

Can the U.S. Compete in the Global Clean Economy?

Supporting Clean Industry Can Create American Jobs and Keep the U.S. Competitive

The clean economy supports millions of jobs¹ and has the potential to sustain and create millions more. With worldwide investment in clean energies reaching a record breaking \$260 billion in 2011,² countries across the globe are vying to attract these investments in order to grow jobs and reinvigorate their economies.

THE STAKES ARE HIGH

Over the next decade, an estimated \$2.3 trillion will be invested in clean technologies.³ While the U.S. led clean energy investment in 2011,⁴ its place at the top is far from guaranteed. Maintaining U.S. global competitiveness in the rapidly emerging clean economy will require thoughtful, forward thinking policy that supports clean technology, grows American jobs, and reduces U.S. dependence on foreign oil.

THE RACE TO THE TOP

The U.S. is unlikely to maintain its lead in clean energy investment and risks a decline in new projects. U.S. clean energy investment in 2011 was bolstered by more than \$65 billion in tax credits, grants, and soft loans from the American Recovery and Reinvestment Act. However, “nearly all of those stimulus funds have now been deployed.” Without attracting new investors and employing “unique tax-based financing structures,” the U.S. risks a “sharp drop in new project builds.”⁵

Between 2005 and 2010, China’s five year clean energy growth rate toppled the U.S.’s by 27 percentage points.

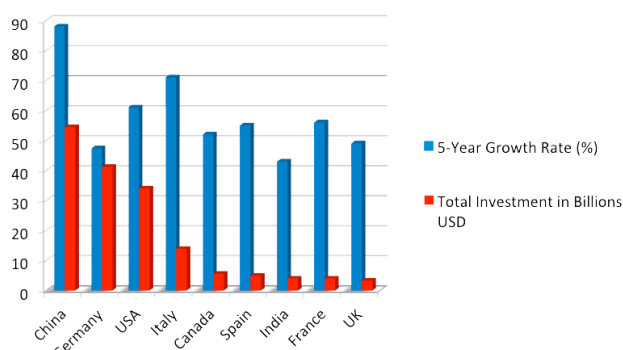
In 2010, the U.S. made investments of \$34 billion in renewable energy, while China made investments of \$54.4

billion and Germany invested \$41.2 billion. In the last five years, the rate of investment in the U.S. grew 61 percent, behind Italy at 71 percent, and China at 88 percent.⁶

The attractiveness of the U.S.’s renewable energy investment climate has been declining. According to Ernst and Young Renewable Energy Country Attractiveness Indices (RE-CAI),⁷ from its peak rating of 72 in May 2007, the U.S.’s RE-CAI rating fell to 66 points in November 2011. Meanwhile, China’s climbed over nine points during the same time period, passing the U.S. in total attractiveness for renewable energy markets in August 2010. Meanwhile, Germany’s is catching up to the U.S., hitting 65 points in November 2011, just one point below the U.S.’s rating.

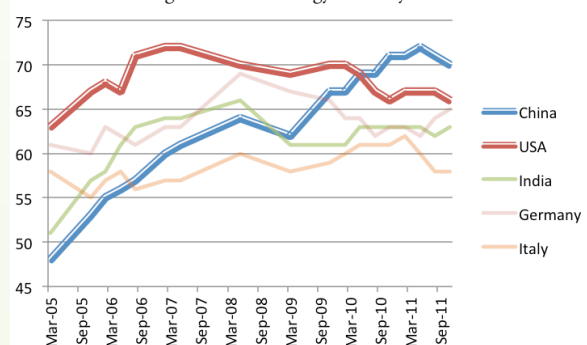
HSBC’s global analysis of fiscal stimulus plans revealed that the U.S.’s plan fell short in the percentage of total stimulus dedicated to green investments compared to other developed countries. China’s green stimulus of \$200.8 billion accounted for 34 percent of its total stimulus package, topping the U.S.’s total green stimulus by over \$106 billion.

Renewable Energy Investment and Growth by Country, 2010



Source: “Who’s Winning the Clean Energy Race: G20 Investment Powering Forward,” Pew Charitable Trusts, 2011.

Ernst and Young Renewable Energy Country Attractiveness Total



Source: Ernst and Young Renewable Energy Country Attractiveness Indices March 2005 – November 2011. Note: Quarterly release dates are approximate.

MISSED OPPORTUNITIES

The U.S. is experiencing an employment crisis unlike any other in the last 70 years. Numerous good jobs of the 20th century have moved overseas, where forward-thinking policies foster investment and support long-term growth of the clean technologies of the future. “Many European countries — along with China, Japan and South Korea — have pushed commercial development of carbon-reducing technologies with a robust policy mix of direct government investment, tax breaks, loans, regulation and laws that cap or tax emissions.”⁸ Lacking such “robust” policy, the U.S. is “ceding job growth and profits to companies overseas that now profitably export their goods and expertise to the United States.”

Nearly half of all solar energy components are manufactured in China. China produces almost 48 percent of all solar photovoltaic cells in the world, followed by Taiwan at 12.7 percent and Germany at 9.8 percent. By comparison, the U.S. only produces 4.6 percent of all solar photovoltaic cells.⁹

In 2010, Chinese manufacturers “accounted for 4 of the top 10 and 7 of the top 15 positions” in the global wind market. GE Energy is the only U.S. wind equipment manufacturer in the top 15 for market share, ranking third behind Vestas, a Danish company, and Sinovel, a Chinese company. MAKE Consulting projects that Chinese companies will “account for 38 percent of global [wind equipment] installations between 2011 and 2016.”¹⁰

CURRENT POLICY AND JOBS IN THE U.S.

The current political environment does not sufficiently support the growth of job-creating sectors like the renewable energy industry. With patchwork policies that depend on extension after extension — allowing them to become easy prey for partisan politics — clean energy investment and innovation lack a requisite market certainty for development. U.S. policy “remains generally insufficient as a draw for American companies and investors to jump

into new fields like wind power, energy-efficient appliances or even mass-market insulation, because upfront costs are large and profits uncertain.”¹¹ However, the right policies can create and sustain U.S. jobs, grow the U.S. economy, and reestablish the U.S. as the global leader in innovation.

The U.S. lacks critical policies that support the development of renewable energy technologies. Of eight clean energy policies identified by The Pew Charitable Trusts that support development of renewable technologies, the U.S. only has three of those policies in place: clean energy tax incentives, auto efficiency standards, and government procurement.¹²

To support the further development of clean energy technologies, the U.S. must enact additional policies that promote renewable energies. These policies include: a carbon cap, carbon market, federal renewable energy standard, feed-in tariffs, and green bonds. Every country in the Group of 20¹³ — except the U.S. and Canada — have a renewable energy standard and feed-in tariffs.¹⁴

Renewable energy investment can create and sustain jobs. Investments of about \$150 billion per year in clean energy “can generate about 1.7 million net new jobs throughout the U.S. economy.” This investment would total around 1 percent of the U.S. GDP.¹⁵

Renewable energies support more jobs per dollar than nonrenewables. “Wind and photovoltaic offer 40 percent more jobs per dollar than coal.” Solar photovoltaic projects of 2KW require 36 person-years per megawatt of capacity.¹⁶

Extension of the Advanced Energy Manufacturing Tax Credit will create 58,000 jobs with a \$2.3 billion federal investment. The tax credit provides a 30 percent credit for investments in new, expanded, or re-equipped advanced energy manufacturing projects.¹⁷

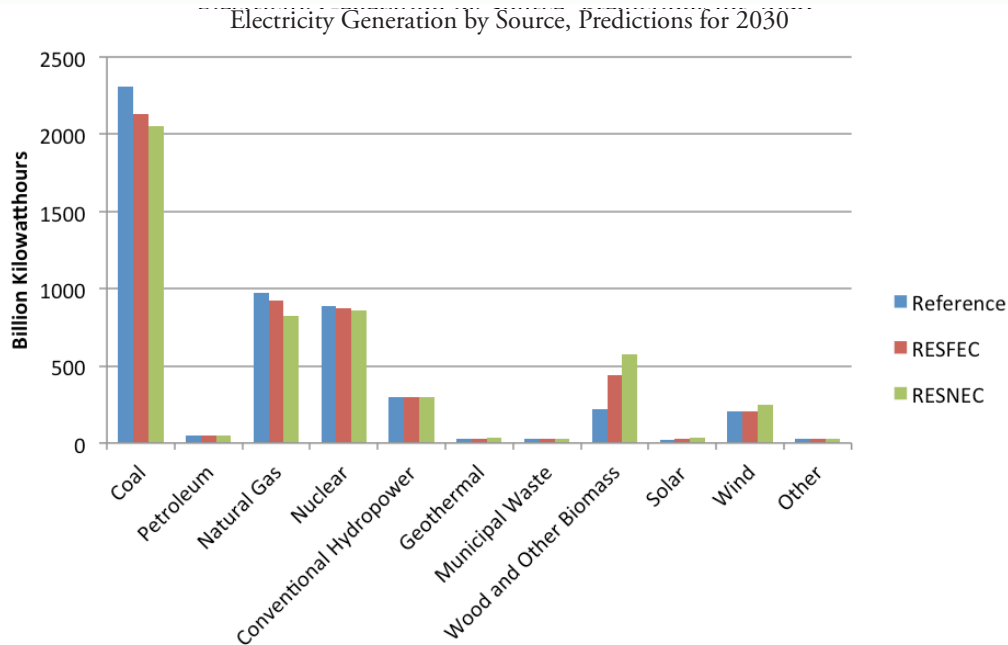


Investments for Manufacturing Progress and Clean Technology (IMPACT) Act would create a \$30 billion state-level revolving loan fund to help small- and medium-sized manufacturers adopt innovative energy-efficient manufacturing.

The Apollo Alliance — a project of BlueGreen Alliance — estimates that, once enacted, the bill could create 680,000 direct manufacturing jobs and nearly 2 million indirect jobs over five years.¹⁸

POLICY IMPLEMENTATION HAS A DIRECT IMPACT ON PRODUCTION

The Energy Information Administration determined that the potential effect of a crucial renewable energy supporting policy, the Renewable Electricity Standard (RES), could vary depending on its implementation.



Reference: Current policies and practices unchanged. RESFEC: 25% Renewable Electricity Standard with Full Efficiency Credits. RESNEC: 25% Renewable Electricity Standard with No Efficiency Credits

Source: "Impacts of a 25-Percent Renewable Electricity Standard as Proposed in the American Clean Energy and Security Act Discussion Draft," U.S. Energy Information Administration, April 2009.

1. "Sizing the Clean Economy," The Brookings Institution, 2011, http://www.brookings.edu/reports/2011/07/13_clean_economy.aspx (accessed March 5, 2012).
2. "US regains lead in clean energy investment," Financial Times, January 12, 2012.
3. "Global Clean Power: A \$2.3 Trillion Opportunity," The Pew Charitable Trusts, 2010, http://www.pewtrusts.org/uploadedFiles/www.pewtrusts.org/Reports/Global_warming/G20-Report-LowRes.pdf (accessed January 24, 2012).
4. "US regains lead in clean energy investment."
5. "New money, investors, and finance models needed to keep US renewable energy on track," Bloomberg New Energy Finance press release, November 21, 2011, <https://www.bnef.com/PressReleases/view/174> (accessed January 24, 2012).
6. "Global Clean Power: A \$2.3 Trillion Opportunity."
7. The Ernst and Young Country Attractiveness Indices provide scores for national renewable energy markets, renewable energy infrastructures, and their suitability for individual technologies. The indices provide scores out of 100 and are updated on a quarterly basis.
8. "U.S. Is Falling Behind in the Business of 'Green,'" New York Times, June 8, 2011.
9. "Year of the Tiger," PHOTON International, March 2011. http://www.photon-international.com/download/photocell_production_2010.pdf (accessed July 8, 2011).
10. "China Rivals Narrow Gap on Wind Leader Vestas," Reuters, March 15, 2011.

11. "U.S. Is Falling Behind in the Business of 'Green.'"
12. "Who's Winning the Clean Energy Race?" The Pew Charitable Trusts, 2011. <http://www.pewenvironment.org/newsroom/reports/whos-winning-the-clean-energy-race-2010-edition-329291> (accessed March 5, 2012).
13. The Group of 20, or G-20, is a forum for "international economic development that promotes... discussion between industrial and emerging-market countries on... issues related to global economic stability." The G-20 includes countries such as Australia, Brazil, Canada, China, France, Germany, India, Japan, Russia, the U.K., and the United States.
14. "Who's Winning the Clean Energy Race?"
15. "Green Prosperity: How Clean-Energy Policies Can Fight Poverty and Raise Living Standards in the United States," Political Economy Research Institute — University of Massachusetts Amherst, June 2009.
16. "The Work That Goes Into Renewable Energy," Renewable Energy Policy Project, November 2001. http://www.repp.org/articles/static/1/binaries/LABOR_FINAL_REV.pdf (accessed March 5, 2012).
17. "Rebuilding Green: The American Recovery and Reinvestment Act and the Green Economy," BlueGreen Alliance, February 2011.
18. "Sen. Brown IMPACT Legislation," Apollo Alliance. <http://apolloalliance.org/programs/apollo-green-manufacturing-action-plan-greenmap/sen-brown-impact-legislation/> (accessed July 20, 2011).



The BlueGreen Alliance is a national, strategic partnership between labor unions and environmental organizations dedicated to expanding the number and quality of jobs in the green economy.

National Headquarters:
2828 University Ave. SE, Suite 200
Minneapolis, MN 55414

Washington, D.C.:
1020 19th Street NW Suite 600
Washington, D.C. 20004

San Francisco:
30 Townsend Street, Suite 205
San Francisco, CA 94107

www.bluegreenalliance.org

On Twitter @bgalliance and Facebook at www.Facebook.com/BlueGreenAlliance