Governments should not be in the business of picking winners and losers in the marketplace, argue policy makers skeptical of government industrial development policies. But whatever the merits of this position, there can be no doubt that governments are getting into the business of picking winners and losers on a grand scale in the “cleantech” sector, which encompasses wind turbines, solar photovoltaic panels, carbon capture systems, biofuels, battery systems for next-generation vehicles, and other green energy technologies. Promotion of the cleantech sector is widely portrayed as a key step in reducing greenhouse gas (GHG) emissions and in mitigating the effects of climate change.

A rush to subsidize is on, as leading industrialized countries stake their competitiveness—and prestige—on leading the green energy revolution. As stated by President Obama in announcing more such funding earlier this year, “I welcome and am pleased to see a real competition emerging around the world to develop ... clean energy technologies. Competition is what fuels innovation. But I don’t want America to lose that competition.” President Obama’s counterparts in Brussels, Beijing, Tokyo, and Seoul seem to be of the same mind, all seeing their respective jurisdictions in the same leading role.

Under the double political cover of climate change mitigation and economic stimulus, governments around the world are injecting massive support into their respective domestic cleantech champions. The global wave of cleantech subsidies, however, is unraveling a general consensus formed in the 1990s on the role of industrial subsidies, and seems bound to create new friction among trading partners as subsidies alter global cleantech trade and investment flows.

**Old-Fashioned Industrial Development in a New Form**

Examples of new cleantech subsidy programs—really, new industrial development programs—abound. To cite just a few examples:

- In the United States, the 2009 American Recovery and Reinvestment Act (ARRA) $787 billion stimulus package committed, among substantial funding for cleantech manufacturers, $3.4 billion for carbon capture and sequestration technology demonstration projects. Pursuant to ARRA, the U.S. Department of Energy recently awarded a $72 million loan guarantee to a producer of high-tech windows that reduce energy costs, to support the construction of a new manufacturing facility.
- In the European Union (EU), the Commission and member country governments promote renewable energy through subsidized feed-in tariffs and a range of other support measures, including investment subsidies and tax incentives. The EU recently approved subsidies to a German producer of solar cells that will cover 10 percent of a 530 million euro investment in new production capacity.
- In China, governments at the national, provincial, and local levels are providing a wide range of subsidies, including the provision of land at no cost, R&D grants, factory construction incentives, and advantageous financing, to promote solar energy companies. As with ARRA in the United States, a very substantial amount of China’s recent $586 billion economic stimulus package is directed toward the development of green energy infrastructure and technologies.
- Japan provides financial incentives under its Clean Energy Vehicles Introduction Project to promote the domestic production and purchase of electric and hybrid vehicles. These incentives include purchaser subsidies covering up to 50 percent of the incremental cost of such vehicles.
- In Korea, the “Green New Deal” project has committed over $30 billion to a variety of renewable energy and other environmental projects. Some of this government support is directed toward the auto sector’s development of low-carbon vehicle technologies, including hydrogen fuel-powered autos.

The combined pressures on governments to stimulate manufacturing employment and shift to low-carbon energy sources have provided strong momentum for the cleantech subsidy wave. However, these government financial assistance campaigns are arguably inconsistent with, and vulnerable under, globally agreed disciplines on subsidy programs.

In the decades following World War II, in a series of negotiating rounds, the world’s major trading nations forged a global set of trading rules culminating, with the conclusion of the Uruguay Round in 1994, in the agreements establishing the World Trade Organization (WTO). Among the key successes of the Uruguay Round was the Agreement on Subsidies and Countervailing Measures (SCM Agreement), which had been negotiated amid widespread recognition that heavy government subsidization of strategic industrial sectors, such as iron and steel misallocated resources, caused over-capacity and distorted trade.

The SCM Agreement provided, at Article 1, the first internationally agreed-upon definition of “subsidy.” The definition is broad, encompassing not only obvious and direct forms of government support such as grants, loans, and loan guarantees, but also indirect forms of government assistance such as foregoing revenue otherwise due, providing goods...
or services on preferential terms, and directing private entities to carry out assistance on behalf of the government. The SCM Agreement also established new disciplines on subsidies that divided them into three categories: prohibited “red light” subsidies, actionable “amber light” subsidies, and non-actionable, or permitted, “green light” subsidies. Prohibited subsidies, defined at Article 3, include subsidies intended to spur exports, which are considered to have the most pernicious trade-distorting effects. Actionable subsidies, as laid out in Articles 5 and 6, are those that can be shown to cause adverse effects—most significantly, in the form of “serious prejudice” to the sales or exports of other WTO members. Serious prejudice can arise in a number of ways, including when the effect of a subsidy is to displace imports of a like product into the subsidizing country, or when the effect of a subsidy is to displace exports of another country in a third-country market. Unlike export subsidies, which are always illegal, other subsidies are actionable only if “specific” to an industry or related group of industries.

Until 2000, the SCM Agreement permitted subsidies in certain narrowly defined categories, defined in Article 8, such as subsidies to economically disadvantaged regions, certain R&D subsidies, and subsidies for adaptation to environmental requirements. The SCM Agreement provisions exempting these types of subsidies from challenge lapsed in 2000, when WTO members could not agree on the terms of an extension. With this lapse, the SCM Agreement became stricter, no longer providing a safe harbor for a range of subsidies that WTO members desired to insulate from attack. Most importantly, viewed from the current perspective of climate change mitigation, there is no remaining exemption for subsidies to facilitate adaptation to new environmental requirements. This lapsed exception might have provided a safe harbor for some cleantech assistance being provided by governments today.

**WTO Subsidy Disciplines and Cleantech**

WTO members may take action against prohibited or actionable subsidies provided by other members in one of two ways. One method is to impose countervailing duties on imports of products found to benefit from subsidies, pursuant to the importing country’s domestic laws. Under this method, permitted by WTO law, countervailing duties are normally imposed at the request of domestic producers claiming material injury from subsidized imports. WTO members have invoked the latter authority hundreds of times since adoption of the SCM Agreement, imposing countervailing measures on a wide range of allegedly subsidized products. There is no bar to the use of countervailing duty laws to offset cleantech subsidies.

The other method is to challenge such subsidies directly, in government-to-government action, through the WTO dispute settlement process in Geneva. Direct subsidy challenges in the WTO have been rare, with the best-known example constituting the long-running trade feud between the United States and the EU concerning alleged subsidies to the production of large civil aircraft (LCA). As of March 2010, the WTO dispute settlement panel in the U.S. case against the EU has ruled that some repayable launch aid provided by EU governments to Airbus caused serious prejudice to Boeing, while some EU launch aid was export-contingent, and therefore prohibited. The panel in the companion EU case against the United States has yet to issue a ruling.

Both of the LCA cases are likely headed to the WTO Appellate Body, and their final disposition remains uncertain. However, the existing panel ruling in the case brought by the United States against the EU holds some important lessons for the same governments, now committing public resources on a large scale to their domestic cleantech champions. One lesson is that strategically critical industrial sectors—which now include cleantech—are not immune from high-profile WTO challenges that can become major trade irritants. Another lesson is that subsidies to such sectors can backfire on governments in the form of costly litigation losses. One remedy that is available to winning parties in WTO disputes—and which may come into play in the LCA dispute—is the right for the winning party to impose retaliatory duties on products imported from the losing country. Indeed, in a recent WTO case involving U.S. subsidies to cotton producers, the challenging country, Brazil, won the right to impose retaliatory measures in the hundreds of millions of dollars.

In the United States, as in the other countries rushing to promote their domestic cleantech champions, the rush to subsidize is grounded in fears of diminishing U.S. competitiveness in this sector. The concern is exemplified in the words of Representative Bobby L. Rush (D-IL), who introduced an October 2009 hearing on “Growing U.S. Trade in Green Technology” by claiming that the United States has, over the last decade, moved from a positive overall green technology trade balance of $12 billion to a deficit of nearly $9 billion. For some green technologies, said experts testifying at the hearing, the trade deficit has grown particularly severe. For example, according to Steven F. Hayward of the American Enterprise Institute, the U.S. trade deficit in wind power components has, in recent years, grown to $20 billion. To correct this imbalance, Rush urged the adoption of a vigorous and long-term U.S. export promotion policy to reclaim U.S. green technology leadership. U.S. Energy Secretary Steven Chu has also repeatedly expressed his department’s commitment to ensuring that U.S. firms lead the clean energy race.

International tensions over cleantech subsidies could intensify with the enactment in the United States of a climate change bill. The American Clean Energy and Security Act of 2009, passed by the U.S. House of Representatives last year, would allocate millions of U.S. dollars earned through the auctioning of GHG emissions allowances to
various U.S. cleantech industries to enhance their competitiveness. Similarly, the American Power Act released in May 2010 by Senators John Kerry (D-MA) and Joe Lieberman (D-CT) calls for substantial investment in the development and deployment of clean energy technologies. In releasing this bill, Kerry and Lieberman announced that it would, among other objectives, provide “billions of dollars to create the next generation of jobs.”

Even if the House and Senate cannot reconcile their different approaches for U.S. climate change legislation, and no such law is enacted, a new American cleantech industrial development policy seems to be taking shape that relies, in large part, on the provision of government assistance that may be vulnerable under WTO subsidy disciplines. The enactment of climate change legislation would only reinforce this impression, as such a law would very likely provide substantial additional government funding to the cleantech sector. Indeed, U.S. climate change legislation might create yet another level of risk under WTO subsidy disciplines if, like the House bill, it would provide some U.S. industries with GHG emissions allowances at no cost. International trade law experts are currently debating whether the government provision of emissions allowances at no cost to some industrial sectors, while others must pay, would constitute an actionable subsidy under the SCM Agreement.

Already, the EU and China have challenged U.S. cleantech programs. In 2009, the EU imposed countervailing (and antidumping) duties on U.S.-origin biodiesel imports found to benefit from actionable subsidies in the form of tax credits to biodiesel producers. More recently, China initiated a countervailing (and antidumping) duty investigation against imports of U.S.-made autos with engine displacement of two or more liters. China’s countervailing duty investigation covers 31 distinct U.S. federal and state programs, including cleantech promotion programs such as the U.S. Department of Energy’s Advanced Technology Vehicles Manufacturing Loan Program, the Troubled Asset Relief Program, the “Cash for Clunkers” program, and various tax incentives related to hybrid and electric autos. A final determination of countervailing duty liability in the Chinese case against U.S.-made autos could be issued as soon as November 2010.

Can New International Agreements Stave Off Cleantech Disputes?

With the cleantech subsidy wave seeming to gather speed, what options are available to reduce the risk of new trade conflicts? One solution might be agreement among WTO members on a new list of exempted subsidies, comparable to the lapsed Article 8 exemptions, for subsidies linked to the development and diffusion of low-carbon energy sources. Such exemptions could be developed in the context of the ongoing Doha Round of WTO negotiations, in which the WTO membership is already reviewing potential revisions to the SCM Agreement. However, the Doha Round negotiations are bogged down—some say hopelessly so—as governments struggle to resolve differences on politically charged issues such as agricultural market access. Further, so long as key WTO members see their own economic competitiveness as inextricably linked to the success of their domestic cleantech champions, it seems unlikely that they would agree to give up the right to challenge subsidies provided to those companies’ foreign competitors. To date, no WTO members have introduced proposals for subsidy exemptions comparable to the lapsed Article 8 list.

A related possibility lies in the adoption of a new WTO agreement on trade in environmental goods and services (EGSA), as is being pursued under the Doha Round mandate, which at paragraph 31(iii) calls for “the reduction, or as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services.” The scope of the EGSA negotiations, which currently focus on defining the range of environmental goods and services to benefit from trade liberalization, could reasonably be expanded to clarify cleantech subsidy disciplines. A similar approach was taken in the 1979 Agreement on Trade in Civil Aircraft, which sought both to liberalize trade in civil aircraft and fix the range and extent of permitted subsidies to this sector. However, the threshold question of defining the scope of a potential EGSA has proved difficult enough, with WTO members unable to overcome an impasse on whether the scope of goods and services to be encompassed by EGSA should include biofuels. For a group of developing countries led by Brazil, the inclusion of biofuels is a sine qua non for EGSA; for the United States and the EU, it is a deal-breaker. Thus, it is unlikely that any substantial progress on EGSA can occur in the near future.

Another option for international agreement on cleantech subsidy disciplines may lie in the ongoing UN Framework Convention on Climate Change (UNFCCC) negotiations. The UNFCCC Copenhagen Accord, adopted in December 2009, calls at Article 11 for the establishment of a “Technology Mechanism” to accelerate technology development (and its transfer to developing countries) in support of globally coordinated action on adaptation to, and mitigation of, the effects of climate change. The Article 11 Technology Mechanism could serve as a platform for identifying types of cleantech funding that, according to the UN membership, should be protected from challenge. WTO dispute settlement panels might defer to such international agreement on cleantech funding in the event of a subsidy dispute, as they sometimes have where WTO trade rules have appeared to conflict with multilateral environmental agreements. However, the UNFCCC process also has serious limitations as a means of clarifying existing internationally agreed subsidies disciplines. This became clear during the Copenhagen Summit, when negotiators attempted to
address other aspects of international trade law related to GHG reductions but failed to reach agreement. Observers of the UNFCCC process have commented that climate change negotiators are looking to the separate realm of international trade negotiations to resolve such issues. However, with the WTO Doha Round negotiations seriously mired as is, that may be expecting too much.

While lawyers are often inclined to see formal international agreements as the best way to address looming conflicts such as those presented by the cleantech subsidy wave, the ongoing WTO and UNFCCC negotiation tracks are not the only option. A more accessible alternative may be to defuse such conflicts through cross-border cooperation on cleantech development, and through subsidies to innovation that are mutually beneficial to countries that might otherwise seek to challenge each others’ subsidy programs. One such example is the U.S.-China Clean Energy Research Center, which is currently examining financing for joint projects focusing on green building, clean coal, and next-generation vehicles. Such cooperative efforts, replicated on a larger scale, could help avoid government-to-government subsidy feuds before the WTO akin to the current LCA dispute.

Skeptics of government largesse and intervention in the economy might prefer for governments to extricate themselves from the cleantech sector altogether, allowing market signals alone to determine which clean energy technologies succeed and which ones fail. But governments are already too far in, committed to the promotion of their domestic cleantech champions. The skeptics will have to accept that governments are not about to leave the business of picking winners and losers, and that large-scale industrial development policy is back—and with it an elevated risk of international subsidy disputes. ✫