

Testimony of Steven F. Hayward to the House Committee on Energy and  
Commerce, Subcommittee on Commerce, Trade and Consumer  
Protection

“Growing U.S. Trade in Green Technology”  
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Mr. Chairman, members of the committee:

There are two main issues that should be considered when assessing the prospects for increased export potential for American energy technology of all types.

First, what are the actual dynamics of the present market environment, and how will those market conditions change under a variety of policy regimes, such as “cap and trade” or other methods to enact a higher price band for carbon-based energy?

Second, what are some of the cross-cutting factors that will come to bear on how trade flows will unfold in the real world? The main two factors in this category are incipient trade protectionism or retaliation for policies such as carbon-content “border-adjustment” tariffs that are contemplated in Waxman-Markey, but also the status of intellectual property rights for energy technology innovations that American companies may bring to the marketplace over the next several decades.

Above all, policymakers should regard with skepticism claims of net new jobs in the energy sector that depend on subsidies or mandates. Ironically there is an economic term for such policies: unsustainable. Congress should resist schemes in which business profits are more dependent on the political marketplace in Washington rather than the competitive marketplace outside Washington. Most genuine energy efficiency improvements—jet aircraft engines come to mind as an excellent example—are sufficiently market-driven that they need neither subsidies nor mandates.

At the present time, the U.S. runs a trade deficit in renewable energy technologies, and there is good reason to expect this to continue, especially if there is a significant expansion in the deployment of renewable sources here in the U.S. Take wind power as an example. In 2003, the latest year for which the Dept of Energy reports data, the U.S. ran a nearly \$20 billion trade deficit in wind power components. (See Table 1 below).

**Table 1: Wind Power Trade Balance, 2003**

	<b>Exports (2003)</b>	<b>Imports (2003)</b>	<b>Balance (2003)</b>
All Other Plastics Product Manufacturing	7,498,247,596	8,705,044,281	-1,206,796,685
Iron Foundries	402,809,347	448,981,346	-46,171,999
Fabricated Structural Metal Manufacturing	472,991,262	1,101,860,855	-628,869,593
Ball and Roller Bearing Manufacturing	1,264,739,974	1,496,519,859	-231,779,885
Industrial and Commercial Fans & Blower Manuf.	320,594,432	618,889,420	-298,294,988
Turbine and Turbine Generator Set Units Manuf.	4,354,604,794	2,390,977,528	1,963,627,266
Speed Changer, Indust. High-Speed Drive & Gears	701,635,808	1,591,409,650	-889,773,842
Mechanical Power Transm. Equipment Manuf.	716,042,247	1,034,775,537	-318,733,290
Printed Circuit Assembly Manuf.	1,145,197,487	17,945,051,089	-16,799,853,602
Other Measuring and Controlling Device Manuf.	2,217,994,511	1,172,791,287	1,045,203,224
Motor and Generator Manufacturing	3,213,473,343	5,569,294,815	-2,355,821,472
All Other Misc Elect. Equip. & Component Manuf.	3,652,366,459	3,537,572,937	114,793,522
<b>Total (in U.S. Dollars)</b>	<b>25,960,697,260</b>	<b>45,613,168,604</b>	<b>-19,652,471,344</b>

Source: EIA and Census Bureau

While the cost curves and innovation in renewable energy are moving at a fast pace at the moment, if there is a substantial increase in the deployment of wind and solar power in the U.S. over the next decade it is not automatic that there will be an expansion in manufacturing capacity sufficient to provide a simultaneous increase in exports. In other words, to reach some of the ambitious targets set out in recent legislation, we're going to need every windmill we make right here at home, and more likely we will continue to import wind and solar energy components from overseas. Congress might well ask industry for assurances that in return for subsidies and mandates, expanded production capacity will be located here in the U.S. rather than outsourced overseas to lower cost nations. I am skeptical that such assurances can be achieved.

Meanwhile, given that roughly 80 percent of the world's proven reserves of hydrocarbons are located in less developed nations, and given that even with a global carbon price of \$28 a ton (the ceiling now contemplated the Boxer-Kerry bill just introduced in the Senate), hydrocarbon energy will still be cheaper at scale than most renewable energy technologies that we might export. If the U.S. and Europe place a higher price on carbon while the developing world does not, it will ironically make fossil fuels *more* attractive for the developing world. Either way, it is easy to predict that in ten years our leading energy technology export will still be oil and gas drilling equipment, where we currently enjoy a trade surplus.

The example of oil and gas technology exports is instructive here, and points to some potential train wrecks in the unfolding architecture of American climate policy. Many specialized oil and gas technology companies in the U.S. work very

hard to protect their intellectual property rights against piracy, and in many cases do not sell or license their proprietary technology, seeking instead to work through foreign partnerships in which they keep direct control of their products.

Developers of renewable energy technology rightly worry about their intellectual property being stolen or pirated by developing nations such as China, yet this runs headlong into foreign demands that we essentially give away our technology on account of the dimensions of the climate crisis. This tension needs to be confronted more directly.

Second, American renewable energy producers rightly point to existing trade barriers and tariffs as an obstacle to expanded trade in energy technology, yet the proposals for “border adjustments” of high carbon-content imports in the Waxman-Markey bill, even if it does not run afoul of WTO rules, is likely to be highly counterproductive.