

Sector Case Study: Wind Energy

Most U.S. wind energy exports currently go to only a small group of markets – namely China, Canada, Mexico, and Brazil. These four markets alone are expected to account for over 75 percent of all U.S. wind exports through 2015. Yet, continued global investment in the wind industry outside traditional markets should increase in the near-term, likely broadening market opportunities. Exporters are encouraged to consider a range of factors when developing an export strategy, including expected demand, policy certainty, a market’s distance from production, and the availability of lower cost technologies.

The wind industry is a large and growing sector with a supply chain that produces thousands of component parts and a service sector that is increasingly advanced in its use of technology to design turbines, organize wind farms, and map wind potential. Most of the industry is vertically integrated, but deep supply chains have emerged to provide technology and components to the largest turbine manufacturers.

Though the wind market is becoming increasingly global, most U.S. exports go to a small number of countries. The top four export destinations – China, Canada, Mexico, and Brazil – account for over 75 percent of all U.S. wind exports. At the same time, these markets account for less than half the total value of the global import market.

Overview of Global Export Market Opportunities

By 2015, ITA expects nearly 65 GW of new wind capacity to be brought online outside the United States, a nearly 25 percent increase over the size of the current non-U.S. market. Most of this demand will be met with locally-sourced products, as the wind industry’s preferred method of global expansion has increasingly been foreign direct investment.

The current share of the global wind import market captured by U.S. exporters is small – reaching only 2-3 percent. Fortunately, ITA expects the global market to shift away from traditional European markets through 2015 and towards a more global industry where U.S. exports may be more competitive.

Today, seven of the world’s largest wind markets are in Europe. Yet over the next two years, six of the ten largest markets will be non-European countries, including China, India, Brazil, Canada, Turkey, and Australia. China, in particular, will be the focal point of the industry, installing roughly 25 GW of new capacity, nearly five times as much as India – the second largest expected market outside the United States through 2015.

Top Wind Export Markets through 2015

- 1. China**
(small share; large market)
- 2. Canada**
(large share; small market)
- 3. Mexico**
(large share; small market)
- 4. Brazil**
(large share; large market)
- 5. South Africa**
(large share; small market)
- 6. Korea**
(small share; large market)
- 7. Uruguay**
(large share; small market)
- 8. Guatemala**
(large share; small market)
- 9. Vietnam**
(large share; small market)
- 10. Costa Rica**
(large share; small market)

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An export strategy focused on these markets may increase the likelihood of success for many exporters, although each market is different and exporters are encouraged to understand the nuances of each potential opportunity. In China, U.S. exporters capture only a tiny percentage of an overall market that is immense and growing quickly. In Brazil, U.S. exporters would capture an even larger share of the market, but are hampered by significant local content provisions and high import tariffs. And in Canada and Mexico, exporters often find success based on the close integration of supply chains in these countries, not because the markets are particularly large.

Canada and Mexico are in fact indicative of the types of markets where U.S. wind exporters are often the most competitive. Six of the top ten markets for U.S. wind exports are located in the Western Hemisphere; a fact that is directly reflective of the market share captured by U.S. exporters in these countries.

The Wind Energy Export Opportunity in the Near-Term

Wind energy exports in the near-term are expected to be highly differentiated depending on the type of technology or service offered. For service providers, developers of small component parts, or high-tech control equipment, markets in Asia that are growing quickly and increasingly seeking high-tech solutions may offer greater opportunities. In China, for example, where re-powering existing wind farms with new technology has become a priority, American companies that can provide technology solutions may find considerable demand for their expertise. Exporters, however, should be highly mindful of threats to their intellectual property, which can be significant.

For manufacturers of large component parts, Latin American markets may provide the greatest opportunity – particularly when pairing their technology with Ex-Im financing. While these markets will not be the largest wind markets globally, they may provide an attractive cost environment in which to do business.

In Latin America, two important competitors have emerged that companies should consider when developing an export strategy for the region. Chinese manufacturers now compete directly with American exporters in many Latin American markets – a new phenomenon, since Chinese manufacturers traditionally focused exclusively on China’s domestic market. One example is a recent wind deal announced in Chile that will use Goldwind turbines. In the past, the project

would likely have been sourced from the United States, but low-cost Chinese turbines and cheap financing offered by the Chinese export-import bank was enough for Goldwind to win the bid.

The second key competitor is Brazil, which has used *de facto* local content requirements through its national development bank and high import tariffs to protect and grow its domestic manufacturing base. Brazil now has the capability of supplying wind technologies to markets elsewhere in South America. This capability has been limited to date, but stands to increase as the Brazilian wind market continues to expand.

Planning for the Long-Term

Bloomberg New Energy Finance predicts that the annual wind market will reach 78 GW globally by 2020 and cumulative installations will total 1,600 GW by 2030,¹ resulting in a \$2.7 trillion investment opportunity.² While some of the industry’s growth will occur in the United States.

As exporters begin planning for the long-term, ITA encourages efforts to be focused on developing market-specific strategies, or the development of niche products or services that are unlikely to be commoditized. Some markets, particularly in Europe, will likely become increasingly focused on offshore projects, while in others, increasing the efficiency and output of existing projects will become a market driver.

The U.S. Government remains committed to supporting wind energy exporters wherever in the world opportunities arise. Given the large transportation costs associated with shipping several wind products, U.S. exporters may want to consider utilizing Ex-Im financing, which can provide buyers of technology the cost-competitive financing needed to make deals attractive. In addition, ITA staff located at U.S. Export Assistance Centers around the country are ready to assist in the planning, development, and implementation of export market plans for any wind energy exporter.

2014 Renewable Energy Top Markets Report



This *Top Markets* case study is part of a larger report that includes rankings of 75 different markets in terms of overall U.S. renewable energy exports through 2015, as well as specific rankings for the ethanol, geothermal, hydropower, biomass pellets, solar and wind sectors. To access the full report, visit <http://export.gov/reee/topmarkets>.

¹ *Bloomberg New Energy Finance*, "Q3 2013 Wind Market Outlook" (17 September 2013) pp. 1

² *Bloomberg New Energy Finance*, "Global Renewable Energy Market Outlook 2013: Wind" (13 August 2013) pp. 1

About the Office of Energy and Environmental Industries

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