



# Increasing Opportunities for Chinese Direct Investment in U.S. Clean Energy

Melanie Hart February 11, 2013

In President Barack Obama's first term, economic issues were often a source of friction between the United States and China, particularly regarding clean energy. But things started off relatively well a few years ago: President Obama made his first trip to China as president of the United States in November 2009, and energy cooperation was high on the agenda. President Obama and Chinese President Hu Jintao signed multiple agreements pledging to cooperate on a range of important energy initiatives such as the U.S.-China Clean Energy Research Center and a U.S.-China renewable-energy partnership.<sup>1</sup>

These initiatives are important. The United States and China are the world's biggest energy consumers and biggest greenhouse gas emitters.<sup>2</sup> Our two nations have similar energy and climate problems but different comparative advantages for addressing those problems. The United States leads in cutting-edge clean energy innovation, and China leads in the rapid commercialization and deployment of those technologies.

Working together on clean energy just makes sense. If U.S. and Chinese clean energy enterprises can have open access to both markets, that access will improve their abilities to achieve good economies of scale and drive down costs. If both markets are competitive, that will give enterprises in both countries strong incentives to innovate, and innovation will lead to new technologies and new business models that should speed our transition to a clean energy economy. That would be good for U.S. and Chinese consumers, good for our economies, and good for the planet as a whole.

Despite those macro-level incentives to cooperate, however, things can get a bit more complicated when we actually delve into the details. Although we want to cooperate at a macro level, the United States and China are also big competitors at a market level. Both countries want to see their own companies dominate in critical industries such as solar and wind. Neither Washington nor Beijing is happy about being too reliant on energy products or services provided by foreign enterprises. Balancing cooperation with competition and our respective national ambitions is always difficult, and clean energy is no exception.

Although the United States and China expanded bilateral cooperation with critical projects such as the Clean Energy Research Center, throughout President Obama's first term we increasingly butted heads in the trade realm. U.S. steel workers filed a World Trade Organization petition against China's wind-power equipment subsidies in 2010; U.S. solar panel and wind turbine manufacturers filed U.S. Department of Commerce countervailing duty petitions and antidumping petitions against Chinese manufacturers producing those same products in 2011; and the American Superconductor Corporation is still engaged in an ongoing legal battle with China's Sinovel Wind Group over alleged intellectual property theft.<sup>3</sup>

These U.S.-China clean energy trade frictions are serious, and unfortunately they are unlikely to disappear anytime soon. China's regime to protect intellectual property rights is still developing. Some local officials in China are still more interested in protecting local companies than in adhering to international trade laws, and China's relative lack of administrative transparency can make the resultant trade complaints very hard to resolve.

One area in which the Obama administration has proven especially adept, however, is approaching the U.S.-China relationship issue by issue without letting frustrations on one issue spill over and impede cooperation elsewhere. As my colleague Nina Hachigian recently wrote, President Obama has taken a "clear-eyed, nuanced and effective approach" toward China.<sup>4</sup> Where cooperation makes sense, the president has been ready to deal. Where he feels American interests are being harmed, he has not hesitated to get tough.

This is exactly what we will need more of in U.S.-China relations in the clean energy sector. We need to continue to keep an eye on clean energy trade to ensure that American companies have a level playing field, but trade frictions should not hold us back from pursuing promising opportunities with China in other areas.

One of our most promising opportunities for U.S.-China clean energy cooperation is inward Chinese direct investment. Many Chinese companies want to come to the United States, directly invest in this country, and create jobs here. That is exactly what our economy needs, particularly in sectors such as renewable energy generation that generally do not pose national security concerns and will require large amounts of investment capital to develop. The problem is, however, that we do not have a good policy framework in place to encourage these investments.

In President Obama's first term, the White House signaled general support for increasing Chinese direct investment. During Vice President Joe Biden's August 2011 China trip, for example, the vice president stated:

*President Obama and I, we welcome, encourage and see nothing but positive benefits flowing from direct investment in the United States from Chinese businesses and Chinese entities. It means jobs. It means American jobs.<sup>5</sup>*

From the perspective of most potential Chinese investors, however, those general statements of welcome are not enough to make the U.S. market look like a good bet. These investors need to be able to predict how the U.S. government will respond to particular foreign-invested business models—and that requires actual policies. The only policies we have at present are the national security review policies of the Committee on Foreign Investment in the United States, which are designed to block foreign direct investments that could pose national security concerns. National security protections are very important, but we should pair those protections with additional policies designed to encourage foreign investment in the sectors where security is not an issue. In this era of economic difficulty, we should not let those opportunities go by the wayside.

This issue brief will outline the opportunities and current problems in attracting Chinese direct investment and offer policy recommendations for how the United States can make the most of Chinese capital and knowledge in the clean energy sector.

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### Why encouraging inward Chinese direct investment in clean energy makes sense for the United States

President Obama's administration made great strides in his first term toward building a sustainable U.S. clean energy economy that will provide jobs for middle-class Americans and reduce our nation's dependence on foreign oil and fossil fuels.<sup>6</sup> But more work is needed. Moving toward a clean energy economy in the United States will require more than \$1 trillion of investment in the electricity grid, new fuels, mass transit, power generation, and manufacturing.<sup>7</sup> An investment of this size will require the United States to mobilize every possible source of capital, including foreign direct investment.

While the United States has a sizeable investment need, Chinese investors are eager for new opportunities in foreign markets—and the U.S. market in particular. Their goals are not always perfectly aligned with ours, nor do U.S. market opportunities always perfectly meet their needs. That said, however, there are times when Chinese direct investment in the U.S. clean energy economy would be mutually beneficial.

Chinese enterprises would like to invest in the United States for many reasons, including:

- Some potential investors are seeking infrastructure investments with stable returns.
- Others are seeking access to innovative technology and processes or high-yield opportunities in manufacturing.
- Directly investing in the United States can give Chinese enterprises a local presence and a closer relationship with U.S. consumers—two critical prerequisites for building and promoting Chinese name-brand goods and services.

All of these possible reasons for Chinese investment in the United States are supported by the fact that the Chinese government has amassed more than \$3 trillion in foreign-exchange reserves.<sup>8</sup> They cannot convert those reserve holdings into Chinese renminbi—the official currency of China—and invest them domestically without triggering inflation, so Chinese banks and enterprises are constantly looking for good investment opportunities abroad. Over the past 5 to 10 years, Chinese enterprises have grown more adept at operating in foreign markets, and that has triggered a shift from lower-yield portfolio investments—where Chinese entities buy minority shares in foreign assets—to higher-yield direct investments—where Chinese entities actually play an operational role by building and operating manufacturing plants abroad.

China's total cumulative outward foreign direct investment now amounts to around \$230 billion worldwide.<sup>9</sup> Annual Chinese direct investments in overseas markets grew from less than \$2 billion in 2004 to more than \$40 billion in 2009, and some analysts predict that China's total global stock in outward foreign direct investment could reach \$2 trillion by 2020.<sup>10</sup> If handled correctly, these investments could play a large role in revitalizing economies worldwide, including the U.S. economy.

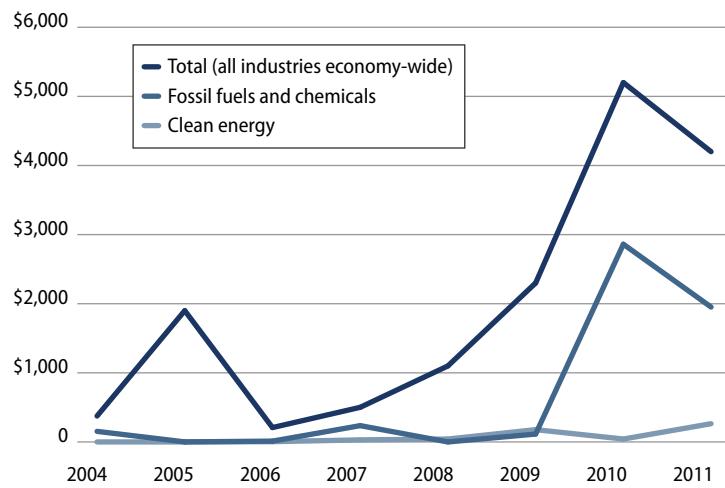
### Overall Chinese direct investments increasing, but clean energy lags behind

Chinese direct investment in the United States is already rising steadily. Annual investment has surged in recent years—from \$375 million in 2004 to more than \$6.5 billion in 2012, which is the largest annual total so far.<sup>11</sup> As of the end of 2012, Chinese enterprises have directly invested a cumulative total of more than \$22 billion in the U.S. economy.<sup>12</sup> And more than 27,000 American workers are currently employed by firms in which a majority of investments come from the Chinese.<sup>13</sup>

Among China's current U.S. direct investments, energy is a primary focus. Energy projects accounted for about 45 percent of total inward Chinese investments in 2012.<sup>14</sup> Most of these energy investments, however, are minority-share fossil-fuel acquisitions by China's state-owned energy companies. The China National Offshore Oil Corporation, for example, has invested more than \$3 billion in U.S. shale gas fields since 2010, and the China Petroleum and Chemical Corporation, or Sinopec, has invested another \$2.5 billion over the same time period.<sup>15</sup> Comparatively, however, Chinese investment in clean energy is very low. (see Figure 1)

**FIGURE 1**  
**Chinese direct investment in the United States, 2004–2011**

In millions of U.S. dollars



More work is needed to open up comparable investment opportunities in renewable energy sources, utilities, and energy efficiency. The interest is there: Chinese investments in U.S. clean energy sectors have increased significantly in recent years, from \$4 million in 2006 to \$264 million in 2011.<sup>16</sup>

When you compare those investment numbers to the investment numbers for fossil fuels, however, clean energy is still just a drop in the bucket.

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### Federal policy is a problem for foreign direct investment in U.S. clean energy sectors

One reason Chinese direct investment in U.S. clean energy sectors still lags behind Chinese investment in U.S. fossil-fuel sectors is because our investment incentives for clean energy still do not measure up to the tax breaks and other policies supporting oil and natural gas.<sup>17</sup> Leveling the playing field for clean energy technologies is still a work in progress in this nation, and that impacts foreign direct investment just as it impacts domestic investment. Additionally, the clean energy incentives that we do have are hard for most foreign companies to utilize.

The three main national-level U.S. clean energy incentives are the Department of Energy loan guarantee program, the production tax credit, and the investment tax credit. The U.S. Department of Energy loan guarantee program—section 1703 of the loan program—supports pre-commercial clean energy technologies by guaranteeing bank loans issued to companies pursuing those technology development projects.<sup>18</sup> Department of Energy loan guarantees lower the otherwise-high investment risks associated with these companies, making them more attractive to private lenders.

Legally, Chinese and other foreign enterprises are eligible to receive clean energy loan guarantees from the Department of Energy as long as the project itself is located in the United States.<sup>19</sup> In reality, though, in the current political climate it would be a serious liability for the Department of Energy to provide loan guarantees to a foreign company, particularly a Chinese company. U.S. politicians routinely attack clean energy deals that appear to allow Chinese companies to benefit from U.S. government funding. In 2010, for example, some U.S. senators protested a clean energy program that provided stimulus funding to U.S. wind farms that were importing their wind turbines from China.<sup>20</sup> Similar protests arose last year when China's Wanxiang Group moved to acquire A123, a U.S. battery company that had received federal clean energy funding before going bankrupt.<sup>21</sup> Even when Chinese companies are not involved, the Department of Energy already has its hands full defending clean energy loan guarantees from fossil-fuel lobbying efforts.<sup>22</sup> Adding Chinese companies into the mix would make that difficult job even harder.

In addition to the loan guarantee program, the United States also has two renewable energy tax credits: a production tax credit and an investment tax credit. The production tax credit provides a per-kilowatt-hour tax refund for companies that generate electricity using wind, biomass, hydropower, and other renewable sources.<sup>23</sup> That tax credit can substantially reduce the costs of some renewable generation projects—particularly for wind, closed-loop biomass, and geothermal projects, which can receive a tax credit of 2.2 cents per 1 kilowatt hour.<sup>24</sup>

The investment tax credit provides a 30 percent tax credit for residential solar systems, commercial solar systems, fuel cells and small wind systems, and a 10-percent tax credit for geothermal energy, small wind turbines (those with below 2 megawatts of power), and combined heat and power systems.<sup>25</sup>

These two tax credits are great programs for electric utilities and other companies considering investing in renewable energy.<sup>26</sup> The problem is, however, that tax rebates primarily benefit big companies that are already established in the United States, that already have big tax bills, and that can pay all project costs up front and wait until the end of the year to get a rebate. That is not the case for most foreign investors. Those companies generally do not have large existing operations in the United States looking for tax breaks, and they often have limited operating capital. What those companies are looking for is incentive programs that can reduce project costs from day one.

China's ENN Group, for example, recently negotiated with the Clark County Commission in Nevada to purchase 9,000 acres of public land along the Nevada/California border to build a large solar project. The land was appraised at around \$3,000 to \$4,000 per acre, but Clark County sold the land to ENN at \$500 per acre, thus substantially lowering ENN's cost to construct the solar facility.<sup>27</sup> In exchange, in addition to constructing the new facility, ENN promised to hire local labor, buy building materials locally, and create at least 1,000 jobs for the state of Nevada.<sup>28</sup> That project appears to be a win-win: The land discount enabled ENN to save money at the outset, and Nevada got a new job-creating project.

Similar local-level investment incentives exist across the United States. They vary by locality depending on what the individual state and local governments have to offer and what types of investments they want to attract. But it can be difficult for state and local governments to connect with Chinese investors interested in building the types of projects that make sense for their regions. Even when local governments can make those connections, the Chinese companies are often scared off by what they perceive to be a relatively high risk that their projects will be blocked for national security reasons.

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## National security reviews add another layer of uncertainty

Chinese enterprises report that one of their biggest concerns with direct investments in the United States is the national security review. The Committee on Foreign Investment in the United States includes the secretaries of treasury, homeland security, commerce, defense, state, and energy; the U.S. attorney general; the secretary of labor; and the director of national intelligence. (The latter two are nonvoting members.)<sup>29</sup> The committee is tasked with reviewing foreign business acquisitions in the United States to determine if those acquisitions create any national security risks. If the committee does find a security risk, they pass those findings on to the U.S. president, who can then block or reverse the business deal.

This review process has created a problem for some foreign investors in the United States, as it is difficult to predict what the committee will consider to be a national security threat. The governing regulations give the committee wide leeway to make that determination, and that makes it hard for foreign enterprises to foresee which deals will trigger security concerns. Recent regulatory reforms have expanded the committee's focus to specifically target U.S. energy sectors, particularly the electric grid and other critical infrastructure.<sup>30</sup> The committee generally considers foreign government ownership to be a red flag, so a Chinese state-owned enterprise investment in U.S. utility infrastructure, for example, would likely trigger committee review.

Recent high-profile national security review cases involving Chinese enterprises include the CNOOC deal in 2005, the Huawei deals in 2007 and 2011, and the Ralls Wind Corporation deal in 2012. In 2005 CNOOC issued an unsolicited \$18.5 billion bid for Unocal, a California oil company; this high bid created a political firestorm in Washington.<sup>31</sup> Many U.S. policymakers questioned whether the acquisition would threaten U.S. energy security by transferring critical oil assets to the Chinese government, and the U.S. House of Representatives passed a bill calling on then-President George W. Bush to review the transaction. It became clear to CNOOC that the deal would require an extensive committee review and that the likelihood of passing that review was almost zero, so the organization dropped the offer.

Chinese telecommunications equipment provider Huawei ran into similar difficulties in 2007 when it tried to acquire—with help from private equity firm Bain Capital—a minority interest in electronics manufacturer 3Com for \$2.2 billion. 3Com provided Internet security software to the U.S. military, and the committee blocked the transaction due to concerns that Huawei could give the Chinese military access to U.S. defense software.<sup>32</sup> Huawei ran afoul of the committee again when the company acquired cloud computing technology and 15 employees from U.S. server firm 3Leaf LLC in 2010.<sup>33</sup> The U.S. Department of Defense raised concerns that Huawei might transfer 3Leaf technology secrets to the Chinese military for cyberattacks against the United States. That triggered a review of the deal, and the committee eventually forced 3Leaf and Huawei to unwind the transaction.

More recently, in September 2012 President Obama issued an order forcing China's Ralls Wind Corporation to divest a wind farm that the company had purchased in Oregon.<sup>34</sup> According to the U.S. Treasury Department, which chairs the committee, the purchase of the wind farm was deemed a national security risk because the site overlooked a U.S. Navy weapons-training facility.<sup>35</sup>

The Committee on Foreign Investment in the United States system is designed to target and block potentially problematic foreign investment projects while letting the vast majority go forward. And in general, that is how the process works. Many foreign companies directly invest in the U.S. economy without triggering any national security concerns whatsoever, including many Chinese companies. The ENN Energy case mentioned above is one example of a Chinese direct investment project that went forward without any committee blocks. And the projects that do trigger the review process can still win approval. Wanxiang Group, a Chinese auto parts company, recently underwent a review for its planned acquisition of A123 Systems, a U.S. company that specializes in lithium-ion battery technology.<sup>36</sup> Wanxiang came out of the review process with official U.S. government approval for the acquisition.<sup>37</sup>

Although there are plenty of success cases, however, when most potential Chinese investors see big state-owned enterprises such as CNOOC and state champions such as Huawei get tangled up in the committee's red tape, they assume that if those giants cannot get through to the U.S. market, then smaller Chinese companies definitely would not have a chance. But the reality is that the opposite is true. Smaller, privately owned companies that do not have strong connections to the Chinese government are much less likely to trigger security concerns than their state-owned counterparts. Foreign government control is one of the key issues the committee process tries to detect.<sup>38</sup> The more independent the investor, the less likely foreign government control will be a problem.

Of course, nonstate investors run into problems too, just as China's Ralls Corporation did with the Oregon wind farm project. That is where foreign firms start to get a bit confused. From the Chinese perspective, it can be hard to anticipate which projects will trigger security concerns. The end result is that many potential Chinese direct investors view the U.S. market as extremely high risk, and that deters them from launching projects that would be a win-win for both nations.

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The United States needs to level the playing field for inward foreign direct investment in clean energy

The U.S. government needs to provide a more stable and predictable policy framework for foreign direct investment so that we can leverage opportunities to expand our clean energy economy.

First and foremost, the United States needs to clarify where foreign direct investment is welcome and where it is not. At present, we simply do not have a coherent national policy on inward foreign direct investment. The U.S. federal government appears to divide inward foreign direct investment into two buckets: deals that threaten national security and deals that do not. That line, however, is not always clear.

One thing that has become increasingly clear since 2008: Any transaction involving the U.S. electric grid will most likely face a security review.<sup>39</sup> Safeguarding our critical infrastructure is certainly important, particularly in the cyber era. U.S. intelligence officials are already finding malware in our domestic utility networks.<sup>40</sup> Intelligence officials believe foreign governments are inserting the malware in hopes that they can use it to shut down critical U.S. utility networks in future conflicts with the United States.<sup>41</sup> Given these national security concerns, it is justifiable to keep some parts of our critical infrastructure under U.S. ownership to guard against potential foreign government control. Clean energy development is also important, however, and electric grids are critical elements in the U.S. clean energy economy.

We need to achieve two goals at once: keeping our critical infrastructure secure and bringing in much-needed private-sector capital, including foreign direct investment, to stimulate our clean energy markets. To achieve both goals at once, the United States will have to send very clear signals to Chinese and other foreign firms clarifying which clean energy sectors they are welcome to engage in and which clean energy sectors are going to be generally off limits.

### Specific steps the United States can take

In his first official meeting with new Chinese General Secretary Xi Jinping, President Obama should clearly state that the United States strongly welcomes Chinese companies to come to the United States, directly invest in our economy, and create jobs. President Obama has said quite a bit thus far about clean energy trade enforcement but nothing concrete about Chinese direct investments in the U.S. economy. Trade enforcement is important, and the United States should not slack off on this important task. When the president is only emphasizing Chinese trade infringements, however, Chinese firms start to assume that U.S. markets are hostile to them. The reality is that as long as Chinese firms are willing to play by the rules—just as U.S. firms do—many of them will be warmly welcomed.

It is high time for the United States to clarify that message, starting at the top. Chinese officials and enterprises pay a great deal of attention to leadership statements—and particularly to those from the United States. We should take advantage of that attention and use a presidential statement to spread the word that U.S. clean energy markets are open for business—and Chinese companies in particular are welcome to participate.

The United States should also rank clean energy sectors by degree of national security concern and publicize that general ranking to help foreign firms more accurately gauge the risks involved in specific investment projects. It is impossible to construct a perfect ranking system because the details of a particular deal can have a dramatic impact on the perceived security risks. Renewable energy generation, for example, is generally open to foreign investment, but the Ralls wind farm acquisition was blocked because the site happened to overlook a U.S. naval base. Most cases do actually follow a predictable pattern, however. After all, the Committee on Foreign Investment in the United States process is based on legislation that provides a general outline of what the United States considers to be a red flag.<sup>42</sup> Helping potential Chinese investors translate that general outline into a sector-specific risk analysis would go a long way toward reducing current perceptions of U.S. market uncertainty.

Additionally, the United States should do more to connect Chinese firms with the U.S. state and local governments that are willing and eager to provide good investment incentives for clean energy projects. In 2011 the Obama administration launched the Commerce Department SelectUSA initiative that is working to promote the United States as a destination for foreign direct investment.<sup>43</sup> This initiative provides foreign investors with general statistics on the U.S. market and general information about federal- and state-level investment incentives.<sup>44</sup> It is basically a federal-government public relations initiative aiming to convince foreign investors that the United States is a good place to do business.

That is a wonderful and much-needed effort, but industry-specific efforts are also needed. The United States should roll out supplementary programs for specific sectors such as clean energy. Sector-specific initiatives could provide much more information on specific investment incentives, particularly the local-level incentives that vary by location and project. Only some U.S. state and local governments are directly participating in the SelectUSA program, so it is not yet a one-stop shop. It would be extremely beneficial for all involved if the United States did have a one-stop shop to connect our state and local governments interested in attracting clean energy projects with the potential foreign direct investors looking for good project locations.

### What China needs to do

To be sure, China also has some work to do. As Chinese direct investors expand their presence in the United States, that expansion could generate concerns that some Chinese firms—particularly state-owned firms—are benefiting from state subsidies and other preferential policies in China and using that support to gain an unfair edge in the U.S. market. Unlike the United States, China has national industrial policies that direct massive state support toward developing new and emerging industries. Across the board, the policy support that Chinese companies receive almost always exceeds

what companies receive in the United States. That can trigger accusations that there is an uneven playing field—that when Chinese companies drive their U.S. counterparts out of business, it is due to government subsidization, not natural market forces.

Part of this dynamic is a U.S. problem. The United States does not have a comprehensive industrial policy for developing clean energy, and that sometimes puts U.S. companies at a disadvantage in the global market. Part of this dynamic is also a Chinese problem, however. China's industrial policies are often not transparent, and that can make it very difficult for foreign observers to determine how much and what types of support Chinese companies receive.

Chinese companies and Chinese policymakers often argue that the Western world needs to give the Chinese administrative system more time to develop. They argue that since China is still at an early development stage, it is natural to have some problems with transparency today, but those issues will improve as China moves up the economic ladder. The fact is, however, that China has already reached a relatively high point on that ladder. Top Chinese companies are already going abroad, investing directly in the United States, and gaining significant market share in sectors such as wind and solar power. These new successes bring new responsibilities to demonstrate that those Chinese companies are making those achievements on a level playing field. The more Chinese firms can themselves strive to abide by international standards on issues such as corporate-governance transparency, the more they will be welcomed to compete in foreign markets, including the U.S. market.

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## Endnotes

- 1 The White House, "U.S.-China Clean Energy Announcements," Press release, November 17, 2009, available at <http://www.whitehouse.gov/the-press-office/us-china-clean-energy-announcements>; The White House, "Fact Sheet: U.S.-China Renewable Energy Partnership," November 17, 2009, available at [http://energy.gov/sites/prod/files/edg/news/documents/US-China\\_Fact\\_Sheet\\_Renewable\\_Energy.pdf](http://energy.gov/sites/prod/files/edg/news/documents/US-China_Fact_Sheet_Renewable_Energy.pdf). For detailed information on the U.S.-China Clean Energy Research Center, see its website, available at <http://www.us-china-cerc.org/index.html>.
- 2 Chris Buckley, "China says is world's top greenhouse gas emitter," Reuters, November 23, 2010, available at <http://www.reuters.com/article/2010/11/23/climate-cancun-china-idAFTOE6AM02N20101123>; Spencer Szwart and Shai Oster, "China Tops U.S. in Energy Use," *The Wall Street Journal*, July 18, 2012, available at <http://online.wsj.com/article/SB100142405274870320504575376712353150310.html>.
- 3 Office of the U.S. Trade Representative, "China Ends Wind Power Equipment Subsidies Challenged by the United States in WTO Dispute," Press release, June 2011, available at <http://www.ustr.gov/about-us/press-office/press-releases/2011/june/china-ends-wind-power-equipment-subsidies-challenged>; Coalition for American Solar Manufacturing, "Fact Sheet: U.S. Manufacturers of Solar Cell Antidumping and Subsidy Cases Against China," available at <http://www.americansolarmanufacturing.org/fact-sheet/> (last accessed February 2013); Matthew L. Wald and Keith Bradsher, "4 U.S. Makers of Towers for Wind Turbines File Complaint Over China's Steel Subsidies," *The New York Times*, December 29, 2011, available at <http://www.nytimes.com/2011/12/30/business/us-companies-file-complaint-over-chinas-steel-subsidies.html>; Michael Riley and Ashlee Vance, "Inside the Chinese Boom in Corporate Espionage," *Bloomberg Businessweek*, March 15, 2012, available at <http://www.businessweek.com/articles/2012-03-14/inside-the-chinese-boom-in-corporate-espionage>.
- 4 Nina Hachigian, "Sen. Kerry's Approach to China as Secretary of State," Center for American Progress, January 24, 2013, available at <http://www.americanprogress.org/issues/china/news/2013/01/24/50564/sen-kerry-s-approach-to-china-as-secretary-of-state/>.
- 5 Office of the President, "Remarks by Vice President Biden and Chinese Vice President Xi at a U.S.-China Business Roundtable," Beijing Hotel, Beijing, China, August 19, 2011, available at <http://www.whitehouse.gov/the-press-office/2011/08/19/remarks-vice-president-biden-and-chinese-vice-president-xi-us-china-busi>.
- 6 Daniel J. Weiss, "President Obama's Clean Energy Progress: How the Top 10 Energy Priorities Fared During His First Term" (Washington: Center for American Progress, 2013), available at <http://www.americanprogress.org/issues/green/report/2013/01/09/49187/president-obamas-clean-energy-progress-how-the-top-10-energy-priorities-fared-during-his-first-term/>.
- 7 For data on the massive capital expenditures that will be needed to upgrade U.S. electricity infrastructure, see Ceres, "Business as Usual More Risky for Electric Utilities, New Report Finds; Big Boost in Capital Spending Must Pivot to Reflect New Realities," Press release, April 19, 2012, available at <http://www.ceres.org/press/press-releases/business-as-usual-more-risky-for-electric-utilities-new-report-finds-big-boost-in-capital-spending-must-pivot-to-reflect-new-realities>.
- 8 Wang Ziwu and others, "China Mulls New Forex-Reserve Investment Funds," *Caijin Online*, April 25, 2011, available at <http://english.caixin.com/2011-04-25/100252183.html>; "China's forex reserves pass 3 trillion USD for first time," *People's Daily Online*, April 15, 2011, available at <http://english.peopledaily.com.cn/90001/90778/90862/7351620.html>.
- 9 Daniel H. Rosen and Thilo Hanemann, "An American Open Door? Maximizing the Benefits of Chinese Direct Investment" (New York: Asia Society and Woodrow Wilson International Center for Scholars, 2011), available at [http://asiasociety.org/files/pdf/AnAmericanOpenDoor\\_FINAL.pdf](http://asiasociety.org/files/pdf/AnAmericanOpenDoor_FINAL.pdf).
- 10 Ibid.
- 11 Thilo Hanemann, "Chinese FDI in the United States: Q4 2012 Update," Rhodium Group, January 16, 2013, available at <http://rhg.com/notes/chinese-fdi-in-the-united-states-q4-2012-update>.
- 12 Rhodium Group, "China Investment Monitor," available at <http://rhgroup.net/interactive/china-investment-monitor> (last accessed February 2013).
- 13 Thilo Hanemann, "Employment impacts of Chinese investment in the United States," East Asia Forum, October 30, 2012, available at <http://www.eastasiaforum.org/2012/10/30/the-employment-impacts-of-chinese-investment-in-the-united-states/>.
- 14 Ibid.
- 15 Ryan Dezember, "China's Footprint in U.S. Oil: A State-by-State List," Deal Journal Blog, March 6, 2012, available at <http://blogs.wsj.com/deals/2012/03/06/chinas-footprint-in-us-oil-a-state-by-state-list/>.
- 16 Rhodium Group, "China Investment Monitor."
- 17 Daniel J. Weiss and Jackie Weidman, "Big 5 Oil Companies Going for the Gold," Center for American Progress, July 31, 2012, available at <http://www.americanprogress.org/issues/green/news/2012/07/31/11872/big-5-oil-companies-going-for-the-gold/>; Seth Hanlon, "Big Oil's Misbegotten Tax Gusher," Center for American Progress, May 5, 2011, available at <http://www.americanprogress.org/issues/tax-reform/news/2011/05/05/9663/big-oils-misbegotten-tax-gusher/>.
- 18 U.S. Department of Energy, "1703 Loan Program," available at [https://lpo.energy.gov/?page\\_id=39](https://lpo.energy.gov/?page_id=39) (last accessed February 2013).
- 19 Ibid.
- 20 Jonathan Karl, "Stimulus Jobs in China? Senators Angry About U.S. Money Going Overseas," ABC World News, March 4, 2010, available at <http://abcnews.go.com/WN/obama-stimulus-money-spent-overseas/story?id=10002592>.
- 21 Sen. Chuck Grassley, "Thune, Grassley Press for Review of Foreign Investment in A123 Bankruptcy Financing Deal," Press release, November 1, 2012, available at [http://www.grassley.senate.gov/news/Article.cfm?customel\\_dataPage\\_ID=1502-42870](http://www.grassley.senate.gov/news/Article.cfm?customel_dataPage_ID=1502-42870).
- 22 Richard W. Caperton, "The American Energy Initiative: A Focus on the 'No More Solyndras Act,'" Testimony Submitted to the House Committee on Energy and Commerce, Subcommittee on Energy and Power and Subcommittee on Oversight and Investigations," Center for American Progress, July 12, 2012, available at <http://www.americanprogress.org/issues/green/news/2012/07/12/11902/the-american-energy-initiative-a-focus-on-the-no-more-solyndras-act/>.
- 23 U.S. Department of Energy, "Renewable Electricity Production Tax Credit (PTC)," available at <http://energy.gov/savings/renewable-electricity-production-tax-credit-ptc> (last accessed February 2013).
- 24 Ibid.
- 25 U.S. Department of Energy, "Business Energy Investment Tax Credit (ITC)," available at [http://www.dsireusa.org/incentives/incentive.cfm?Incentive\\_Code=US02E](http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US02E) (last accessed February 2013).
- 26 Richard W. Caperton, "Good Government Investments in Renewable Energy," Center for American Progress, January 10, 2012, available at <http://www.americanprogress.org/issues/green/report/2012/01/10/10956/good-government-investments-in-renewable-energy/>.
- 27 Jim Maniaci, "Sale of Land for Solar Facility Approved," *Laughlin Nevada Times*, June 11, 2012.

- 28 Joyce Lupiani, "County Commission approves land deal for massive solar power project," KTNV Nevada News, December 21, 2011, available at <http://www.ktnv.com/news/local/135986293.html>.
- 29 U.S. Treasury Department Research Center, "Committee on Foreign Investment in the United States (CFIUS)," available at <http://www.treasury.gov/resource-center/international/pages/committee-on-foreign-investment-in-us.aspx> (last accessed February 2013).
- 30 William R. Vigdor and Adrienne L. Goins, "Trends in U.S. National Security Review: A More Active CFIUS," (Washington: Vinson & Elkins, 2011), available at [http://www.velaw.com/uploadedFiles/VEsite/Resources/WP\\_CFIUS\\_2011\\_03\\_31.pdf](http://www.velaw.com/uploadedFiles/VEsite/Resources/WP_CFIUS_2011_03_31.pdf).
- 31 Xie Ye, "NOOC launches bid for Unocal take-over," *China Daily*, June 24, 2005; Steve Lohr, "Unocal Bid Denounced at Hearing," *The New York Times*, July 15, 2005.
- 32 Steven R. Weisman, "Sale of 3Com to Huawei is derailed by U.S. security concerns," *The New York Times*, February 21, 2008.
- 33 Shayndi Raice, "Small Deal Brings Scrutiny to Huawei," *The Wall Street Journal*, November 18, 2010.
- 34 Daniel H. Rosen and Thilo Hanemann, "Ralls vs. CFIUS: What Are the Implications for Chinese Investment?," Rhodium Group, October 5, 2012, available at <http://rhg.com/articles/ralls-vs-cfius-what-are-the-implications-for-chinese-investment>.
- 35 U.S. Department of the Treasury, "Statement from the Treasury Department on the President's Decision Regarding Ralls Corporation," Press release, September 28, 2012, available at <http://www.treasury.gov/press-center/press-releases/Pages/tg1724.aspx>.
- 36 Michael Bathon, "Wanxiang Wins U.S. Approval to Buy Battery Maker A123," *Bloomberg*, January 30, 2013, available at <http://www.bloomberg.com/news/2013-01-29/wanxiang-wins-cfius-approval-to-buy-bankrupt-battery-maker-a123.html>.
- 37 A123 Systems, "A123 Systems LLC Completes Acquisition of Substantially All Non-Government Business Assets of A123 System, Inc.," Press release, January 29, 2013, available at [http://info.a123systems.com/Portals/133376/content/project%20monopoly/a123%20systems%20llc%20press%20release\\_close%20of%20wanxiang%20transaction.pdf](http://info.a123systems.com/Portals/133376/content/project%20monopoly/a123%20systems%20llc%20press%20release_close%20of%20wanxiang%20transaction.pdf).
- 38 *Foreign Investment and National Security Act of 2007*, Public Law 110-49, 110th Cong. (July 26, 2007), available at <http://www.treasury.gov/resource-center/international/foreign-investment/Documents/FINSA.pdf>.
- 39 Vigdor and Goins, "Trends in U.S. National Security Review: A More Active CFIUS."
- 40 Siobhan Gorman, "Electricity Grid in U.S. Penetrated by Spies," *The Wall Street Journal*, April 8, 2009, available at <http://online.wsj.com/article/SB123914805204099085.html>.
- 41 Ibid.
- 42 *Foreign Investment and National Security Act of 2007*.
- 43 The White House, "Executive Order 13577—SelectUSA Initiative," Press release, June 15, 2011, available at <http://www.whitehouse.gov/the-press-office/2011/06/15/executive-order-selectusa-initiative>.
- 44 U.S. Department of Commerce, "SelectUSA," available at <http://selectusa.commerce.gov/> (last accessed February 2013).