Executive Summary

This report documents the dawning of a new worldwide industry—clean energy—which has experienced investment growth of 230 percent since 2005. Demonstrating its strength, the clean energy sector declined only 6.6 percent in 2009 despite the worst financial downturn in over half a century. In 2009, $162 billion was invested in clean energy around the world. Rebounding from a sharp downturn in the last quarter of 2008 and first quarter of 2009, clean energy investments in the G-20 averaged a robust $32 billion in each of the last three quarters of 2009. In an encouraging sign for the future, many governments prioritized clean energy within economic recovery funding, the bulk of which will reach innovators, businesses and installers in 2010 and 2011. Clean energy investments are forecast to grow by 25 percent to $200 billion in 2010.

Accounting for more than 90 percent of worldwide finance and investment, G-20 countries dominate the clean energy landscape. As the country profiles in this report demonstrate, virtually all G-20 countries have seen investments grow by more than 50 percent over the last five years.

Within the G-20, our research finds that domestic policy decisions impact the competitive positions of member countries. Those nations—such as China, Brazil, the United Kingdom, Germany and Spain—with strong, national policies aimed at reducing global warming pollution and incentivizing the use of renewable energy are establishing stronger competitive positions in the clean energy economy. Nations seeking to compete effectively for clean energy jobs and manufacturing would do well to evaluate the array of policy mechanisms that can be employed to stimulate clean energy investment. China, for example, has set ambitious targets for wind, biomass and solar energy and, for the first time, took the top spot within the G-20 and globally for overall clean energy finance and investment in 2009. The United States slipped to second place.

There are reasons to be concerned about America's competitive position in the clean energy marketplace.

Relative to the size of its economy, the United States' clean energy finance and investments lag behind many of its G-20 partners. For example, in relative terms, Spain invested five times more than the United States last year, and China, Brazil and the United Kingdom invested three times more. In all, 10 G-20 members devoted a greater percentage of gross domestic product to clean energy than the United States in 2009. Finally, the Unites States is on the verge of losing its leadership position in installed renewable energy capacity, with China surging in the last several years to a virtual tie.

The U.S. policy framework for reducing global warming pollution and promoting renewable energy remains uncertain, with comprehensive legislation stalled in Congress. On the other hand, America's entrepreneurial traditions and strengths in innovation—especially its leadership in venture capital investing—are considerable, giving it the potential to recoup leadership and market share in the future.

Policy, investment and business experts alike have noted that the clean energy economy is emerging as one of the great global economic and environmental opportunities of the 21st century. Local, state and national leaders in the United States and around the world increasingly recognize that safe, reliable, clean energy—solar, wind, bioenergy and energy efficiency—can be harnessed to create jobs and businesses, reduce dependence on foreign energy sources, enhance national security and reduce global warming pollution.

Nations seeking to compete effectively for clean energy jobs and manufacturing would do well to evaluate the array of policy mechanisms that can be employed to stimulate clean energy investment. This is especially true for policymakers in the United States, which is at risk of falling further behind its G-20 competitors in the coming years unless it adopts a strong national policy framework to spur more robust clean energy investment.