Exhibit 10

PUBLIC UTILITIES FORTNIGHTLY ENERGY, MONEY, POWER

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Several U.S. utilities are experimenting with hybrid concentrated solar thermal technology to boost generation at gas, coal, and even geothermal power plants. These projects are aimed at reducing fossil fuel consumption and carbon emissions, and to fulfill renewable portfolio mandates. As a result, concentrated thermal solar is emerging as a viable baseload or peaking-power option—as an add-on to an existing plant, or as part of a greenfield endeavor.

Adding a solar thermal plant to an existing generating facility can be more cost effective than adding a stand-alone solar photovoltaic (PV) plant. But new technology developments with solar thermal are helping to drive down costs even further. Heat storage capability and scalable modular design are two such development factors now being tested by utilities.

Since much of the connection, control room and power plant equipment at an existing generating facility can be shared by the solar addition, the cost of installing the solar equipment needed for a hybrid facility can be half or less of what would be required for a standalone solar unit, according to Hank Price, a director of technology at Abengoa Solar.

Emissions reductions can be another driving factor in a utility's decision to go with a solar-fossil hybrid, which can help it meet state renewable portfolio standards. "An augmented (hybrid) system reduces carbon dioxide emissions as much as a stand-alone solar thermal plant with the same size array, but at a much lower cost," says Craig Turchi, a senior engineer in the concentrated-solar power program at the National Renewable Energy Lab in Golden, Colo.

And simple fuel efficiency is a strong economic driver in the decision to adopt a hybrid solar booster. Solar hybrid plants show increased fuel efficiencies over a basic combined-cycle plant of anywhere from a few percentage points to as much as 25 percent, according to various system providers. While a solar plant without storage can only provide half its nameplate kWh capacity—given operation is limited to daylight hours—when storage is added, solar thermal plants remove the limitation and can provide heat 'round the clock. One source of the efficiency boost from a hybrid is startup time: "Hybrid plants don't suffer the thermal inefficiencies associated with the daily startup and shutdown of a steam turbine," Turchi says.

Solar Steam

The basic thermodynamics of tapping solar thermal energy are simple.

In a standard coal- or gas-fired plant, heat in the boiler creates steam to drive a turbine, which produces electricity. In a typical combined-cycle power plant, a gas-fired turbine is paired with a steam turbine; exhaust heat from the turbine engine drives a separate cycle to raise fuel efficiencies to 55 percent and above. An integrated solar combined-cycle power station can further increase efficiencies by double digits, by providing a separate line of additional steam to the steam turbine, displacing fossil fuel cost for the same amount of electricity.

The higher the temperature of the solar-derived steam, the more efficient the hybrid steam addition can be for the host unit. The temperature of the solar steam depends on the type of solar technology used. For example, while steam temperatures in a coal-fired turbine can reach 1,100 degrees F or more, parabolic mirror-based concentrator solar systems using synthetic oil heat transfer fluids, can't exceed a flashpoint of 750 degrees F. However, if solar tower technology is employed, the molten salt heat transfer fluid can reach 850 degrees F or higher. And linear Fresnel concentrated solar lines using water as the transfer fluid can reach temperatures exceeding 540 degrees C (1,000 F), according to Areva Solar. Each of the technologies has different advantages and price considerations, all depending on what the host unit needs most.

Tower-based solar hybrids are the most tested in the United States thus far. "Power tower performance today is better than trough performance," says Mike Gradiola, GE Energy's general manager of concentrated solar power. "We're talking with a number of U.S. folks about solar-fossil hybrids. We're less than a year into our business play, and tower-based concentrating solar power is in the discussions now."

Linear solar heat designs are touted as the least expensive per-thermal unit generated. Areva already has a long target list of U.S. clients for its solar hybrid Fresnel technology. "I'm optimistic about the potential for this type of solar hybrid; there are 60 to 75 U.S. fossil-fueled plants in good solar isolation areas that could take advantage of this technology," says John Robbins, director of North American sales for Areva. "Apart from fossil fuel plants, we're talking to utilities and independent power producers about biomass, geothermal and waste-to-energy plants, if they have steam turbines. Utilities understand steam, so it's a good fit, and marrying the two provides good dispatchable power.

"Solar booster projects like this are gaining momentum in the United States and around the world as a way to leverage existing power infrastructure to provide needed energy with no new emissions," Robbins adds.

Going Modular

For each solar thermal approach, technology developers are trying to drive costs downwards. The most promising idea involves energy storage systems. Several competing energy storage technologies are largely at the demonstration stage among U.S. utilities, but the use of molten salt as a heat transfer fluid and storage medium is well researched.

"The current cost estimate for installing molten salt tower-based concentrating solar hybrid capacity is about 15 cents per kWh, compared to standard PV a couple or pennies

cheaper at the utility scale," Turchi estimates. "But with gas prices as low as they are, there have to be other considerations."

Turchi co-authored a 2011 NREL study that examined the efficiency gain from a solar hybrid plant in combination with molten salt storage. The study showed strong benefits: "In the preliminary analysis, it is shown that a single 40-MW aeroderivative gas turbine mated with a 100-MW parabolic solar trough plant can be more efficient than two separate power plants."

Similarly, modular solar hybrid technology designs—which are scalable to virtually any size—can help reduce costs and maximize project bankability. One U.S. company offering a modular approach to hybrid generation is eSolar, which produces relatively low 75-meter towers that concentrate solar energy from ground reflectors. "Our basic module size for a steam system combined with combined-cycle gas or coal would be approximately 4 MW electric," says John Van Scoter, eSolar's CEO. The company also has a U.S. DOE grant to investigate solar thermal storage, ramping up heat levels to that of superheated steam.

In June, General Electric announced an investment and licensing agreement with eSolar, allowing GE to use eSolar technology and software in its integrated renewable combined-cycle plants, which are based on GE's FlexEfficiency 50 plant design. With a 61 percent fuel efficiency fueled by gas alone, GE says the FlexEfficiency 50 unit can achieve greater than 70 percent efficiency in combination with solar boosters.

The first project to be developed with this technology combination is a 560-MW solar, wind, and gas hybrid for MetCap Energy Investments, in Turkey. The project includes solar tower technology from eSolar, GE wind turbines, and a 510-MW GE combined-cycle plant. The hybrid's thermal steam flow is directly integrated into the bottoming cycle of the gas plant's steam condenser.

"If we can put 10 percent to 15 percent solar into rated power [as in the MetCap project], it can provide a 6-percent to 8-percent fuel efficiency lift, averaged from daylight generating hours. Where we can drive that fraction higher, there's an incremental lift," Gradiola says.

With modular designs, new hybrid investments can be phased in for some plant configurations, easing a fuel-type transition at an older plant, for example. "A solar hybrid can extend the life of a coal plant, and when the coal boiler is retired the rest of the mechanical assets on site can be reused for a large solar installation," Scoter says.

Dispelling Doubts

Such large-scale installations as the GE-eSolar project in Turkey might help dispel doubts among U.S. utilities considering a solar hybrid development. The potential for solar-coal hybrids among U.S. utilities seems particularly strong. "EPRI studied the potential for adding solar steam into coal and natural gas, looking at combined-cycle plants above a minimum size in 16 states along the South, considering location, solar resources, and available land," Turchi says. "When they tallied the total market potential, the bottom line was several gigawatts."

The global adoption of hybrid solar is being led now in areas like the Mediterranean, the Middle East, and North Africa, but the U.S. market seems poised to accelerate rapidly.

According to market analysis firm SBI Energy, “The global capacity of utility-scale concentrated solar power (CSP) was 2 GW at the close of 2011 with approximately another 2,500 to 3,500 MW becoming operational in 2012. SBI Energy estimates the cost of the installed base of CSP at the end of 2011 at $9.5 billion with power tower technology increasing its market share.”

Analysts further predict that the U.S. CSP market will move at least as fast as the global market. “While some forecasters believe U.S. concentrating solar power capacity alone will reach 6 GW by 2015 … factors suggest an installation rate consistent with the opportunities CSP represents, but more indicative of current global economic and political realities.”

And at least one utility believes the economics of solar hybrids, if marginal now, eventually will work out. “When we build a solar system, it’s is a 30-year play, offsetting any potential increase in fossil fuel,” says Buck Martinez, a senior director of development at FPL. “So we might pay more up front to build it, but will never again have a fuel cost increase. We are bullish on solar.”

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