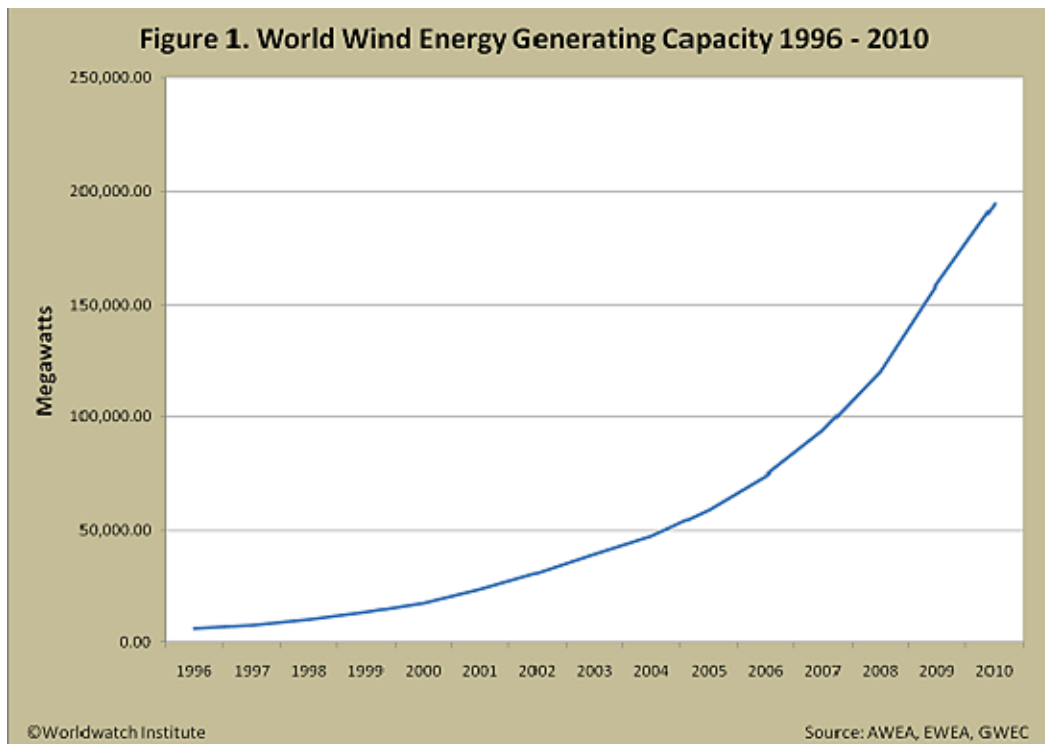
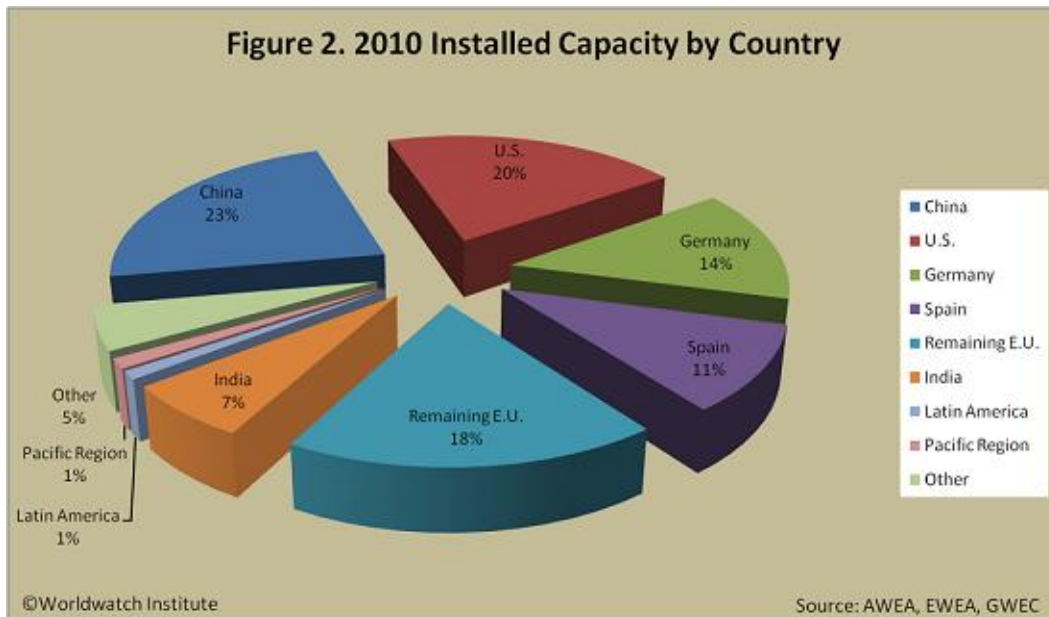


Global Wind Power Growth Takes a Breather in 2010

By Mark Konold | June 30, 2011

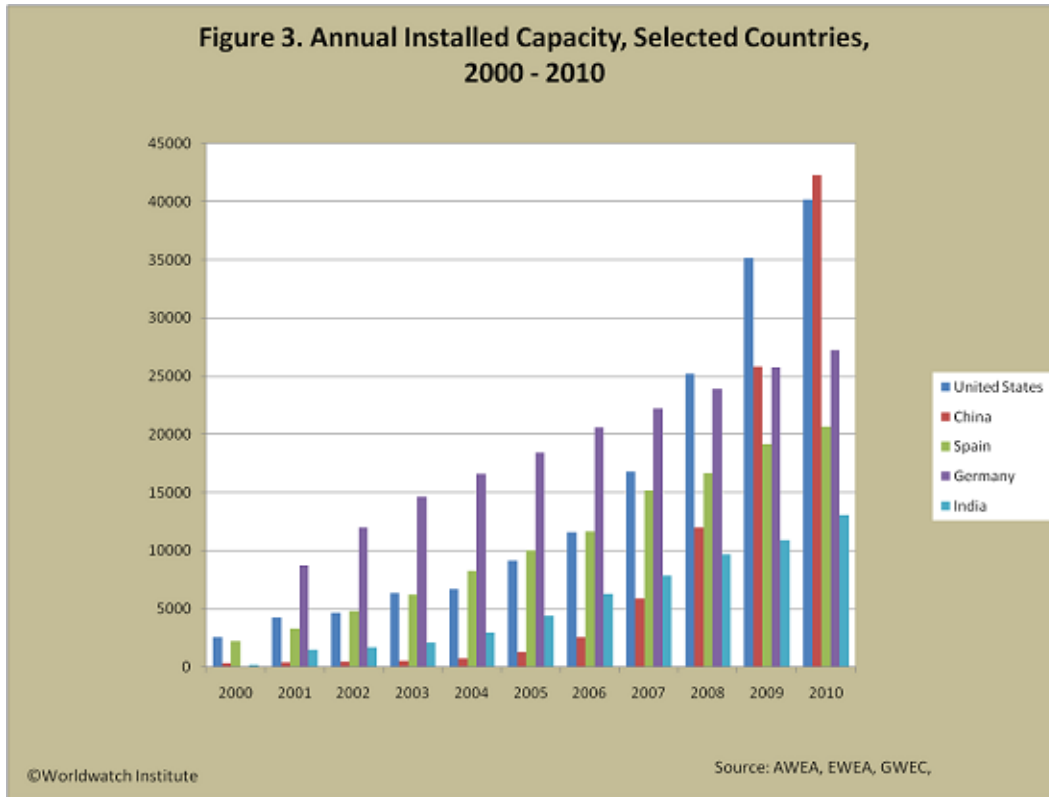
Global wind power capacity increased by 38,000 megawatts in 2010 to a total of 197,000 megawatts.¹ (See Figure 1.) The global market grew by 24 percent, down from a 31-percent increase in 2009.² But by now installed capacity is three times greater than it was in 2006 and nine times what it was a decade ago.³ The European Union had 43 percent of total installed capacity; in terms of individual nations, China and the United States lead the field at 23 and 20 percent, respectively.⁴ (See Figure 2.)





China overtook the United States in terms of total installed wind capacity in 2010, bringing its total to just under 45,000 megawatts. This is an increase of more than 70 percent from 2009, meaning the country maintained its leading position in terms of capacity additions.⁵ (See Figure 3.) In 2010 it connected just under 14,000 megawatts to the country's grids, bringing total grid connectivity to about 31,000 megawatts.⁶ This means that 14,000 megawatts, or 31 percent of the country's turbine potential, sits idle. China's National Energy Bureau expects to bring total grid connectivity to 55,000 megawatts this year.⁷ The country continues to experience difficulties with long-distance transmission and the ability of some of its grids to absorb electricity from wind sources.⁸ According to analysts, this issue should abate in time with smart grid investments, but these problems are likely to persist in the near term.⁹ The State Grid Corporation of China has said that it plans to connect 90,000 megawatts of capacity to the grid by 2015.¹⁰ Of the country's major wind power bases, Gansu Jiuquan province finished 2010 with about 5,000 megawatts installed, followed by Inner Mongolia East and Hebei at 4,211 and 4,160 megawatts, respectively.¹¹ China's next five-year plan, which begins in 2011, calls for an increase of 70 gigawatts by 2015.¹²

Figure 3. Annual Installed Capacity, Selected Countries, 2000 - 2010



In 2010 the United States saw the slowest rate of growth in almost a decade, but it maintained its second-place position in the world in terms of installed capacity. The country finished the year with 40,180 megawatts of installed capacity, up from 35,159 megawatts in 2009.¹³ A lack of long-term predictable federal policies continues to fuel a boom-bust cycle in the United States.¹⁴ Texas remained the leading state, with 10,085 megawatts of installed capacity—up from 2009’s total of 9,403 megawatts.¹⁵ Iowa and California finished a distant second and third in 2010, with 3,675 and 3,177 megawatts, respectively.¹⁶ Wind met approximately 2 percent of U.S. electricity needs.¹⁷

The European Union saw a 10-percent slowdown in its rate of wind growth compared with 2009.¹⁸ Germany still managed to add 1,493 megawatts to its portfolio to reach a total installed capacity of 27,214 megawatts, the most in the European Union.¹⁹ But top honors for installation in 2010 went to Spain, with 1,516 megawatts of added capacity.²⁰ France added 1,086 megawatts, and the United Kingdom added 962 megawatts.²¹ Also of note was Romania’s jump from 14 megawatts in 2009 to 462 megawatts by the end of 2010.²²

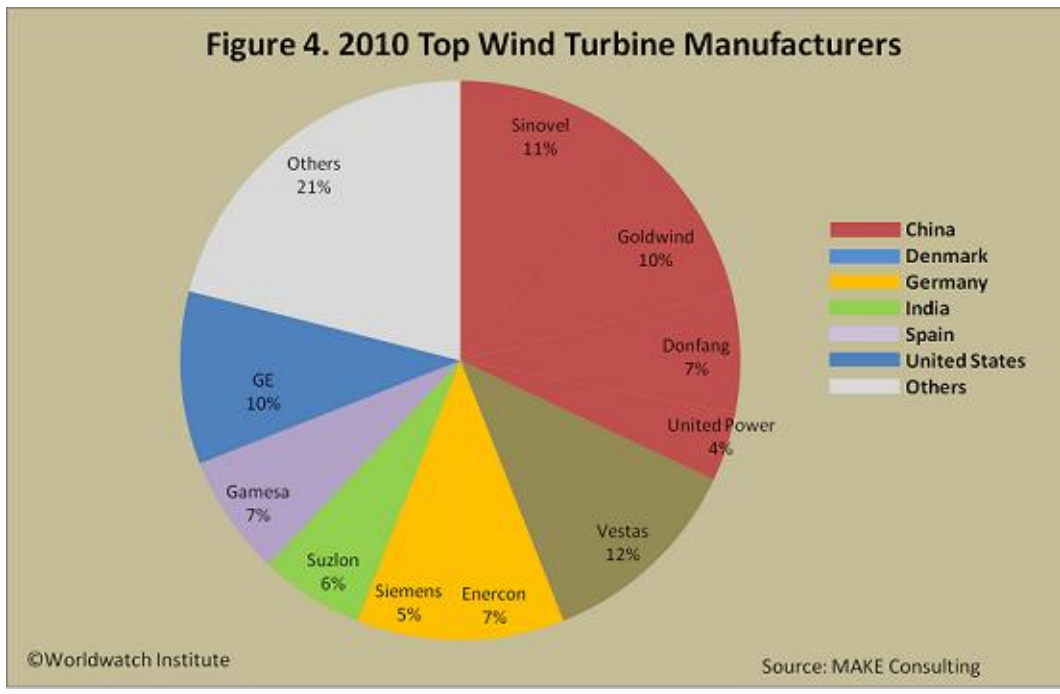
India added 2,139 megawatts, bringing its total capacity to 13,065 megawatts, a jump of roughly 19.5 percent from 2009.²³ The state of Tamil Nadu has the most installed capacity on the subcontinent, with 4,907 megawatts, followed by Maharashtra with 2,078 megawatts.²⁴ Progress may stall, however, as the country seeks to overhaul its tax code, a move that may eliminate accelerated depreciation of equipment. This incentive has been a driving force behind wind’s growth on the subcontinent.²⁵ Japan installed an additional 10 percent of wind capacity in 2010, ending the year at 2,304 megawatts installed.²⁶

Latin America continued to hold a rather small share of global installed capacity—2,008 megawatts, or 1 percent of the global market.²⁷ Brazil and Mexico continue to be regional leaders, with 931 megawatts and 519 megawatts, respectively.²⁸

It was a good year for offshore wind capacity. In 2010 Europe alone saw the successful connection of 308 turbines to the grid, raising its total offshore capacity to just under 3,000 megawatts.²⁹ An additional 1,000–1,500 megawatts is expected to come online during 2011.³⁰ In the second half of 2010, China's first offshore wind farm, Donghai Bridge, began providing electricity to the grid.³¹ The farm consists of 34 turbines and has 102 megawatts of capacity. By 2020 the country should have 30 gigawatts of installed offshore capacity, according to the National Development and Reform Commission.³² It is projected that China will spend more than \$4.2 billion on offshore wind in the next four years.³³

The United States continues to lag behind Europe and China in this field. After nine years of opposition, the Cape Wind project off the coast of Massachusetts was finally approved.³⁴ And although Gamesa and shipbuilder Northrop Grumman opened an Offshore Wind Technology Center in 2010 to explore designs for offshore systems that will be installed for U.S. markets, to date the United States has yet to install a single offshore turbine.³⁵

In 2010, wind turbine prices fell below \$1.4 million per megawatt, a level that had not been seen since 2005.³⁶ Increased demand and significant technological improvements helped bring costs 19 percent below the highs seen in 2007.³⁷ A total of \$96 billion was invested in wind energy installations in 2010, a 31-percent increase from 2009.³⁸ Together, China and large European offshore wind farms accounted for 38 percent of total wind investment in 2010.³⁹ In terms of overall turbine sales, Vestas remains the world leader, with 12 percent of the world market.⁴⁰ In an interesting change, Chinese manufacturer Sinovel moved into the number two spot, the first of four Chinese manufacturers in the top 10. American producer GE had to settle for third place. (See Figure 4.)



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Notes

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