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A Gold Rush of Subsidies in Clean Energy Search

By ERIC LIPTON and CLIFFORD KRAUSS

WASHINGTON — Halfway between Los Angeles and San Francisco, on a former cattle ranch and gypsum mine, NRG Energy is building an engineering marvel: a compound of nearly a million solar panels that will produce enough electricity to power about 100,000 homes.

The project is also a marvel in another, less obvious way: Taxpayers and ratepayers are providing subsidies worth almost as much as the entire $1.6 billion cost of the project. Similar subsidy packages have been given to 15 other solar- and wind-power electric plants since 2009.

The government support — which includes loan guarantees, cash grants and contracts that require electric customers to pay higher rates — largely eliminated the risk to the private investors and almost guaranteed them large profits for years to come. The beneficiaries include financial firms like Goldman Sachs and Morgan Stanley, conglomerates like General Electric, utilities like Exelon and NRG — even Google.

A great deal of attention has been focused on Solyndra, a start-up that received $528 million in federal loans to develop cutting-edge solar technology before it went bankrupt, but nearly 90 percent of the $16 billion in clean-energy loans guaranteed by the federal government since 2009 went to subsidize these lower-risk power plants, which in many cases were backed by big companies with vast resources.

When the Obama administration and Congress expanded the clean-energy incentives in 2009, a gold-rush mentality took over.

As NRG's chief executive, David W. Crane, put it to Wall Street analysts early this year, the government's largess was a once-in-a-generation opportunity, and "we intend to do as much of this business as we can get our hands on." NRG, along with partners, ultimately secured $5.2 billion in federal loan guarantees plus hundreds of millions in other subsidies for four large solar projects.

“I have never seen anything that I have had to do in my 20 years in the power industry that involved less risk than these projects,” he said in a recent interview. “It is just filling the desert with panels.”

From 2007 to 2010, federal subsidies jumped to $14.7 billion from $5.1 billion, according to a recent study.

Most of the surge came from the economic stimulus bill, which was passed in 2009 and financed an Energy Department loan guarantee program and a separate Treasury Department grant program that were promoted as important in creating green jobs.

States like California sweetened the pot by offering their own tax breaks and by approving long-term power-purchase contracts that, while promoting clean energy, will also require ratepayers to pay billions of dollars more for electricity for as long as two decades. The federal loan guarantee program expired on Sept. 30. The Treasury grant program is scheduled to expire at the end of December, although the energy industry is lobbying Congress to extend it. But other subsidies will remain.

The windfall for the industry over the last three years raises questions of whether the Obama administration and state governments went too far in their support of solar and wind power projects, some of which would have been built anyway, according to the companies involved.

Obama administration officials argue that the incentives, which began on a large scale late in the Bush administration but were expanded by the stimulus legislation, make economic and environmental sense. Beyond the short-term increase in construction hiring, they say, the cleaner air and lower carbon emissions will benefit the country for decades.

“Subsidies and government support have been part of many key industries in U.S. history — railroads, oil, gas and coal, aviation,” said Damien LaVera, an Energy Department spokesman.

A Case Study

NRG’s California Valley Solar Ranch project is a case study in the banquet of government subsidies available to the owners of a renewable-energy plant.

The first subsidy is for construction. The plant is expected to cost $1.6 billion to build, with key components made by SunPower at factories in California and Asia. In late September, the Energy Department agreed to guarantee a $1.2 billion construction loan, with the Treasury Department lending the money at an exceptionally low interest rate of about 3.5

percent, compared with the 7 percent that executives said they would otherwise have had to pay.

That support alone is worth about $205 million to NRG over the life of the loan, according to an analysis performed for The New York Times by Booz & Company, a strategic consulting firm that regularly performs such studies for private investors.

When construction is complete, NRG is eligible to receive a $430 million check from the Treasury Department — part of a change made in 2009 that allows clean-energy projects to receive 30 percent of their cost as a cash grant upfront instead of taking other tax breaks gradually over several years.

Californians are also making a big contribution. Under a state law passed to encourage the construction of more solar projects, NRG will not have to pay property taxes to San Luis Obispo County on its solar panels, saving it an estimated $14 million a year.

Assisted by another state law, which mandates that California utilities buy 33 percent of their power from clean-energy sources by 2020, the project's developers struck lucrative contracts with the local utility, Pacific Gas & Electric, to buy the plant's power for 25 years.

P.G.& E., and ultimately its electric customers, will pay NRG $150 to $180 a megawatt-hour, according to a person familiar with the project, who asked not to be identified because the price information was confidential. At the time the contract was awarded, that was about 50 percent more than the expected market cost of electricity in California from a newly built gas -powered plant, state officials said.

While neither state regulators nor the companies will divulge all the details, the extra cost to ratepayers amounts to a $462 million subsidy, according to Booz, which calculated the present value of the higher rates over the life of the contracts.

Additional depreciation tax breaks for renewable energy plants could save the company an additional $110 million, according to Christopher Dann, the Booz analyst who examined the project.

The total value of all those subsidies in today's dollars is about $1.4 billion, leading to an expected rate of return of 25 percent for the project's equity investors, according to Booz.

Mr. Crane of NRG disputed the Booz estimate, saying that the company's return on equity was "in the midteens."

NRG, which initially is investing about $400 million of its own money in the project, expects to get all of its equity back in two to five years, according to a statement it made in August to Wall Street analysts.

By 2015, NRG expects to be earning at least $300 million a year in profits from all of its solar projects combined, making these investments some of the more lucrative pieces in its sprawling portfolio, which includes dozens of power plants fueled by coal, natural gas and oil.

NRG is not the only company gobbling up subsidies. At least 10 of the 16 solar or wind electricity generation projects that secured Energy Department loan guarantees intend to also take the Treasury Department grant, and all but two of the projects have long-term agreements to sell almost all of their power, according to a survey of the companies by The Times.

These projects, in almost all cases, benefit from legislation that has been passed in about 30 states that pushes local utility companies to buy a significant share of their power from renewable sources, like solar or wind power. These mandates often have resulted in contracts with above-market rates for the project developers, and a guarantee of a steady revenue stream.

“It is like building a hotel, where you know in advance you are going to have 100 percent room occupancy for 25 years,” said Kevin Smith, chief executive of SolarReserve. His Nevada solar project has secured a 25-year power-purchase agreement with the state’s largest utility and a $737 million Energy Department loan guarantee and is on track to receive a $200 million Treasury grant.

Because the purchase mandates can drive up electricity rates significantly, some states, including New Jersey and Colorado, are considering softening the requirements on utilities.

Brookfield Asset Management, a giant Canadian investment firm, will receive so many subsidies for a New Hampshire wind farm that they are worth 46 percent to 80 percent of the $229 million price of the project, when measured in today’s dollars, according to analyses for The Times performed by Booz and two other two industry financial experts. (The wide range reflects a disagreement between the experts on the future price of electricity in New Hampshire.)

Richard Legault, the chief executive of Brookfield Renewable Power, the division that oversees the Granite Reliable project in New Hampshire, declined to discuss his profit

expectations in detail, but said the project might not have happened without government assistance.

“When everything has come together, it is a good investment for Brookfield, it is no doubt,” Mr. Legault said. “We are quite happy with it.” (Brookfield is also the owner of the small park in Manhattan that is home to the Occupy Wall Street protesters.)

Even companies whose business has little to do with energy or finance, like the Internet giant Google, benefit from the public subsidies. Google has invested in several renewable energy projects, including a giant solar plant in the California desert and a wind farm in Oregon, in part to get federal tax breaks that it can use to offset its profits from Web advertising.

Industry executives and other supporters of the subsidies say that the public money was vital to the projects, in part because financing for renewable energy projects dried up during the recession. They also note that more traditional energy sectors, like oil and natural gas, get heavy subsidies of their own. For example, in the 2010 fiscal year, the oil and gas producers got federal tax breaks of $2.7 billion, according to an analysis by the Energy Information Administration.

“These programs just level the playing field for what oil and gas and nuclear industries have enjoyed for the last 50 years,” said Rhone Resch, president of Solar Energy Industries Association. “Do you have to provide more policy support and funding initially? Absolutely. But the result is more energy security, clean energy and domestic jobs.”

Michael E. Webber, associate director of the Center for International Energy and Environmental Policy at the University of Texas, Austin, said renewable energy subsidies were a worthy investment. “It is a form of corporate welfare that is consistent with other social goals like job creation, clean air and boosting a domestic source of energy,” he said.

Overflowing Breaks

Obama administration officials said the subsidies were intended to help renewable-energy plants that were jumbo-sized or used innovative technology, both potential obstacles to getting private financing. But even proponents of the subsidies say the administration may have gone overboard.

Concerns that the government was being too generous reached all the way to President Obama. In an October 2010 memo prepared for the president, Lawrence H. Summers, then his top economic adviser; Carol M. Browner, then his adviser on energy matters; and Ronald

A. Klain, then the vice president's chief of staff, expressed discomfort with the "double dipping" that was starting to take place. They said investors had little "skin in the game."

Officials involved in reviewing the loan applications said that Treasury Department officials pressed the Energy Department to respond to these concerns.

Officials at both agencies declined to discuss the anticipated financial returns of the clean-energy projects the federal government has agreed to guarantee, saying the information was confidential.

But Energy Department officials said they had carefully evaluated every project to try to calculate how much money the developers and investors stood to make. "They were rejected, if they looked too rich or too risky," Mr. LaVera, the Energy Department spokesman said.

In at least one instance — NRG's Agua Caliente solar project in Yuma County, Ariz. — the Energy Department demanded that the company agree not to apply for a Treasury grant it was legally entitled to receive. The government was concerned the extra subsidy would result in excessive profit, NRG executives confirmed.

In other cases, the agency required that companies use most of the Treasury grants that they would get when construction was complete to pay down part of the government-guaranteed construction loans instead of cashing out the equity investors.

"The private sector really has more skin in the game than the public realizes," said Andy Katell, a spokesman for GE Energy Financial Services, which like Goldman Sachs, Morgan Stanley and other financial firms has large investments in several of these projects.

But there is no doubt that the deals are lucrative for the companies involved.

G.E., for example, lobbied Congress in 2009 to help expand the subsidy programs, and it now profits from every aspect of the boom in renewable-power plant construction.

It is also an investor in one solar and one wind project that have secured about $2 billion in federal loan guarantees and expects to collect nearly $1 billion in Treasury grants. The company has also won hundreds of millions of dollars in contracts to sell its turbines to wind plants built with public subsidies.

Mr. Katell said G.E. and other companies were simply "playing ball" under the rules set by Congress and the Obama administration to promote the industry. "It is good for the country, and good for our company," he said.

Satya Kumar, an analyst at Credit Suisse who specializes in renewable energy companies, said there was no question the country would see real benefits from the surge in renewable energy projects.

“But the industry could have done a lot more solar for a lot less price, in terms of subsidy,” he said.

Eric Lipton reported from Washington and Clifford Krauss from Houston.