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Green Policy is Good Economic Policy



New York State, with its top tier universities, well-educated workforce and rich natural resources, is uniquely positioned to take advantage of the growing demand for a cleaner, more environmentally sound economy. Investing now in the needed infrastructure and human capital will pay dividends for decades.

While public policy changes are just beginning, investments in clean technology, or CleanTech, have grown dramatically since 2001. According to the Cleantech Group LLC, venture capital investments have increased over 400 percent from \$780 million in 2001 to nearly \$4 billion in 2007.

CleanTech can be any product, service or process that, when compared to conventional technology, conserves energy or natural resources, and reduces production of wastes or assists in the remediation of contaminated water, air or soil. The major CleanTech industries include electric generation from renewable resources like solar or wind power, water purification, biofuels and biomaterials, green buildings and transportation technologies. There are also a number of emerging technologies, such as tidal power, silicon-based fuel cells and nanotechnology-based materials, which will continue to grow.

Sound environmental management is also good for business. There are a growing number of large international corporations that have adopted CleanTech policies and have used these policies to their advantage. For example, Hewlett Packard developed a manufacturing policy that looks at the lifecycle of its products instead of the composition of the goods shipped. The company identified three priorities based on lifecycle environmental impacts: energy efficiency, materials innovation and design for recyclability. This process helped reduce costs and improve profits.

Many large investment companies and banks are providing capital for CleanTech industries, and many have set up committees that specifically look for clean/green technology opportunities. In 2005, Goldman Sachs published an Environmental Policy Framework and committed to invest \$1 billion in renewable energy and energy-efficient products. By 2007, Goldman Sachs had invested over \$2 billion.

Within New York State, there are a number of CleanTech businesses in operation or soon will be. For example, Upstate's Maple Ridge Wind Farm has 195 turbines producing 320 megawatts of electricity. Currently, this is the second largest windfarm in the United States. Also, Verdant Power will install six electric-generating turbines in New York's East River, producing 600 kilowatts of power.

New York's colleges and universities are also actively engaged in CleanTech research and development. The College of Nanoscale Science and Engineering at the University at Albany recently opened the Center for Sustainable Ecosystem Nanotechnologies that will research renewable energy technologies, including fuel cells, solar power, wind energy and biofuels. The College has already attracted over 250 global corporate partners.

In addition to the College of Nanoscale Science and Engineering, many other New York colleges and universities are researching renewable energy technologies and ways to improve efficiency and conservation. The State's community colleges are educating the workforce needed for these new jobs.

Today, many states have mandated utilities to generate a specific percentage of electricity from renewable resources. New York requires that 25 percent of its electricity supply be provided by renewable resources by 2013.

In the past, clean technologies have been more expensive than conventional technologies. Today, with technological advances and large increases in the price of oil and other conventional energy sources, the price differential has declined. In a number of instances, CleanTech technologies now have a lower cost. According to a report by Morgan Stanley, clean energy sources are expected to become cost effective in five to seven years.¹ This will result not only from anticipated supply and demand, but also from the sharp rise in the cost of fossil fuels and government policies which continue to increase mandates and price subsidies.

A recent study by the McKinsey Global Institute focuses on the fact that investing in energy demand abatement and energy efficiency is not only good public policy but is also good for the economy. The study states: "Our latest research shows that additional annual investments of \$170 billion for the next 13 years would be sufficient to capture the energy productivity opportunity among all end users."² These investments "would benefit the economy by freeing up resources to increase consumption and investment elsewhere."³

New York State should continue to take full advantage of opportunities to create new jobs and grow the State's economy by investing in CleanTech business and reducing energy consumption. This strategy may not require significant amounts of new funds. Instead it involves a more focused targeting of existing programs to promote clean energy and economic growth, coupled with investments in education and worker training.

¹ Morgan Stanley. "Clean Energy: Sustainable Opportunities." October 16, 2007.

² McKinsey Global Institute. "The Case for Investing in Energy Productivity." February 2008.

³ *Ibid.*