



# American Center Вестник

JUNE  
2008

## RENEWABLE ENERGY

The renewable energy sector is about to turn a corner. Commercially available and economically competitive in many locations, renewables will further U.S. national interests by helping end the addiction to oil and begin to address the issue of global warming. The industry is poised for Phase II, putting America's 30-year, \$15 billion investment in research, development, and demonstration of renewable energy technologies to use in the marketplace.

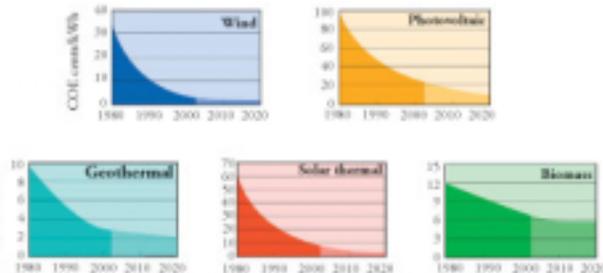
### Market Drivers

There are three key drivers pulling markets toward renewables. The first is national energy security. Current projections show U.S. oil consumption increasing and outpacing flat domestic production curves, leaving the United States increasingly dependent on foreign oil markets. This would make the U.S. economy vulnerable to disruption in oil imports.

A second driver toward renewable energy is concern about climate change. Renewable energy can help provide for our energy requirements while decreasing our greenhouse gas emissions. According to several news sources, more than 2000 scientists have concurred that greenhouse gases such as carbon dioxide and methane are building up in the Earth's thin atmosphere and that this buildup of gases is increasing global temperatures. Many of these scientists believe that this increase of temperatures portends negative and potentially catastrophic consequences, that the time frame for addressing the issue is now, and that there are actions that can be taken. Use of carbon-free renewable energy is one of them.

A third market driver is the cost of renewable energy, which has been decreasing for decades and is projected to continue to decrease for some renewables, as shown in the figure above. The decreasing costs of renewable energies can be attributed to improvements in technologies of the renewables. As the industry matures, costs will continue to decrease.

### Decline in Renewable Energy Costs



These graphs are reflections of historical cost trends, NOT precise annual historical data. COE = Cost of Energy.

Source: [www.nrel.gov/analysis/docs/cost\\_curves\\_2002.ppt](http://www.nrel.gov/analysis/docs/cost_curves_2002.ppt)

### Wind Energy

Engineering advances have made wind energy one of the world's fastest-growing methods of generating electricity, and multi-megawatt wind turbines produce electricity today at costs that are starting to compete with conventional energy sources. But challenges to the industry remain.

In the United States – the best market for wind power with 5.2 gigawatts (one gigawatt equals one billion watts) of new wind-energy capacity installed in 2007, followed by Spain (3.5 gigawatts) and China (3.4 gigawatts) – barriers to growth are economic, geographic and industrial.

In economic terms, “the key to maintaining the industry’s momentum is to extend the wind-production tax credit,” Randall Swisher, Executive Director of the American Wind Energy Association (AWEA), told *America.gov*. “That has to happen and I’m confident it will, but until we get that done, it will be hard for us to focus on a range of other things that are going to be important long term.”

The production tax credit is a federal tax credit created in 1992 to encourage large-scale wind-energy production. Congress has let the credit expire three times over ten years, Swisher said, creating a disincentive for U.S. and international companies to invest in the U.S. wind-power manufacturing sector. AWEA, he added, “is seeking as long an extension as possible for the tax credit, but at least five years and ideally ten or longer.”

A more stable tax credit would augment the growing movement of wind turbine and component manufacturers in Europe and elsewhere into the booming U.S. market. At 56.5 gigawatts, Europe has the most installed wind power of any continent, but since 2005, the United States has been the world's largest wind turbine market.

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(Monday through Friday)

HOLIDAYS  
None

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## A WORD FROM THE CENTER

In my home state of California, there are vast tracts of land where all that is visible as far as the eye can see are wind turbines. These wind turbines, as well as solar panels, always captured my imagination. What a beautiful thing it seemed to be able to produce something from the natural elements: it was amazing to me that the sun's rays and wind's power could be turned into electricity, and clean electricity at that. Renewable energy has taken center stage. As you will read in the main article, many trends and developments – national energy security, concern about climate change, and the decreasing cost of renewable energy – have helped to make renewable energy more commercially available and economically viable.

Although we celebrated Earth Day in April and World Environment Day will be commemorated on June 5, every day is earth day. So I hope you can take the time to read this issue, attend the Mumbai Mondays program on U.S. National Parks, and learn about climate change at our screening of *An Inconvenient Truth*. Together, we can all learn and do more to help protect the environment.



**Christine Dal Bello**  
Information Officer

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“European manufacturers see that if they want to continue growing their business, they need to participate in the U.S. market,” Swisher said, and “to be cost-competitive with a company like General Electric, they need to manufacture here and not be importing their equipment from Europe.”

### Wind-Power Technology

At utility-scale levels, wind energy is produced mainly by massive three-bladed wind turbines that sit atop tall towers and work like fans in reverse. Rather than using electricity to make wind, turbines use wind to make electricity.

Wind turns the blades and the blades spin a shaft that is connected to a generator; the spinning produces electricity. Industry-scale turbines for utilities can generate up to 2.5 megawatts. Homes, telecommunications dishes and water pumps use single small turbines that generate less than 50 kilowatts.

In the 1980s, rotor (blades and hub) diameters averaged 20 meters. Today, a rotor can be 90 meters wide.

“That’s important,” Mike Robinson, Research and Development Group Manager at the National Renewable Energy Laboratory’s National Wind Technology Center, told *America.gov*, “because if you make the blade twice as large, you capture four times the energy.”

Technology advances and increased machine size have made wind power competitive with new coal-fired or gas-fired electricity generation if the wind-production tax credit is in place.

“We were looking at [wind] technology 20 years ago that was on the order of 30 to 40 cents per kilowatt hour,” Robinson said. “Now it’s easily down to five to six cents per kilowatt hour.”

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### Ask America Web Chat

With worldwide demand for energy increasing everyday, the development of new, clean, renewable energy sources is critical to the Earth’s environment. In the United States, work is under way on a variety of potential answers to the global energy challenge. In a web chat on March 21, 2008, organized by the U.S. Department of State’s Bureau of International Information Programs, David Sandalow, an expert on energy policy and global warming at the Brookings Institution, and the author of *Freedom From Oil*, engaged in an on-line discussion on renewable energy and what it can mean for the environment. He answered a range of questions on renewable energy posted by many who joined the web chat from around the world. The following selection is excerpted from the web chat transcript.

**Q:** Is there enough potential in windmill power?

**A:** Yes, wind power has tremendous potential to generate electricity. Wind is providing a fast-growing percentage of power in northern Europe, California, India and many other places around the world. In many places, wind power costs no more than dirtier sources of power. People everywhere can benefit by exploring opportunities for wind power.

**Q:** Why is the U.S. not doing anything regarding CO2 emissions?

**A:** We are! Not nearly enough by any means, but more than half of our states now have serious programs to address this problem. Hundreds of U.S. cities have also committed to meeting the Kyoto targets. Major U.S.-based companies such as General Electric and Wal-Mart have taken important steps to become part of the solution. Legislation to limit the amount of heat-trapping gases from the United States as a whole is under very serious consideration in our Congress. All three of the leading candidates for President of the United States – Senator John McCain, Senator Hillary Clinton and Senator Barack Obama – support this legislation. Most experts think it will become law in 2009 or 2010.

**Q:** What kind of opportunities are there for students in the clean energy industry?

**A:** I’m glad you asked this question, because this will be one of the most exciting and important fields for decades to come. In order to bring clean energy to billions of people around the world, we will need people with many different kinds of backgrounds, including engineers, business people, mechanics, farmers, political leaders and much much more. Whatever your background and interests, I hope you look into ways to work on clean energy!

**Q:** How do you see the future of the power sector in India?

**A:** India has enormous renewable energy resources. The Indian government has adopted aggressive goals for deploying renewable power. I think these clean energy sources will grow very rapidly in the decades ahead. Coal will continue to be dominant, but shrinking in percentage terms. Natural gas and hydro power – both cleaner than coal – will also be important.

**To read the entire transcript, please log on to:**

<http://www.america.gov/st/washfile-english/2008/March/20080321134755xjsnommis0.80534.html>

## National and Global Benefits

Renewable energy is a broad category of sources that draws from the naturally available energy around us. While not a silver bullet, the more we use it, the better off we will be in terms of reducing oil imports, reducing pollution and greenhouse gas emissions, and increasing jobs.

Renewable energy can provide significant opportunities for developing countries and rural areas. For example, by providing new jobs and new sources of income for farmers and ranchers, the Colorado Green Wind Farm in Lamar, Colorado, boosted the local county tax base by 29 percent, increased the school general fund by \$917,000 per year, and increased funding of the county medical center by \$189,000.

The potential of renewable energy is vast. It contributes to America's needs for security of supply, a cleaner environment, good jobs, and investment opportunities. The rural sector of America stands to receive the most benefits from renewable energy development.

Such development also offers opportunity to the rural people of the world everywhere to gain access to modern forms of energy. Wind, solar, geothermal, biomass, and small hydro plants can generate electricity for rural utilities and villages. Solar PV and solar water heating can bring modern energy to homes.

## Outlook

The outlook for renewable energy in the United States and around the world is positive and accelerating. This is a challenge for government policy planners who have to rely on computer modeling projections that can be out of date because oil prices have increased rapidly and demand for renewable energy has accelerated. For example, while the official U.S. forecast from the Energy Information Agency shows renewable energy contributing only about ten percent of U.S. energy supply in 2030, various industry groups are more optimistic. The Energy Future Coalition is calling for 25 percent by 2025, and ACORE sees the potential for 20 percent, 30 percent, and 40 percent by 2020, 2030, and 2040, respectively.

To make this happen, conventional energy prices must continue to stay high, renewable energy costs must continue to come down, and government policies must be stable and predictable to encourage commitment of lenders and investors to the financing of renewable energy systems. There also must be international collaboration to transfer the technologies to developing countries.

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## THE AMERICAN CORNER

In Ahmedabad? Visit our American Corner.

The American Corner provides a window on life and culture in the United States and is the first place to visit for accurate and up-to-date information about political, economic, cultural, educational, and social trends in the United States. It is stacked with resources such as books and magazines, videos, DVDs, and Internet access. It is staffed by a reference librarian who will respond to all your queries. It is open all weekdays, except Tuesdays, from 1:00 to 8:30 p.m., and on Sundays, from 9:30 a.m. to 4:00 p.m. It is conveniently located at the Ahmedabad Management Association, ATIRA Campus, Dr. Vikram Sarabhai Marg, Ahmedabad. Tel: (079) 2630-0452; E-mail: [americancorner@amaindia.org](mailto:americancorner@amaindia.org).

### A Select List of Books on the Environment and Climate Change

*Climate Change and Biodiversity*

Edited by **Thomas E. Lovejoy** and **Lee Hannah**  
Yale University Press, 2005 (577.22 CLI)

*Environmental Values in a Globalizing World: Nature, justice and governance*

Edited by **Jouni Paavola** and **Ian Lowe**  
Routledge, 2005 (333.72 ENV)

*Global Climate Change*

Edited by **Paul McCaffrey**  
H. W. Wilson Company, 2006 (The Reference Shelf, Vol. 78, No. 1)  
(363.738 GLO)

*Global Warming: The Complete Briefing*

by **John T. Houghton**  
Cambridge University Press, 2004 (363.73874 HOU)

*An Inconvenient Truth: The Crisis of Global Warming*

by **Al Gore**  
Viking, 2007 (R 363.73874 GOR)

*International Environmental Law: Fairness, Effectiveness, and World Order*

by **Elli Louka**  
Cambridge University Press, 2006 (344.046 LOU)

*Managing Biodiversity in Agricultural Ecosystems*

Edited by **D. I. Jarvis**, **C. Padoch** and **H. D. Cooper**  
Columbia University Press, 2007 (630 MAN)

*New Perspectives on Environmental Justice: Gender, Sexuality, and Activism*

Edited by **Rachel Stein**  
Rutgers University Press, 2004 (363.7 NEW)

*Perspectives on Climate Change: Science, Economics, Politics, Ethics*

Edited by **Walter Sinnott-Armstrong** and **Richard B. Howarth**  
JAI Press (363.7 PER)

*Saving Nature's Legacy: Origins of the Idea of Biological Diversity*

by **Timothy J. Farnham**  
Yale University Press, 2007 (577 FAR)

*The Science and Politics of Global Climate Change: A Guide to the Debate*

by **Andrew E. Dessler** and **Edward A. Parson**  
Cambridge University Press, 2006 (363.73874 DES)

*The Weather Makers: How Man is Changing the Climate and What It Means for Life on Earth*

by **Tim Flannery**  
Atlantic Monthly Press, 2005 (363.73874 FLA)

Note: Internet sites included in this listing, other than those of the U.S. Government, should not be construed as an endorsement of the views contained therein.

**A Discussion on  
National Parks of the United States: Perspectives  
from a Park Ranger  
led by John Dunne**

**Monday, June 16  
American Center Auditorium**

**6:00 p.m.**

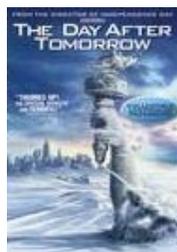
**John Dunne** joined the Foreign Service in January 2005 as a public diplomacy officer and is currently serving his second tour in Mumbai. His first tour was in Baghdad as a political officer with the Sunni Arab portfolio. Prior to joining the State Department, John worked as a high school English teacher in Samoa and as a biologist/firefighter with the National Park Service in Alaska, California and New Mexico. He also worked in National Geographic Television's Natural History Unit. John is married to Kristina Dunne, an economic officer now serving in Mumbai's Public Affairs Section after tours in Lima and Budapest. John has a B.A. in English from Saint Joseph's University in Philadelphia, a B.S. in Biology from the University of Alaska, Fairbanks, and an M.A. in Journalism from the University of Missouri, Columbia. He will speak about U.S. National Parks as well as his own experiences.

Friday, June 20 *The Day After Tomorrow* (2004, color, 123 mins)

Friday, June 27 *An Inconvenient Truth* (2006, color, 96 mins)

**American Center Auditorium**

**3:30 and 6:30 p.m.**



Written and directed by Roland Emmerich, this enthralling man versus nature thriller stars Dennis Quaid as a scientist whose prediction of an impending second ice age becomes a devastating reality. As the entire population heads south to warmer climates, Quaid must make a desperate trek to New York City to rescue son Jake Gyllenhaal, braving earthquakes, hurricanes, and tidal waves along the way. Sela Ward, Emmy Rossum, Dash Mihok, and Ian Holm costar.

The history and perils of global climate change are explored in this popular and controversial Oscar-winning documentary featuring former Vice President Al Gore. Taking his environmental science presentation on the road, Gore argues – with both alarming statistics and disarming humor – that just as the deleterious effects of global warming come from human activities, so too must the solutions to the crisis, he believes, place the future of Earth in the balance.



# U. S. ELECTIONS 2008



## National Conventions Going Green

Although the 2008 Republican and Democratic National Conventions are still months away, preparations to make them environmentally friendly are well under way.

When tens of thousands of people descend on Denver for the Democratic National Convention August 25-29, 2008, and St. Paul, Minnesota, for the Republican National Convention September 1-4, 2008, they will be participants in the greenest conventions in U.S. history.

By building energy-efficient offices, running fuel-efficient transportation, and encouraging offsets of carbon dioxide emissions, the Democratic National Convention Committee says it hopes to minimize any potentially negative environmental impacts of the convention while demonstrating the economic and community benefits of “greening.”

Efforts are already under way in St. Paul, where Republican National Convention Committee staff members have established environmentally-friendly offices.

Offices designed to create as little waste as possible are filled with recycled furnishings and office supplies. The offices' climate-control systems are shut off each day at 5:00 p.m. so that energy is not wasted during nonworking hours. The staff tries to conduct as much business as possible via the Internet so as not to waste paper.

**Read more about it on:**

<http://www.america.gov/st/elections08-english/2008/April/20080414160544hmnietua0.378689.html?CP.rss=true>