

## Solar Power Edges Toward Boom

Solar power could be the world's number one electricity source by the end of the century, but until now its role has been negligible as producers wait for price parity with fossil fuels, industry leaders say.

Once the choice only of idealists who put the environment before economics, production of solar panels will double both next year and in 2009, according to US investment bank Jefferies Group Inc, driven by government support especially in Germany and Japan, according to Reuters.

Similar support in Spain, Italy and Greece is now driving growth in southern Europe as governments turn to the sun as a weapon both against climate change and energy dependence.

Subsidies are needed because solar is still more expensive than conventional power sources like coal, but costs are dropping by around 5 percent a year and "grid parity," without subsidies, is already a reality in parts of California.

Very sunny countries could reach that breakeven in five years or so, and even cloudy Britain by 2020.

Grid parity is considered vital for freedom from potentially fickle governments for support. Established solar power companies are more optimistic than GE about the timing.

The price is how fast the industry cuts costs and how fast power prices rise. European power prices neared all-time highs this week, driven by record oil prices.

The industry could halve costs and achieve parity in significant markets including the United States, Japan and parts of southern Europe by 2012, said Erik Thorsen, chief executive of the world's biggest solar power company Renewable Energy Corp (REC).

REC expects to halve costs on new production by 2010. German solar power company Q-Cells AG, the world's second biggest maker of solar cells, expects similar cuts by making more components itself, thinner than before, and by using cheaper techniques for processing the silicon raw material.

The solar sector has grown at 40 percent per year despite a shortage of silicon, but that bottleneck should ease over the next two to three years, said executives.

But all the growth is from a tiny base. The sun supplies just 0.3 percent of electricity even in market leader Germany, says Jefferies.

## Examining Potential To Produce Biodiesel

What do the countries of Thailand, Uruguay and Ghana have in common? They all could become leading producers of biodiesel, says a study from the University of Wisconsin-Madison Nelson Institute for Environmental Studies.

The ease of manufacturing biodiesel from vegetable oils and animal fats has made it one of the most promising, near-term alternatives to fossil fuels, Renewableenergyaccess.com reported.

Seeking to understand which nations are best positioned today to enter the burgeoning biodiesel market, researchers Matt Johnston and Tracey Holloway of the Nelson Institute's Center for Sustainability and the Global Environment (SAGE) ranked 226 countries according to their potential to make large volumes of biodiesel at low cost.

Scheduled for inclusion in the Oct. 24 journal Environmental Science and Technology, the analysis uncovered many of the usual suspects, including the United States, a top soybean grower, and Brazil, already a major biodiesel producer. The Netherlands, Germany, Belgium and Spain also cracked the top ten in overall volume potential.

But the researchers say the study's true motivation was to identify developing countries that already export significant amounts of vegetable oil for profit, but may not have considered refining it into biodiesel. By exporting biodiesel—a higher value commodity—these countries could improve their trade balances, says Johnston, or use the fuel to offset their own energy needs.

"A lot of these countries don't have any petroleum resources and so they have to import petroleum," he says. "At the same time, they're exporting vegetable oil that they could be turning into biodiesel and using domestically."

Overall, the study ranked Malaysia, Thailand, Colombia, Uruguay and Ghana as the developing nations most likely to attract biodiesel investment, not only because of their strong agricultural industries, but also due to their relative safety and stability, lack of debt, among other economic factors.

Johnston emphasizes, however, that the set of criteria he and Holloway used is just one among many.

"As long as they're profitable and have large volumes of vegetable oils, all the countries on our list—even if they aren't on our top ten list—they could do this," he says.

At the same time, many agencies—chief among them the United Nations—have raised concerns about the biofuel industry's possible impact on the world's poor, as vegetable oils, now used for food, are increasingly diverted to fuel production. Rampant growth of biofuels could also negatively affect the environment; a soaring demand for palm oil, for example, has already led to deforestation in Southeast Asia.

By highlighting the places in the world where biodiesel development will likely happen, Johnston and Holloway hope their analysis will help people foresee these problems and make plans to mitigate them.

"We're not saying, 'There's all this potential out there, go get it,'" says Johnston. "Instead, we're looking at which vegetable oil feed stocks are most likely to be affected and which countries will most likely be doing this at a large-scale. That way, we can anticipate some of the impacts, as opposed to having to react after the fact."

## Ethical Development To Cool Off Planet

Brazilian Environment Minister Marina Silva suggested an ethically and politically sustainable development model at a conference in this southeastern Brazilian city that has brought together national and international authorities and experts, business leaders and researchers to discuss solutions to fight climate change in the region.

"More important than the proposal for a model of sustainable development is its political and ethical dimension," Silva said at the 7th Latin American Conference on the Environment and Social Responsibility, running Tuesday through Friday, IPSNews.net said.

"Solutions will depend on the government and on companies. We all have to think outside of the box—the government, non-governmental organizations, civil society, the scientific community—to come up with answers to this urgent crisis," said Silva, referring to the problem of climate change.

Most scientists believe that an increase in "greenhouse gases" caused by human activities like the burning of fossil fuels and deforestation is leading to global warming and climate change by trapping the sun's heat in the atmosphere.

Ecolatina, the Argentine consulting firm that organized this week's conference in Belo Horizonte, is calling for a broad debate among political leaders, academics, NGOs and companies on the question of fighting global warming.

The conference is discussing new environmentally and socially sustainable business opportunities and the need to adopt modified models of consumption in order to mitigate climate change.

The United Nations Environment Program's director for Latin America and the Caribbean, Ricardo Sanchez, said the region must contribute to the fight against global warming based on the principle of common but differentiated responsibility, a position that was backed by Silva in a press conference here.

The fight against global warming "must be undertaken as an effort by all countries, because even if developing countries, which are responsible for 20 percent of greenhouse gas emissions, do 100 percent of their homework, they will also be affected if the developed countries do not reduce their 80 percent," she said.

Silva reminded her listeners that rich countries "have a greater historical responsibility because they began to emit gases from fossil fuel burning during the industrial revolution, while developing countries have been emitting gases since the 1940s."

In Brazil, the world's fifth biggest producer of greenhouse gases, mainly from deforestation of the Amazon jungle, "45 percent of energy is produced from clean sources, compared to a mere six percent in the developed countries," Silva noted.

The minister underlined the need for multilateral efforts

"for rich countries to increase their obligations" and so that "developing countries can be assisted."

Brazil's aim is to promote positive incentives for reducing emissions by curbing deforestation, "in order to change our development model," she said.

Silva said that in the last four years, the rate of deforestation of the Amazon jungle has been reduced by 50 percent, and that this year it is expected to be cut by 65 percent.

Among the measures that contributed to that achievement, the minister mentioned the creation of 20 million hectares of protected areas, the formal demarcation of 10 million hectares of indigenous reserves, the issuing of 1.6 billion dollars in fines to companies that have broken environmental laws, the shutting down of 1,500 companies found to be engaging in "criminal" actions against the environment, and prison terms for 665 people.

Latin America "has to make an effort to prevent deforestation, not only because of climate change but also because of the disastrous exodus of people that it can cause," said Silva.

Referring to so-called "environmental migrants," Sanchez said 20 million people in Latin America are vulnerable to meteorological catastrophes.

But the 16 percent growth in the region's gross domestic product seen between 2003 and 2007, "the highest economic growth since the 1970s," has not been reflected in an improvement of living conditions, said the UNEP official.

Latin America is the region with the greatest gap between rich and poor, and 43 percent of the population lives in poverty, Sanchez pointed out.

The problem, he said, is that economic growth without equity increases "the pressure on natural resources."

José Marengo at Brazil's National Institute for Space Research (INPE), one of the bodies that have contributed to the Intergovernmental Panel on Climate Change (IPCC), told IPS that Latin America is particularly susceptible to climate modifications in large areas like the Amazon jungle.

"We will not have to wait till the end of the 21st century to see the impact of climate change," said the expert. "Studies show that by 2040 or 2050 we will see the Amazon jungle turning into savannah, and semi-arid areas like the Brazilian northeast turning into desert," said Marengo.

In the "worst case scenario," temperatures, which have already increased 0.7 degrees in the last 50 years, could go up three or four more degrees this century, he said.

Ecolatina is promoting the search for environmental solutions based on changes in production and consumption through seminars and workshops on questions like sustainable technologies and companies that generate environmental and social services.

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## Swiss Vote Goes Green

Landslides, floods and storms have taken their toll on Switzerland's political climate, turning the Greens into the fastest growing force in the Alpine nation ahead of Oct. 21 general election.

"We were taken for a bunch of eccentrics just a few years back," Swiss Green Party Vice President Ueli Leuenberger told AFP.

In recent months, the Green Party has leapt from just over seven percent in an opinion poll for Swiss television. A nascent Green Liberal movement was also credited with 2.5 percent of voting intentions.

The unprecedented poll score—before the Nobel peace prize was announced—placed the Greens just behind the weaker of the four traditional governing parties—the center-right Christian Democrats and the business-friendly Radicals at just over 15 percent each.

"Environmental issues are one of the two most important issues for the Swiss electorate," said political scientist Pascal Sciarini. The other is immigration, the far-right Swiss People's Party's territory.

Mountainous Switzerland's exposure to changing climate patterns has produced snow shortages in economically-

important Alpine resorts, deadly landslides and costly floods in towns and cities in recent years.

But analysts also point to the success in recent years of elected Green officials in the country's powerful regional governments and city executives, especially Geneva, Lausanne and Zurich, all of them cross-party coalitions.

Leuenberger said their approach merely emphasized "the quality of growth."

"There are a lot of prejudices about the Greens," he added.

Although they are drawing some support from the weakening Socialists, the Greens' more recent holistic outlook has also attracted

broad church, with different tendencies under the same roof. The Green Liberals, who are anchored to the center right, can be a complementary force," Leuenberger said.

Environmental influence is not new in mountainous Switzerland. During the 1980s Switzerland briefly forged a reputation as the California of Europe, when the four-party government introduced pioneering pollution controls as Alpine forests were affected by acid rain.

In 1979, the Swiss elected a Green to national parliament—a first in Europe.

By 1994, a majority of Swiss voters unexpectedly approved an ecologist referendum motion banning truck traffic from the Alps and stopping new road building in the mountains.

That forced the government into a multi-billion Swiss franc, 20-year railway construction project, including a world record 57 kilometer (35 mile) rail tunnel under the Alps.

Analysts believe the Greens still have ground to cover before they can lay claim to a post in the federal government.

Leuenberger said: "The Greens are ripe to enter the Federal Council. We'll see if the other political parties are mature enough to work with us."

## India's Dilemma

India's energy sector is as diverse as its culture when it comes to policymaking. Although the problems in each sphere of the energy sector are largely common, different ministries are looking at them through separate prisms.

Result: A completely chaotic mess where interlinked sectors are moving in divergent directions, posing huge gaps for the policy implementation. The answer, perhaps, lies in an integrated approach, where each sector works in alignment with the related sector, Oil.com said.

For starters, the Planning Commission's integrated energy approach paper could form the basic tenets for India's energy policy.

According to the Integrated Energy Policy (IEP), to deliver a sustained growth of 8 percent through 2031, India would need to grow its primary energy supply by three-four times and electricity supply by five-seven times by 2031's consumption.

By 2031-32, power generation capacity should increase to 7,78,095 mw and annual coal requirement would be 2040 mt, if we don't take measures to reduce requirements. IEP cautions that the quality of energy supply has to improve as energy challenge is of importance to India's economic growth imperatives.

The need to ensure energy supply is identified. A policy has also been drafted in 2005, specifying ways to meet the challenge. But the government has been unable to devise an integrated approach to implement IEP. Policymakers and energy experts, in the recent energy summit—Energize India 2007, organized by ET, emphasized the need to implement IEP in an integrated manner.

There are five ministries to meet country's energy requirements—coal, petroleum & natural gas, atomic energy, power and non-conventional energy sources. It is certainly difficult, if not impossible, to implement IEP in such a political milieu. Multiple authority structure is one of the major hindrances in facilitating evolution of competitive marketing principles with a transparent subsidy regime.

Planning Commission deputy-chairman Montek Singh Ahluwalia, while accepting the political compulsion, said that each sector (ministries) should draw inspiration from IEP.

"While politically it is not possible to have a single energy ministry, the best approach would be to judge energy policy in each sector on the principles outlined in an all-encompassing integrated policy," he said while inaugurating the one-day summit. He said that the issue of integration had become more important at a time when the country was targeting to achieve average 9 percent growth during the Eleventh Plan. He has been optimistic that the goal could be achieved if IEP is adopted by all ministries and if they sort out issues in a time-bound manner.

Planning Commission member and IEP architect Kirit Parikh reverberated a similar view. He emphasized the need for integrating the energy sector regulations with uniformity and built-in incentives to attract investment.

Parikh's message has been loud and clear that the availability of conventional energy sources is limited and may not be sufficient in the long run to sustain the process of economic development. Further, the base of the country's energy supply system has steadily shifted from renewable to non-renewable sources. India meets about 30 percent of its energy needs through imports. With increasing share of fossil fuels in the energy supply or use, the share of imported energy may go up further.

Development of newer energy sources thus acquires importance. "The challenge is to ensure adequate energy supply at the least possible cost. The energy policies that we have adopted since independence to subservise the socio-economic priority of development have encouraged and sustained many inefficiencies in the use and production of energy. We pay one of the highest prices for energy in purchasing-power-parity terms. This has eroded the competitiveness of many sectors," he said.

Parikh's idea is to create an investor-friendly environment for large-scale power production. Power secretary Anil Razdan demanded an action-oriented approach.

"We should stop talking about reforms, but should perform," he said. He holds a view that there should be no discrimination while incentivizing power generation. Besides focusing on ultra mega power projects, captive power plants, merchant power plans and independent power producers should avail of tax sops, he said.

He emphasized that all resources must be tapped to meet the country's energy requirements. "There is a need to convert Indian companies into transnationals to secure energy supply," he said while pointing at the ambitious target of 78,000 mw of power generation in the Eleventh Five-Year Plan (2007-12). He also stressed on the need to bring efficiency in all aspects—generation, distribution and consumption.

HGL V-C and former ONGC chairman Subir Raha said that the present pricing policy was suffocating the energy sector and dissuading investment. "There is a need to have a clear policy. Although sector is deregulated but mostly on papers. Still prices are under the control of policymakers that dampen the entry of new players," he said.

As the sector was capital intensive, management and pricing issues should be put on the fast track, he said. It's good that there is a provision for integrated policy in the 11th Plan, but it remains to be seen when it is formulated. The scale of operation has grown manifold, but the stipulated limit on expenditure has not been revised for navratnas that constrains their expansion plans. The only way to solve energy sector woes was to have in place a well-formulated policy to address pricing issues without any opaqueness, he said.

India meets about 30% of its energy needs through imports



The glacier of Aletsch, the largest in the Alps, is seen August 2007 near the mountain resort of Bettmeralp, Switzerland.

They carved out a reputation as pragmatic managers and often helped turn around budget deficits, turning a single-issue party founded less than three decades ago into a credible governing force.

"That also adds to the Greens' image of freshness," said political analyst Hans Hirter of the University of Bern. The Greens claim their views on a more sustainable society are not at odds with economic inter-

ests. Leuenberger said their approach merely emphasized "the quality of growth."

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