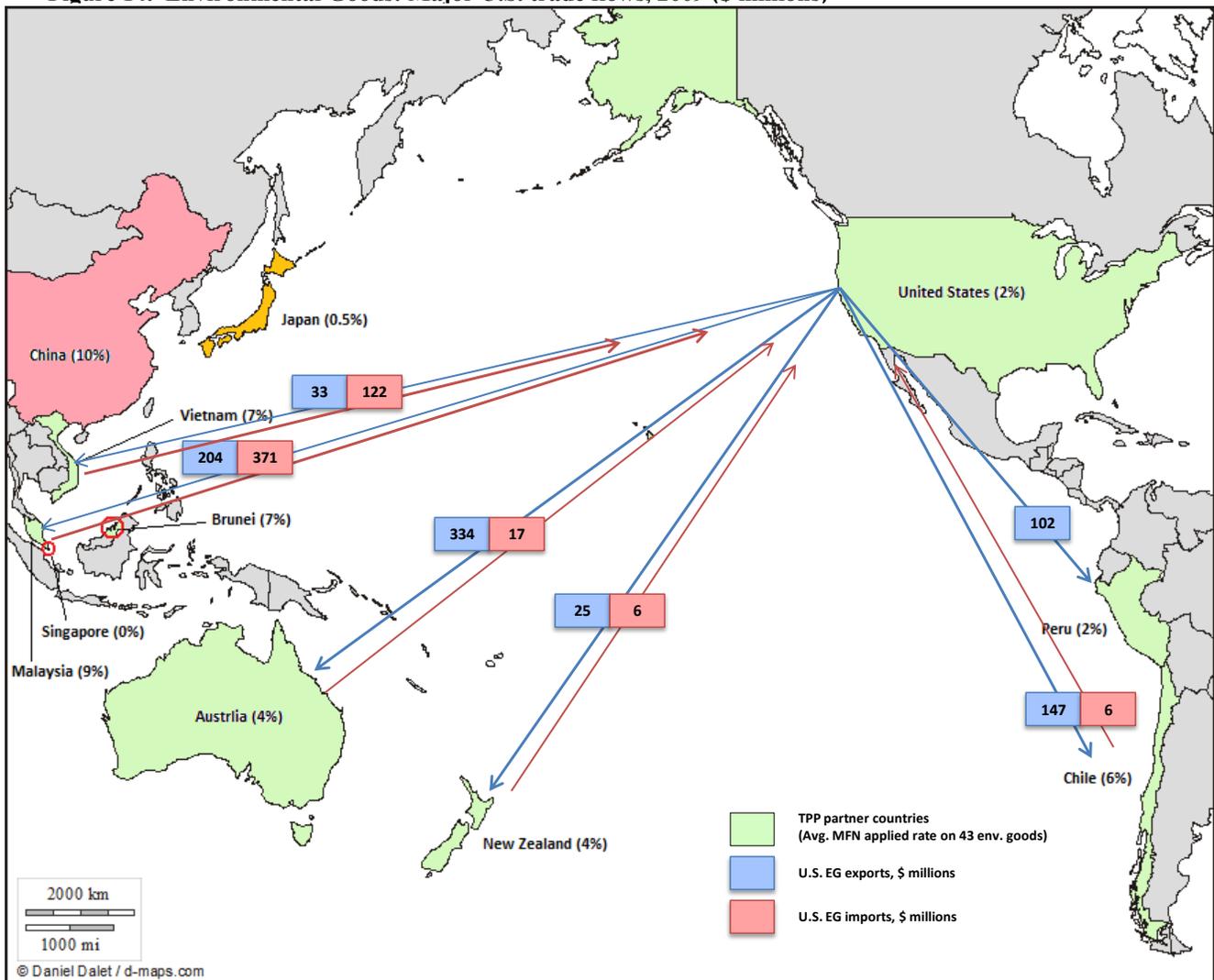
Figure 13. Export Market Shares in the EU



U.S. Export Opportunities with TPP Partner Countries

The Transpacific Partnership (TPP) agreement—a regional Asia-Pacific trade agreement being negotiated between the United States, Australia, Brunei, Chile, Malaysia, New Zealand, Peru, Singapore, and Vietnam—presents an opportunity to expand U.S. exports of environmental goods. TPP partners account for 8 percent of U.S. exports of environmental goods, and the United States runs an overall trade surplus in environmental goods with TPP countries (figure 14). Applied tariff rates average 4–9 percent in TPP partner countries with which the United States does not have a free trade agreement (Brunei, Malaysia, New Zealand, and Vietnam) (figure 15). Because of this tariff asymmetry between the United States and several TPP countries and the fact that China already enjoys relatively lower tariffs in Brunei, Malaysia, and Vietnam as a result of the Association of Southeast Asian Nations (ASEAN)-China Free Trade Area, further tariff liberalization could provide U.S. exporters greater market access and reduce China’s preferential tariff advantage in these markets. Despite these potential gains, however, U.S. export market shares in most TPP partner countries and other Asian economies continue to decline while China’s shares increase (figures 16-25).

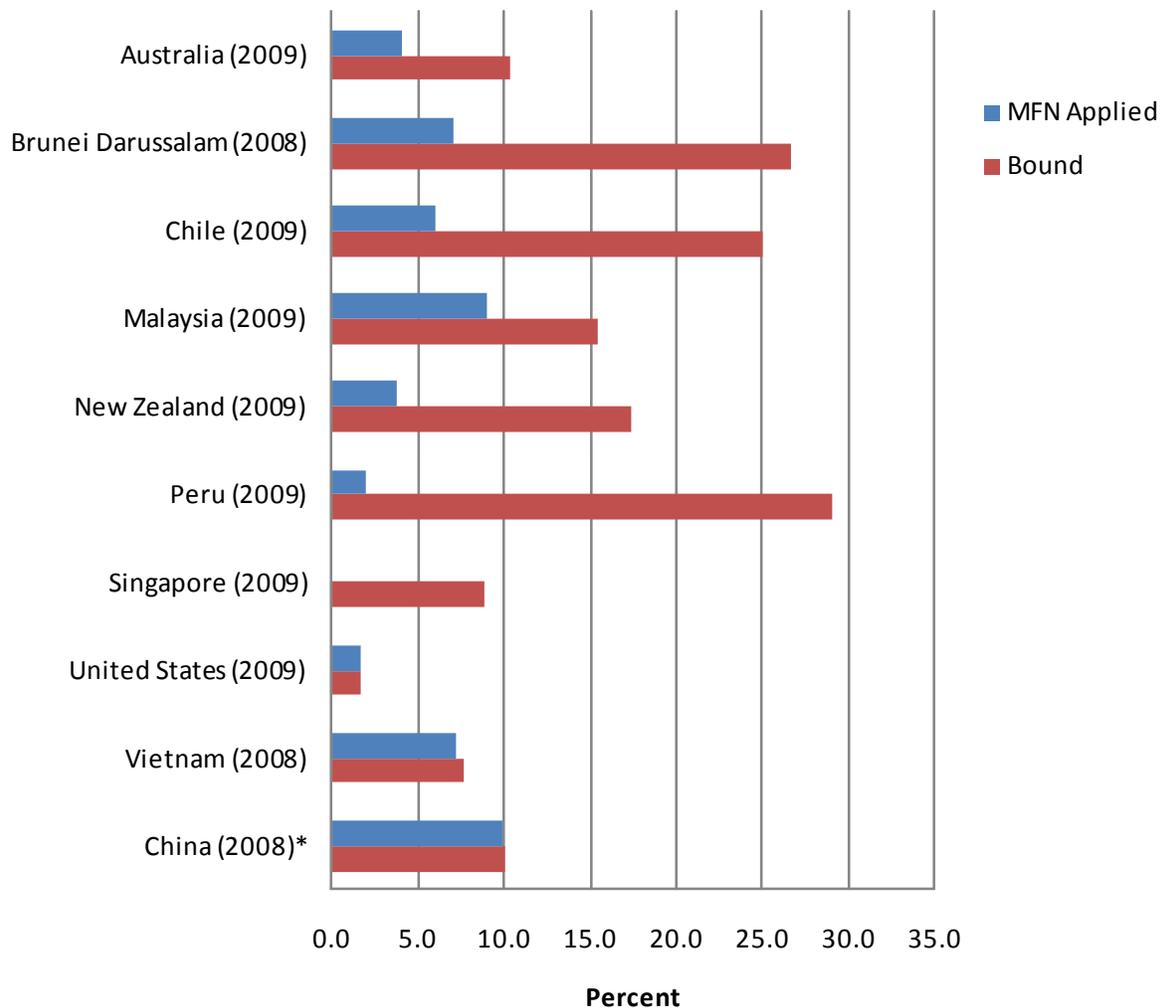
Figure 14. Environmental Goods: Major U.S. trade flows, 2009 (\$ millions)



Note.—Japan is not a TPP member country, but has expressed an interest in joining negotiations at a later date.

U.S. Export Opportunities with TPP Partner Countries (cont'd)

Figure 15. Average Tariff Rates on Environmental Goods in TPP Partner Countries, Applied and Bound



Note.—The United States has existing free trade agreements with Australia, Chile, Peru, and Singapore. As a result, tariff rates on most environmental goods are either free of duty or will become so.

* China is not a TPP country, but listed for comparison purposes only.

U.S. and China Export Market Shares in TPP Countries

Figure 16. U.S. and China Export Market Shares in TPP Partner Countries, 2005–09

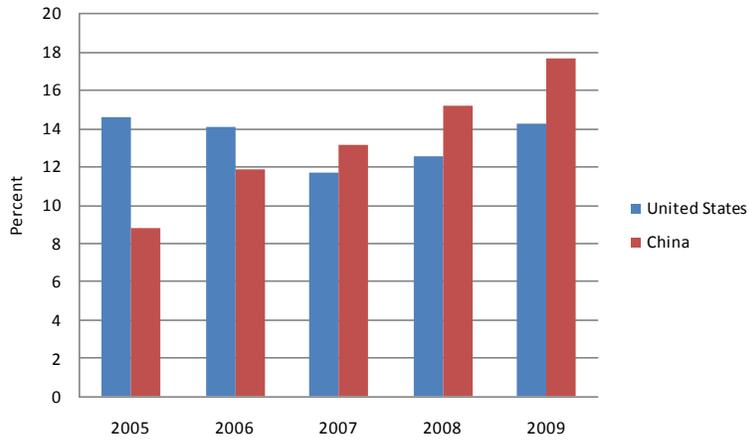


Figure 17. U.S. and China Export Market Shares in Australia, 2005–09

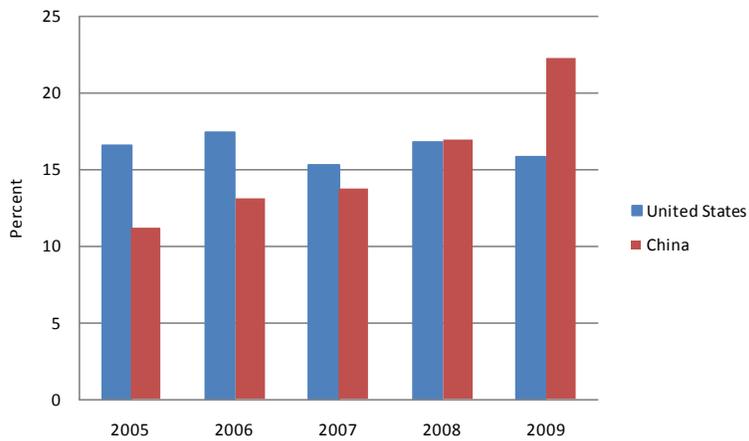
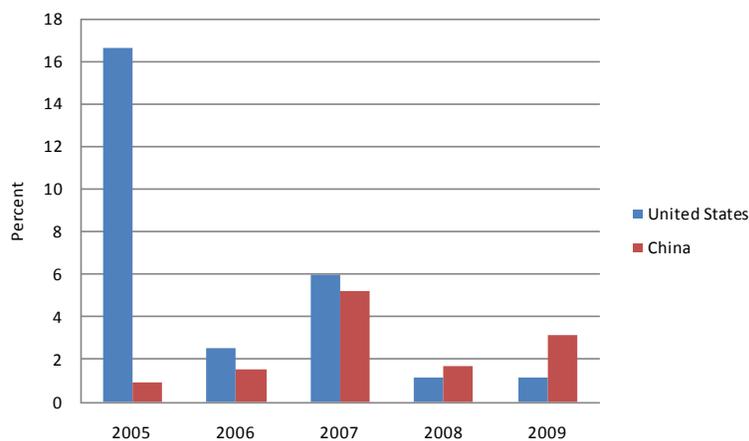


Figure 18. U.S. and China Export Market Shares in Brunei, 2005–09



U.S. and China Export Market Shares in TPP Countries (cont'd)

Figure 19. U.S. and China Export Market Shares in Chile, 2005–09

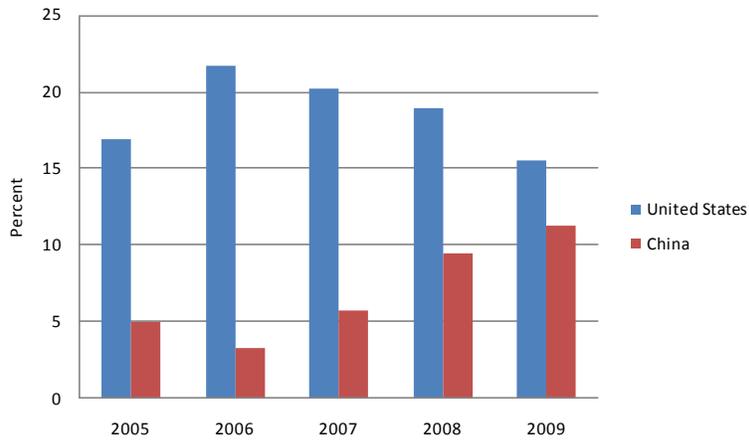


Figure 20. U.S. and China Export Market Shares in Malaysia, 2005–09

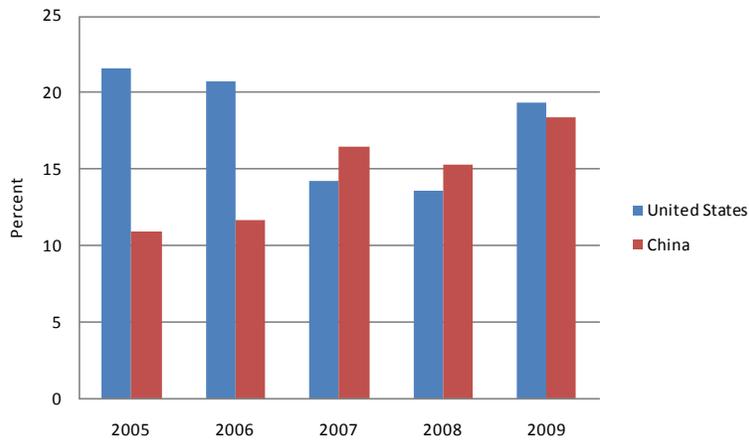
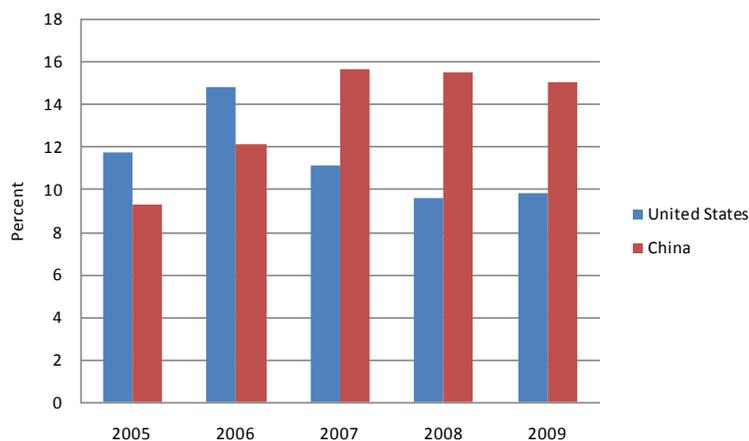


Figure 21. U.S. and China Export Market Shares in New Zealand, 2005–09



U.S. and China Export Market Shares in TPP Countries (cont'd)

Figure 22. U.S. and China Export Market Shares in Peru, 2005–09

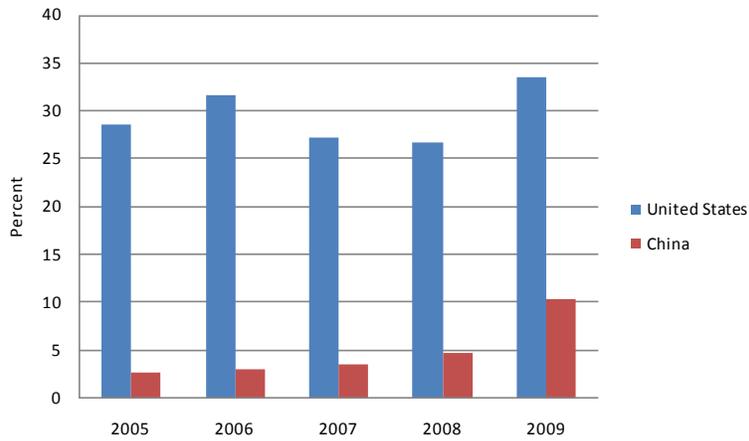


Figure 23. U.S. and China Export Market Shares in Singapore, 2005–09

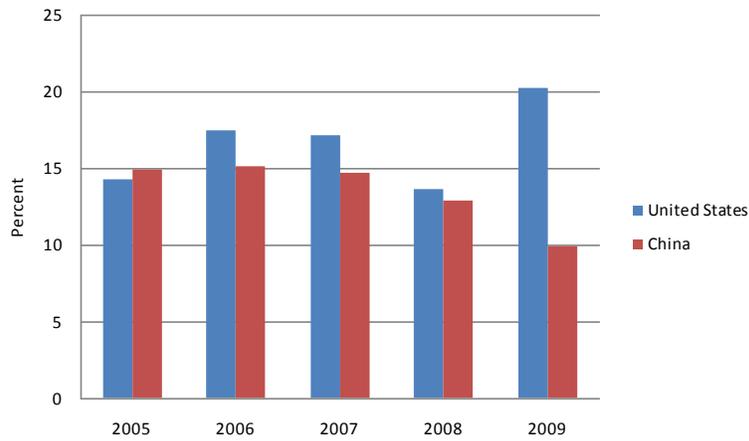
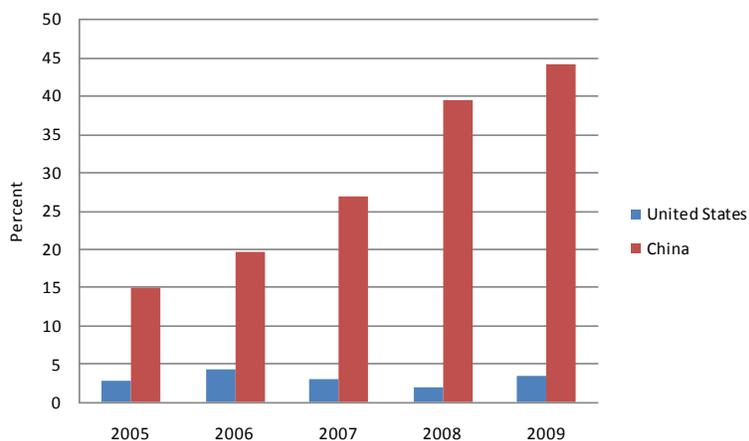
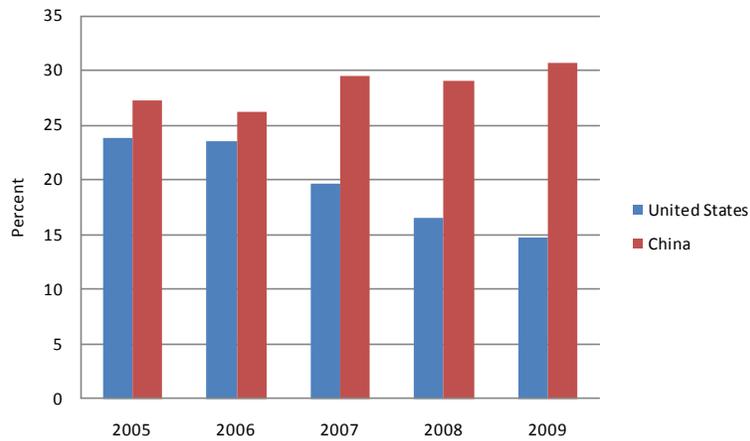


Figure 24. U.S. and China Export Market Shares in Vietnam, 2005–09



U.S. and China Export Market Shares in TPP Countries (cont'd)

Figure 25. U.S. and China Export Market Shares in Japan, 2005–09



Conclusion

As the United States and its international partners work to develop clean energy, reduce emissions of greenhouse gases, mitigate climate change, and protect the environment, those countries that develop and foster competitive environmental goods industries will be best positioned to take advantage of growing international demand. President Obama has stated that “the nation that leads the world in creating new energy sources will be the nation that leads the 21st-century global economy,” and has demonstrated this commitment by introducing the *Renewable Energy and Energy Efficiency Export Initiative*, a principal component of the President’s *National Export Initiative* to double exports over five years.

This report shows that despite increased U.S. focus on the production and export of environmental goods like renewable energy products, China has experienced rapid growth and has established an unparalleled dominance in this important sector in a short period of time. China has been able to increase its market share in the world’s largest and fastest growing markets and in many cases, has displaced other exporters in the world’s largest regional markets.

This rapid and punctuated growth appears to be the outcome of aggressive industrial policies employed by China to become one of the world’s leading producers and exporters of environmental goods. Policies that provide an unfair advantage to Chinese producers and exporters of environmental goods not only harm American producers and exporters, but also those in other major environmental goods producing countries like EU member states and Japan. Policies and practices employed by China, if found to be inconsistent with China’s WTO obligations, should be aggressively challenged and effectively fought on both bilateral and multilateral fronts.

This report also shows that the TPP agreement presents an opportunity to expand U.S. exports of environmental goods. Given the tariff asymmetry between the United States and several TPP countries, and the fact that China already enjoys relatively lower tariffs with many TPP members as a result of the ASEAN-China FTA, further tariff liberalization could provide U.S. exporters greater market access and reduce China’s preferential tariff advantage in these markets. However, unless China’s policies and practices are effectively countered or challenged, lower tariffs will likely do little to help U.S. exporters of environmental goods expand market share.

Given the inherent difficulties in estimating bilateral trade flows and the paucity of available data, U.S. agencies responsible for trade matters should continue to refine methodologies to estimate environmental goods trade on a bilateral basis. I therefore urge the U.S. Trade Representative, the U.S. Department of Commerce, and the U.S. International Trade Commission to work closely in this important area of trade.

