

TRADE | FEBRUARY 2010

## Getting Our Share of Clean Energy Trade

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**T**he global race toward clean energy presents a new frontier of jobs and opportunities for Americans and American companies. But with a \$6 trillion global energy market up for grabs, some countries refuse to play fair. Around the world, foreign governments—such as China—have tilted the playing field in their favor with discriminatory regulations, high tariffs and other barriers designed to keep made-in-America products out of their countries. This memo proposes a national strategy to win America a bigger and fairer share of the global clean energy market.

### WHAT'S AT STAKE?

#### Good American Jobs

The \$6 trillion global energy market has been dubbed by some “the mother of all markets.”<sup>1</sup> As countries compete toward the grail of changing the focus of this massive market to clean energy,<sup>2</sup> business is booming around the world.<sup>3</sup> Even in America, despite the current downturn, the clean energy sector<sup>4</sup> has seen a major leap forward in talent, resources and support.<sup>5</sup>

- At least 800,000 Americans work directly in the clean energy sector, plus many thousands more in related industries.<sup>6</sup>
- The number of American clean energy jobs surged 9.1% from 1998 to 2007, compared to 3.7% growth in overall U.S. employment during that period.<sup>7</sup>
- Jobs in the wind sector alone grew 70% from 2007-2008.<sup>8</sup>

But even as America grows clean energy jobs, other countries are growing them faster in an effort to stake out a bigger piece of the global clean energy pie. In Germany, for example, jobs in the environmental technology sector are projected to exceed jobs in the machine tool or auto industries by 2020. The

German environmental technology sector is projected to account for some 16% of German industrial production by 2030.<sup>9</sup> China has allotted more than \$230 billion in economic stimulus funding to clean energy initiatives and—as a percentage of GDP—is investing 10 times more than the United States on clean power.<sup>10</sup>

Rather than sitting on the sidelines, America should also seek to seize the lead as a global exporter of clean energy goods, services and technologies. If there is one aspect of U.S. trade policy deserving of aggressive pursuit, it is clean energy export promotion. The benefits would be vast:

### **Millions of potential new jobs.**

Seizing clean energy export opportunities could both accelerate the recovery and provide the engine for future growth.<sup>11</sup> Dollar for dollar, clean energy investments create more jobs than investments in the conventional energy sector.<sup>12</sup> Clean energy has the potential to add an *additional* 1.7 million jobs in the near term and 5 million jobs by 2020 to the estimated 770,000 clean energy jobs that existed in 2007.<sup>13</sup> But if the domestic potential for clean energy is vast, global opportunities are virtually endless. Aggressive U.S. leadership in global clean energy research and development could increase U.S. clean energy exports by \$40 billion by 2020 and by up to \$200 billion by 2050, resulting in up to 750,000 new jobs by 2020 and millions of new jobs by 2050.<sup>14</sup>

### **More “good” jobs.**

Most of the new jobs created in the clean energy sector will be “good” jobs with good wages. Clean energy projects require a high level of manufacturing content, including steel, glass and complex manufactured products,<sup>15</sup> as well as sophisticated services, such as planning, design, development, construction and management.<sup>16</sup>

For example, China’s rapid development of clean energy, energy efficiency and “smart grid” programs, is creating a very substantial need for high-quality equipment, proven energy conservation technology and specialized engineering, management and energy auditing services—all areas in which U.S. firms excel.<sup>17</sup>

### **American economic leadership in other sectors.**

Clean energy provides an ideal laboratory for testing new approaches to improve the way that U.S. companies and workers compete in the global economy. Research, innovation, manufacturing, services and small and medium enterprises are all critical components of the clean energy sector. New strategies for promoting clean energy exports and removing related trade barriers will have major spillover benefits to other sectors of the U.S. economy.

## THE PROBLEM

### A tilted playing field and a weak U.S. offense.

So far, America is failing to realize its full potential in clean energy. Much of the blame for this lies here in America, and is the result of a significant failure by the United States to adopt smart and consistent policy incentives to maximize the domestic clean energy market and to provide aggressive support for innovation, research and development for clean energy.

However, Americans and American companies are also crippled in the global marketplace by the unfair practices of other nations and by the lack of aggressive and coordinated national plans to promote the U.S. clean energy sector at home and protect its interests abroad. The result is fewer sales for American companies and fewer jobs for American workers:

- The U.S. trade balance in “green goods” (including pollution management, energy efficiency and renewable energy goods) sank from a \$14.4 billion surplus in 1997 to a deficit of nearly \$8.9 billion in 2008.<sup>18</sup>
- While the United States was the global leader in photovoltaic (“PV”) solar technology in 1999, it now lags far behind Germany, Japan and China.<sup>19</sup>
- Although all of the world’s top five Internet companies are American, U.S. firms comprise only one of the top five wind power manufacturers, one of the top ten solar panel producers and two of the top ten advanced battery manufacturers.<sup>20</sup>
- Europe substantially outpaces the United States in world market shares of major efficient technologies and products.<sup>21</sup>

The chart below compares the number of American jobs in key clean energy industries with those in rival nations.

### Estimated Jobs in Selected Clean Energy Sectors in 2006<sup>22</sup>

Energy Source	World	Selected Countries
Biomass	1,174,000	Brazil – 500,000 U.S. – 312,200 China – 266,000 Germany – 95,400
Solar Thermal	624,000 +	China – 600,000 Germany – 13,300 Spain – 9,142 U.S. – 1,900
Nuclear <sup>23</sup>	470,000	U.S. – 112,000
Wind	300,000	Germany – 82,100 U.S. – 36,800 <sup>24</sup> Spain – 35,000 China – 22,200
Solar PV	170,000	China – 55,000 Germany – 35,000 Spain – 26,449 U.S. – 15,700
Hydropower	39,000 +	Europe – 20,000 U.S. – 19,000
Geothermal	25,000	U.S. – 21,000 Germany – 4,200
Total	2,802,000 +	

## PROBLEM # 1

### Foreign governments discriminate against American goods and services.

Many governments around the world—particularly those in fast-growing developing countries such as China, India and Brazil—are pursuing a two-pronged strategy for putting their clean energy companies ahead: (1) erecting trade

barriers to shelter local companies from international competition at home; and (2) providing strong support (such as tax subsidies) to domestic firms as they compete aggressively with U.S. firms in the United States and other markets.<sup>25</sup>

As a result, American clean energy exporters face a variety of unfair foreign trade barriers and practices,<sup>26</sup> many of which violate international law. These include:

### **Rigged rules for government contracts.**

Closed and non-transparent government procurement systems and close relationships between governments and local firms can disadvantage U.S. clean energy firms seeking to sell into foreign markets.<sup>27</sup> China, for example, provides significant procurement preferences for Chinese clean energy producers that use Chinese IP. China's wind turbine bidding process also favors local producers by ignoring critical long-term reliability considerations.<sup>28</sup> In Spain, public sector infrastructure projects are effectively closed to U.S. construction and engineering firms.<sup>29</sup>

### **"Buy China" and other local content requirements.**

A number of countries and jurisdictions, including China and Spain and two Canadian provinces, have required that renewable energy development projects include a certain percentage of "local content."<sup>30</sup> For example, until it recently eliminated this rule in response to strong U.S. pressure, China maintained a 70% local content rule that shut out American wind companies from its booming wind energy market.<sup>31</sup>

### **High tariffs on American goods.**

Major developing countries charge import duties as high as 35% on various categories of clean energy goods.<sup>32</sup> Many developing countries also maintain high maximum or "bound" tariffs on environmental goods, which means that countries can ratchet up their tariffs on clean energy goods to this "bound" rate at any time.<sup>33</sup> Brazil, for example, recently raised its tariff on certain imported wind turbines from 0 to 14% just before a major auction for wind farms (in order to shut out competition), and retains a 35% bound tariff for wind turbines.<sup>34</sup>

High foreign tariffs pose particular barriers to innovative clean energy products for which U.S. firms are world leaders, including next-generation solar cells and "smart" meters.<sup>35</sup> For instance, Brazil imposes or maintains high actual and potential tariffs (known as "applied" and "bound" tariffs) on photovoltaic cells (12% and 35%, respectively) and electrical meters (18% and 35%). Similarly, imports into the lucrative Indian clean energy market face applied and bound tariffs of 7.5% and 25% on wind turbines and 10% and 40% on electrical meters.<sup>36</sup> China protects its domestic wind-energy-manufacturing sector by impos-

ing graduated tariffs on wind energy goods—3% for parts, 8% for assembled components and 17% for fully assembled turbines.<sup>37</sup>

Additionally, foreign governments can penalize American companies by establishing strict quotas on the amount of U.S. goods that can enter a country. For example, the European Union imposes unreasonable quotas on imports of nuclear fuel, fuel rods and assemblies.<sup>38</sup>

### **Piracy of American intellectual property.**

More than 50% of U.S. exports depend on some form of intellectual property (“IP”), such as software or complex technology.<sup>39</sup> However, China and other developing countries routinely trample the IP rights of U.S. firms. They either permit rampant piracy or engage (or threaten to engage) in tactics such as “compulsory licensing” that run roughshod over American IP.<sup>40</sup> Moreover, some developing countries have proposed that innovative clean energy firms should be forced to give away (“transfer”) their clean-energy IP to developing countries as part of any global climate change agreement.<sup>41</sup>

### **Burdensome customs procedures.**

Many countries also use customs procedures to discriminate against American exports, making it tougher to get goods into a country. In India, for example, American companies must navigate a complex and opaque system for determining how much in tariffs and customs duties they need to pay, and face questionable customs valuation procedures and frequent delays caused by excessive documentation requirements.<sup>42</sup>

### **Unfair or excessive taxes.**

Discriminatory or excessive taxes and complex and inconsistent tax systems can restrict clean energy imports. Brazil, for example, applies federal and state taxes and charges on imports that can effectively double the cost of importing into Brazil.<sup>43</sup>

### **Shutting out American investment.**

India’s poor track record in honoring and enforcing agreements with U.S. investors in its energy sector—including decades-long refusals by Indian states and parastatal organizations to pay U.S. energy investors—has discouraged U.S. investment in lucrative Indian energy projects. Additionally, China appears to be moving in the same direction by creating rules to shut out American and foreign investors from key sectors, including energy efficiency and clean power generation.<sup>44</sup>

## Slanted standards and regulations.

The World Trade Organization and others have expressed particular concern about a trend towards “green protectionism.”<sup>45</sup> Many countries are moving quickly to impose new legal and technical rules for energy efficiency and climate-friendly goods that can effectively shut out foreign imports. Additionally, countries are aggressively seeking advantage for their clean energy producers in setting new international standards for energy efficient products and services. Many new technical requirements must be established for electric vehicles, smart grids and other green products, services and technologies. Those who set the standards will have the inside track on these important new markets.<sup>46</sup>

## Barriers to U.S. services.

Many countries place excessive burdens on service providers who play key roles in clean energy projects. Overly strict professional licensing requirements for consulting and engineering in various countries can limit U.S. exports of clean energy goods and services.<sup>47</sup> In China, U.S. construction, engineering, architecture and contracting firms face burdensome incorporation, capitalization and project-size requirements; U.S. project management firms are subject to overly burdensome qualification requirements; and smaller foreign urban design firms are essentially excluded from the Chinese market.<sup>48</sup>

## PROBLEM # 2

### The U.S. government fails to advance the interests of American companies and workers effectively.

Even as they face foreign barriers to their exports, American companies are also hampered by inadequate federal efforts to promote American exports and enforce existing international trade rules. Deficiencies in export promotion and enforcement hinder all U.S. exports. However, they are of particular concern to U.S. clean energy firms competing in a new, rapidly changing and highly competitive international market in which foreign governments are pulling out all the stops to promote their domestic industries.

## Inadequate Export Promotion

U.S. export performance is also hindered by longstanding problems with U.S. government export promotion programs. These impediments hamstring U.S. clean energy exporters, who face foreign competitors backed by robust, highly strategic and agile government export promotion efforts.

- Compared to other major developed nations, the United States spends far less on export promotion and derives far less of its GDP from exports. The United Kingdom, for example, spends \$0.75 per thousand dollars of exports on export promotion and derives 34% of its GDP from exports, while United States spends only \$0.21 cents per thousand dollars of exports and derives only 9-13% of its GDP from exports.<sup>49</sup>
- In an era when world export markets are more competitive than ever, U.S. export promotion resources and agency staffing are declining.<sup>50</sup>
- As in the enforcement area, too many agencies are pursuing disjointed goals. At least nine federal agencies have an export promotion program. According to the Government Accountability Office, the U.S. Government lacks an effective mechanism for determining whether resources are properly allocated among these agencies to meet national export priorities.<sup>51</sup>
- Small and mid-sized enterprises (“SMEs”)—which comprise 97% of U.S. exporters and account for 29% of U.S. export value—don’t get enough help in entering and navigating the complexities of the export process.<sup>52</sup> 30% of non-exporting SMEs say they would consider exporting if they had better access to market information, export opportunities and the export process.<sup>53</sup>
- American companies have trouble getting access to federal programs to help finance exports because of bureaucracy and red tape. They also note that these services are not well coordinated and hard to use. They also complain that the U.S. government could do a much better job using existing financing programs to help American clean energy exporters compete with foreign producers whose governments provide more flexible and attractive export financing.<sup>54</sup>

### **Inadequate Export Enforcement and Monitoring**

For decades, U.S. trade officials have crisscrossed the globe to sign trade deals designed to assure that American goods and services have access to foreign markets.<sup>55</sup> Many of these rules can play a vital role in opening trade for U.S. clean energy exports, and new trade rules are still needed. These trade deals can only benefit U.S. exporters, however, if they are actively monitored and aggressively enforced. Unfortunately, especially in recent years, the United States has often fallen short in providing the resources and focus necessary to assure strong enforcement and aggressive day-to-day monitoring of its international trade rights.

- Only one-fifth of USTR’s staff is now devoted to trade enforcement and monitoring activities, which means enforcement often takes a back seat.<sup>56</sup>

- Funding for monitoring and enforcement hasn't grown, despite the rapid growth of trade and new agreements to monitor.<sup>57</sup>
- At least 17 federal agencies are involved in trade enforcement, with multiple units within USTR and the Departments of Agriculture, Commerce and State playing leading roles. However, these multiple agencies don't effectively coordinate their activities or pool their resources well.<sup>58</sup>
- Enforcement officials often wait for complaints before they act, instead of proactively seeking to identify and prioritize potential trade barriers.<sup>59</sup>

### **Inadequate Domestic Support**

Clean energy industries in many other countries are internationally competitive because their governments have created and maintained durable policy incentives, such as preferential utility tariffs for renewable energy and subsidies, to support their clean energy sectors.<sup>60</sup>

The United States, on the other hand, has not historically provided that kind of support to specific sectors,<sup>61</sup> including encouraging foreign companies to create American subsidiaries in the United States that employ American workers. While pending energy legislation includes some incentives for clean energy development,\* it still may not be enough to ensure American long-term leadership in this sector.<sup>62</sup> Additionally, the United States is not moving aggressively and smartly to eliminate key structural barriers to broaden domestic adoption of clean energy technologies.<sup>63</sup>

Clean energy export trade has also often been overlooked in the current debate on climate change, which has largely focused, in the trade context, on "carbon leakage" from imports. This is despite the fact that more open trade in clean energy goods and services could benefit the United States economically and make a significant positive impact on achieving global climate change goals.<sup>64</sup>

## **THE SOLUTION**

### **A national strategy for getting our share of clean energy trade.**

For America to win a larger share of future job growth in clean energy, U.S. companies must produce innovative, efficient, competitive and high quality clean energy products and technologies.<sup>65</sup> The U. S. Government must support and incentivize American clean energy firms by putting a price on carbon, developing smart domestic energy policies and making robust investments in clean

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\* Third Way has proposed several ideas for boosting America's clean energy sector, including a National Institutes of Energy and Clean Energy Business Investment Zones.

energy technology development.<sup>66</sup> Only through private sector and government collaboration on each of these touch points will America be able to develop the solar and wind storage capacity, extended charge batteries and other technologies that are the long term keys to the global market. The United States must also help grow the global clean energy sector through international cooperation on clean energy R&D and market development, both of which would supplement reducing greenhouse gases through carbon pricing and other policies.<sup>67</sup>

Equally vital, however, is for the United States to aggressively pursue a clear national export strategy that will win Americans a bigger share of the global clean energy market.<sup>68</sup> This strategy should seek to promote American clean energy products aggressively, with a focus on helping small and medium-sized companies lead the charge, cracking down on countries that don't play fair and winning global agreements that set fairer rules for clean energy trade.

To advance these goals, we propose four major steps:

## STEP # 1

### **Establish a national goal for winning more of the global clean energy market.**

Congress and the Administration should establish an aggressive national target for increasing American clean energy exports, appoint a clean energy export jobs coordinator and better track the impact on American jobs of clean energy export promotion efforts.

### **Announce a bold national target: to double America's share of global clean energy trade by 2020.**

America currently has only an 8% to 12% share of the world market for major efficient technologies and products. Europe, on the other hand, commands over 40% of global trade for many of these important technologies and products.<sup>69</sup> The United States should aim to double its share of the rapidly expanding world clean energy market by 2020. Although America will benefit from a growing, global clean energy "pie," it must also aggressively seek a bigger "slice" through focused support for clean energy exports.

The announcement of a clear national goal for increasing American's clean energy exports can focus policymakers on a tangible objective and help them measure success.<sup>70</sup> To track the nation's progress, Congress and the Administration should agree on a common and broadly defined definition of "clean energy" and establish the necessary economic tools to measure the economic impact of the clean energy sector, including clean energy exports and related jobs. This would give policymakers a baseline and a clear means of quantifying

the economic activity generated by the production and export of clean energy services and goods.

### **Appoint a clean energy export coordinator and create a one-stop shop for clean energy exporters.**

Effectively promoting clean energy exports requires coordination of many crosscutting issues and distinct governmental functions, ranging from clean energy development, to exporter assistance, to trade agreement negotiation and enforcement. The United States should assure a more coordinated and effective approach to clean energy exporting by: (1) designating a clean energy export coordinator; (2) immediately implementing the clean energy export working group previously mandated by Congress; and (3) creating a “one-stop shop” for clean energy exporters.

A single clean energy export coordinator, working under the direction of the Administration’s “green cabinet,” would assure better coordination of clean energy export programs, play a critical role in implementing a national clean energy export strategy and assure that clean energy export policy is aligned with overall U.S. clean energy goals. A clean energy export working group was mandated by the Energy Independence and Security Act of 2007<sup>71</sup> and Commerce Secretary Locke recently announced the creation of an interagency working group on clean energy exports.<sup>72</sup> The Administration and its clean energy export coordinator should now move aggressively to implement such a working group, which will help bring additional coherence and a strategic focus to U.S. clean energy export promotion.

Finally, Congress and the Administration should create a “one-stop shop” for clean energy exporters, so that U.S. exporters can access all U.S. clean energy export promotion, enforcement and financing resources through a single portal. In implementing the “one-stop shop” concept, Congress and the Administration should also consider whether it makes sense to concentrate government-wide clean energy export promotion resources in programs that have proven to be the most effective.

### **Measure the success of clean energy promotion efforts in creating American jobs.**

Creating good American jobs should be the ultimate goal of all efforts to promote clean energy exports. Congress and the Administration should require a rigorous evaluation of the various approaches to clean energy export promotion, including the measurement of the success of different initiatives in supporting and creating good U.S. jobs.<sup>73</sup>

## STEP #2

### Focus on promoting small and medium-sized companies.

Congress should help small and medium-sized companies lead the charge in expanding clean energy exports by establishing a “clean energy export opportunity fund” for small and medium-sized companies, waiving user fees for smaller companies taking advantage of export promotion services and establishing a pilot project aimed at promoting exports of American clean energy goods and services.

#### **Establish a clean energy export opportunity fund for small- and medium-sized companies.**

National export growth is powerfully linked to participation by small and medium enterprises in export markets.<sup>74</sup> Commerce Secretary Locke has recently announced, for example, a separate, new interagency working group to improve U.S. export performance by enhancing exports by small and medium enterprises.<sup>75</sup> Similarly, promoting exports by SMEs—either directly or in partnership with established U.S. exporters—must be a critical driver of U.S. success in clean energy. To help spur SME clean energy exports, the United States should create a \$15 million SME Clean Energy Export Fund. This fund would focus specifically on assuring that SMEs—including clean energy parts suppliers and engineering and design firms—have the information, export opportunities and assistance they need to better compete internationally.

#### **Waive user fees for qualifying small-and medium-sized clean energy firms using the U.S. Commercial Service.**

The U.S. Commercial Service provides valuable, fee-based services to American companies seeking to enter foreign markets, including international company profiles, international partner searches and “Gold Key” service to facilitate foreign visits by potential U.S. exporters. Although USCS has made some efforts in recent years to provide these services to SMEs at reduced fees, small firms still face problems with the USCS fee structure for trade assistance.<sup>76</sup> USCS should be authorized to establish a pilot program under which it would be authorized to waive its service fees for qualifying clean energy SMEs and required to study the effectiveness of such fee waivers on encouraging SME exports and creating jobs.

#### **Create a new pilot project dedicated to promoting American clean-energy goods and services overseas.**

Congress should also create a new multi-year demonstration project aimed at developing other innovative ideas for improving export promotion for American clean energy companies, with a particular emphasis on exports by small- and medium-sized firms. Among other things, this project should (1) be given the

flexibility to explore and utilize the best practices of state and foreign export promotion programs; (2) be authorized to provide greater financial support for clean energy trade missions and other exporter support activities; (3) provide flexible and robust financing to promote clean energy exports by building capacity and regulatory frameworks in developing countries;<sup>77</sup> and (4) develop new strategies to address the interagency coordination, resource allocation and progress measurement concerns regarding overall U.S. export promotion.

### STEP #3

#### Aggressively defend American interests abroad.

Congress and the Administration should also work to improve the way the United States defends the interest of American clean energy companies and workers overseas through better trade enforcement and by getting tough on foreign countries that slam the door on U.S. clean energy exports.

#### Prioritize trade enforcement on the clean energy sector.

The emerging clean energy sector provides the United States with a unique opportunity to develop a more forward-looking approach to trade enforcement. The USTR should recognize the tremendous long term *potential* for clean energy trade and assure that—whatever their current volume—such exports have the highest priority in its monitoring and enforcement plans. Additionally, USTR, Commerce, State and other agencies should adopt a highly coordinated and proactive approach to reviewing the myriad new foreign laws, standards and policies on clean energy that will be spawned by international climate change efforts. The goal of this robust “early warning” system should be to identify and root out emerging barriers before they can block U.S. exports. To this end, Congress must also insist that the USTR prepare a separate, detailed annual report on clean energy export barriers, as required by the 2005 Energy Policy Act, rather than addressing related trade barriers in a general and scattershot manner in the hundreds of pages of its annual trade barriers report.<sup>78</sup>

The Obama Administration has signaled its intention to place a renewed focus on trade agreement enforcement. Last year, U.S. Trade Representative Ron Kirk announced a new initiative to identify, prioritize and prosecute violations of trade agreements that present the most significant barriers to U.S. exports.<sup>79</sup> Creating a new trade enforcement division within USTR and creating the post of Deputy USTR for trade enforcement would be additional useful steps to emphasize the priority of trade agreement enforcement.<sup>80</sup> Of course, for this renewed focus on trade enforcement to work for U.S. exporters, Congress and the Administration must also devote meaningful new resources to monitoring, training and enforcement activities.<sup>81</sup>

## **Require countries to play fair.**

The U.S. Government can significantly grow global markets for clean energy exports by accelerating international cooperation in clean energy R&D, by supporting capacity building initiatives in key developing countries, and by providing significant international financial support under the Copenhagen process.<sup>82</sup> However, it makes little sense for the United States to grow markets in countries that shut out U.S. clean energy suppliers or fail to enforce U.S. clean energy IP rights. U.S. policymakers must insist that improved access for U.S. clean energy goods and services be a key precondition for U.S. international cooperation on clean energy, and that American companies get their fair share of international clean energy projects ultimately paid for by American taxpayers.

## **STEP #4**

### **Set the standard for international cooperation.**

Finally, the United States should be a model for global engagement and cooperation on clean energy trade by advancing multilateral trade agreements that open up trade in clean energy goods and services and by welcoming direct foreign investment that creates American jobs.

### **Complete and ratify the global Environmental Goods and Services Agreement and advance other trade agreements.**

The United States should aggressively pursue the conclusion of an Environmental Goods and Services Agreement (“ESGA”) along the lines proposed by the United States and the European Union in 2007. That proposal would open up international trade in 43 categories of goods with clear environmental benefits identified by the World Bank, including wind turbines, power plant equipment, energy efficiency equipment, and water and air pollution control goods. The ESGA would also commit developed and advanced developing countries to eliminate trade barriers for a larger list of environmental goods and a range of environmentally related services.<sup>83</sup>

An ESGA has been under discussion within the World Trade Organization for eight years. While WTO negotiations should continue, the United States should also pursue an agreement in all other appropriate international forums, including the OECD and the Asia-Pacific Economic Cooperation forum. The United States should also redouble efforts to provide appropriate incentives for developing countries to join an ESGA by, for example, focusing on goods and services with significant export potential for developing countries, including agricultural products, and by developing “trade-for-aid” incentives to assist developing countries in the adoption of clean energy technologies.<sup>84</sup> As an interim measure, Congress

might also consider reforming the Generalized System of Preferences and other developing country trade preference programs to provide temporary, targeted trade benefits for imports of clean energy products and to create a pathway for developing countries to join the ESGA.

The United States should also continue efforts to have China and other countries join the Agreement on Government Procurement. Opening up foreign government procurements to U.S. clean energy firms is vital, given the central role of governments in many clean energy projects.

### **Eliminate foreign and domestic rules that unfairly restrict international clean energy investment.**

Open global trade and investment are vital for assuring that American companies and workers benefit fully from the global clean energy economy. The United States must work diligently to combat rules in countries like China and India that prohibit or unreasonably restrict U.S.-owned firms from investing or otherwise participating in clean energy projects. The United States must also lead by example by eliminating unfair rules that limit the ability of foreign-owned companies to participate in U.S. Government clean energy initiatives and that invite foreign retaliation against U.S.-owned firms. In particular, foreign-owned clean energy companies with substantial U.S. operations and significant U.S. workforces should not be unreasonably restricted from bidding on U.S. clean energy contracts<sup>85</sup> or obtaining appropriate export assistance for their U.S.-produced clean energy goods and services.

## **CONCLUSION**

America already has significant strengths as a global clean energy competitor, including its leadership in biomass and geothermal, its strong position in nuclear technologies, a sophisticated manufacturing base that can produce a wide range of clean energy goods, and world-class capabilities in clean energy services and technologies.<sup>86</sup> American clean energy companies and their workers are well positioned to lead the way to a renaissance of U.S. export trade.

Innovation and initiative by the U.S. clean energy sector will ultimately determine whether U.S. renewable energy firms are successful in export markets. But government can play a vital role in creating conditions for such success. New U.S. and foreign environmental regulatory policies and export promotion efforts are and will be key drivers of the global clean energy market. Under a comprehensive clean energy export strategy, the U.S. Government can assure that such policies encourage open clean energy markets around the world and ensure that America gets its share of future clean energy trade.

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## ■ ENDNOTES

1 The Pew Charitable Trusts, "The Clean Energy Economy: Repowering Jobs, Businesses and Investments Across America." June 2009, p. 26: [www.pewcenteronthestates.org/uploadedFiles/Clean\\_Economy\\_Report\\_Web.pdf](http://www.pewcenteronthestates.org/uploadedFiles/Clean_Economy_Report_Web.pdf). In comparison, the global Internet economy is valued at about \$1 trillion annually.

2 Clean technologies represent the biggest opportunities for job and wealth creation. Ibid, p. 4; Colvin, Jake, "America's Green Trade Challenge." Business Week, August 11, 2009: [http://www.businessweek.com/bwdaily/dnflash/content/aug2009/db20090811\\_875168.htm](http://www.businessweek.com/bwdaily/dnflash/content/aug2009/db20090811_875168.htm); Jasmy Methipara, Amy Sauer, Chrissy Elles, Fredric Beck and Carol Werner, eds, Environmental and Energy Study Institute, "Fact Sheet: Jobs from Renewable Energy and Energy Efficiency." October 22, 2008. For a summary of studies on the national, state, global and sectoral employment impacts of clean energy please see [www.eesi.org/files/green\\_jobs\\_factsheet\\_102208.pdf](http://www.eesi.org/files/green_jobs_factsheet_102208.pdf).

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