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"I may disapprove of what you say, but I will defend to the death your right to say it." --Voltaire

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Local Solar Power System Showcased At The World Summit

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Johannesburg, South Africa - This year's 'World Summit' in Johannesburg, South Africa brought together tens of thousands of participants, including heads of state, national delegates and leaders from non-governmental organizations (NGOs), and major businesses to focus the world's attention on issues of global population and conserving resources while improving people's lives. Today many countries favor energy technologies that are non-polluting and that can meet the needs of rural electrification while alleviating poverty, such as the Stirling Energy Systems' (SES) solar dish system. The SES solar dish was the first foreign installation to go on-line in Johannesburg, South Africa, demonstrating electrical power generation with no fuel cost or pollution. Today the company has systems operating in Las Vegas, Nevada, Huntington Beach, California, Tempe, Arizona and Albuquerque, New Mexico.

Each solar dish generates enough electricity to power 10 American homes and can be located either on or off the electric grid. SES and Eskom, the largest electric utility in South Africa, plan to deploy this technology across South Africa, bringing clean, reliable and cost-competitive solar derived power to those in need.

Overview

The energy industry is the largest in the world. This industry had revenues of $218 billion in 1999 for the U.S. market. It has experienced steady growth of 2% to 4% for the past 10 years. Similar growth is expected over the next 20 years. The U.S. Department of Energy (U.S. DOE) predicts that increases in generating capacity will be 20,000 MW per year in the U.S., and that global capacity increases will be five times the U.S. number.

With the emergence of deregulation and various environmental issues, the energy industry is transforming into a dynamic and exciting business. Furthermore, the environmental issues continue to gain prominence in the industry. Because of these changes, many new business practices and technologies are gaining popularity, led by various types of renewable and distributed generation.

Renewable Energy Industry

Because of their environmental and sustainability benefits, renewable technologies, including solar, wind, geothermal and biomass, are gaining acceptance among the energy industry and the public. This acceptance is most noticeable in the capacity added in the past decade. Between 1990 and the end of 1999, installed capacity using renewable resources increased by 6% to 10% annually. Some individual technology types grew by as much as 15% to 30% per year.

Currently a two-year trial at the University of Nevada at Las Vegas (UNLV) is finding the 25 kilowatt SES solar dish capable of yielding "a consistent 25 kilowatts of power uniformly during daytime hours,

assuming bright sun," reports Bob Boehm, director of UNLV's Center for Energy Research.

In the past, technologies such as solar and wind were found only in remote areas. However, in the past five years, utilities have made substantial investments to add these technologies to their overall generation mix. Electricity from this kind of generation is used in green pricing programs where the customer purchases a portion of his electricity from renewable sources for a premium.

The most noticeable drivers behind the growth of the renewable energy industry are its environmental benefits and the public's demand for clean electricity. Many industrialized nations of the world have committed to reduce "greenhouse gas" (particularly carbon dioxide) emissions significantly over the next several years (in what has been termed the "Kyoto Protocol"). To support these commitments, many of these governments have passed various legislation covering net-metering, financing support, and/or carbon taxes to encourage the adoption of renewable generation. However, the most noticeable and powerful evidence that renewable power is coming of age has been seen in the private sector's demand for the electricity. Through studies conducted by utilities across the U.S., it has become clear that customers are willing to pay a premium for green energy, and more companies and individuals are signing up for it everyday.

Solar Industry

While still young, the solar industry, comprised of both photovoltaic and solar thermal technologies, is experiencing phenomenal growth and technological innovation.

Worldwide, the industry has 1,800 MW of generating capacity installed as of the end of 1999. Furthermore, the industry has grown between 25% and 41% annually for the past 20 years. These growth rates have been achieved and sustained through improvements in reliability, technology manufacturing, and materials. These improvements have reduced the cost of the solar electricity by 80% over the past 20 years. Many believe that the cost reductions will continue well into the new century as the industry grows and realizes the benefits of mass production.

Market expansion and technology transfer will accompany this future growth. In the past, the majority of solar generation was installed for remote-use applications. For these applications, photovoltaic (PV) panels have been the best-suited technology. PV panels were favored because they are an "install-and-leave" generation source requiring little operation and maintenance. However, as utilities gain more involvement with solar generation, solar thermal technologies, including Dish Stirling, trough, and power tower, will gain more attention. These technologies are much more cost-effective and practical than PV for centralized plants.

Long-Term Marketing

SES is looking to remain at the forefront of the next-generation renewable energy technology development. As the Company gains more experience in manufacturing its products and sales volumes increase, the cost of SES products will decrease substantially. In addition, SES intends to continue aggressive programs of cost reductions and design improvements for its products, which will translate into lower costs for the electricity generated by the SES solar dish Stirling systems.

SES is strategically positioning its product rollouts to match current rapidly evolving market demands. SES is following market segment where conditions favor changing the energy paradigm from fossil fuel to renewable energy technologies through existing or impending legislation

and directives, as well as socially driven environmental movements, that recognizes the high external costs associated with pollution from conventional electrical power generation.

With low-cost renewable energy from the SES solar dish Stirling systems (projected to be $.02/kW or less after capital costs are paid), it is possible to use the electricity generated from the solar dishes to electrolyze water (electrically break water up to its constituent parts of hydrogen and oxygen) and use the hydrogen for other energy requirements at prices competitive with gasoline, natural gas and other transportation fuels.

SES, with its technologies and products, can, and likely will, command a leading position in the clean hydrogen economy of tomorrow.

For more information visit the SES website at www.stirlingenergy.com. Stirling Energy Systems (SES), is a U.S.-based renewable energy company.

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