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RENEWABLE ENERGY

CALIFORNIA

California has one of the most aggressive targets for promoting renewable energy of any state in the nation, but impediments remain if the state wants to fulfill its goal of being a leader in clean energy development. The authors contend that to avoid falling prey to Murphy's Law when it comes to renewable energy, the state needs to streamline and simplify the project review process, enact limited environmental review exemptions for clean and renewable power projects, and take other steps to ensure projects move more quickly from the drawing board to construction.

Murphy's Law and Renewable Energy Projects: If It Can Go Wrong, It Probably Will

BY DAVID HUARD AND JACK STODDARD

This spring California officially increased its Renewable Portfolio Standard (RPS) mandate from 20 percent to 33 percent by 2020¹. This new goal places California among the most aggressive of the 36 states that have established some kind of renewable energy mandate. Renewable project developers interested in tapping into this second phase of the California renewable energy gold rush should be mindful, however, that significant impediments to successful project development remain. Developers, practitioners, and poli-

cymakers may note that many of the barriers to development and programmatic pitfalls—institutional and otherwise—are not unique to California and will become issues of national concern as other states establish new renewable energy mandates. Hopeful developers will be well served to plan on encountering, one, or all, of the pitfalls discussed below. As the old adage called Murphy's Law, states, if something can go wrong, it probably will.

Despite these impediments, California's publicly owned utilities are well on their way to meeting the state's goals. As of March 2011, the state's large electric utilities, Pacific Gas & Electric, San Diego Gas & Electric, and Southern California Edison, served an average of 17.9 percent of their electricity load with renewable energy. While that share may decline if electricity con-

¹ California Gov. Jerry Brown on April 12 signed into law a measure requiring one-third of the electricity sold in the state to come from solar, wind, geothermal, or other renewable sources by the end of 2020. (71 DEN A-9, 4/13/11)

sumption increases with a recovering economy, the utilities have surpassed the most pessimistic projections.

The following discussion addresses various aspects of Murphy's Law for Renewable Project Development.

1. Environmental Review

Fifteen states, including California, have laws that require some kind of environmental review of projects that are likely to have an impact. Many states without comprehensive environmental review statutes still require environmental review of projects as part of the certification process. In addition, the National Environmental Policy Act requires environmental review of any project that involves federal approval or permitting. Environmental review laws, and the protracted litigation that they occasionally produce, are frequently blamed for the failure of renewable and clean energy projects.

But why do agencies with NEPA as their guide regularly approve projects, while similar projects falter under California Environment Quality Act (CEQA) review? Indeed, renewable or clean energy projects have faltered or failed in California while projects located in Oregon, Arizona and Nevada have been constructed. The answer seems to lie in the scope and implementation of CEQA and the political power of the environmental movement within the state.

For proponents of renewable energy projects, it is important to understand the differences between the types of environmental review in each jurisdiction.

Substantive vs. Procedural Environmental Review: It is often said that NEPA is a procedural document and CEQA is both procedural and substantive. What this means in practice is that while NEPA requires that agencies demonstrate and document their consideration of environmental impacts, CEQA has a further affirmative obligation that impacts, once identified, be mitigated. Under either framework, environmental impacts are not limited to issues such as species protection and water, air, and soil quality, but also include aesthetic impacts and the noise pollution associated with the project's construction phase.

In other words, an environmental impact statement (EIS), which is required under NEPA, is a disclosure document, and once it is completed, the agency is free to approve or reject the project. Conversely, a CEQA environmental impact report (EIR) specifically requires that all significant impacts be feasibly mitigated or that the reviewing agency affirmatively and specifically find that the impacts are unable to be mitigated. Making such findings, of course, is a significant process in and of itself and is subject to evidentiary standards that create added litigation risk.

A reviewing agency's CEQA decision may allow for challenge if, among other reasons, (a) all feasible alternatives either were not properly considered or were dismissed without adequate support and findings; (b) all project benefits were not fully documented and supported by substantial evidence in the record; (c) mitigation measures did not meet the substantive requirements of CEQA, etc. Because CEQA requires more process than NEPA, and also includes substantive requirements, it provides a greater opportunity for opponents of projects to litigate.

If California is serious about local renewable and clean energy generation, it should consider broadening the existing CEQA exemptions to provide for greater

streamlining of certain clean energy projects. To date, however, proposals regarding such amendments are considered highly unlikely to succeed. Further, California agencies are disinclined to allow impacts that cannot be mitigated due in large part to the heavy political pressure that small groups exert in the overall decision-making process. Until and unless CEQA is reformed, it will continue to result in project failure and add cost and time to the process for successful projects. In the meantime, and for the foreseeable future, project proponents can strategically pick projects that are either exempt from review or are less likely to incite opposition, such as smaller distributed generation projects in developed areas and larger projects on disturbed agricultural land or brownfield sites.

A Divided Environmental Community: Clean energy proponents often find themselves at odds with both local and national environmental groups (usually local chapters of national environmental groups such as the Audubon Society) over species and habitat impacts related to large solar and wind projects. Clean energy proponents have criticized local environmental groups for standing in the way of progress that is necessary to reduce dependence on fossil fuels while the local environmentalists criticize the clean energy advocates of rushing to support anything that could be considered "green" in order to build a coalition with environmentalists. This past year renewable projects in California, Nevada, Washington, Massachusetts and Ohio met stiff opposition, some of it successful, from environmental groups.

At the same time property owners near and adjacent to proposed energy projects (NIMBYS) often partner with environmental groups, employ environmental rhetoric and use environmental laws to oppose, delay, and if possible defeat the projects. Most famously, the Cape Wind Project in Massachusetts, which recently overcame yet another appeal filed with the Environmental Protection Agency, has had to engage in a bitter and expensive 10-year battle with a host of opponents including beach-front property owners, Indian tribes, and local environmental groups².

In California, which enjoys a particularly diverse, well-funded and well-practiced array of environmental organizations, project development has been particularly difficult. California also has a long history of successful litigation against state government approvals, which intimidates decision makers and discourages project proponents. A stellar example of this is the limited but vocal opposition to the liquefied natural gas projects (LNG) that were proposed several years ago. Some died an unnatural death due to political machinations at the California Coastal Commission where CEQA became the weapon of choice. The only LNG project that was completed located itself in Mexico near the California border to avoid California regulation to the greatest extent possible. More recently the Calico Solar Project in the Mojave Desert was scaled back from 850 megawatts to 663 megawatts due to impacts on habitat for bighorn sheep and desert tortoise.

² EPA's Environmental Appeals Board on May 20 denied a request by local opponents to review an EPA Outer Continental Shelf permit for the Cape Wind Project issued on Jan. 7 (Permit No. OCS-RI-01). See <http://op.bna.com/env.nsf/r?Open=jsun-8kbqw6>.

While environmental opposition to projects sometimes proves fatal, more often it simply results in proposal modification and delay. That delay, and the costs that such delay includes, can be reason enough for a project sponsor to give up on even the best proposal. While this delay is expensive it also presents opportunities for investors with an interest and appetite for acquiring troubled yet promising projects.

2. Price Uncertainty

Investors in renewable energy projects need to be able to predict revenue streams to obtain financing. State regulators, like the California Public Utilities Commission (CPUC), scare investors away and leave renewable megawatts on the table by not providing sufficient certainty regarding the prices the generating companies can charge the purchasing utilities and by having uncertain timelines for regulatory review.

In order to attract investment and increase competition, state regulators should maximize transparency regarding the prices and terms of the renewable power purchase agreements they approve. State regulators fear that such disclosure would provide “market power” to developers or invite opposition from ratepayer advocates. However, by providing some transparency regarding final negotiated terms and prices, regulators would promote competition and drive down prices for consumers while also decreasing perceived risk for developers. Data could be aggregated and disclosed after a sufficient passage of time in order to protect commercially sensitive information.

In California, the CPUC recently rejected its first renewable energy project due to an unreasonably high price that generators wanted to charge. At the same time, however, the CPUC has provided very little guidance regarding what range of prices could be considered reasonable. As a result, developers are left guessing, and unsure investors are likely to seek more certain returns elsewhere.

Prior to reaching the regulatory approval stage, developers also face the risks presented by rapid changes in the public’s appetite for footing the bill for cleaner energy sources. Some politicians, and the regulators they appoint, subscribe to the misguided theory that new technologies should be immediately cost-competitive with established, conventional energy sources such as dual cycle natural gas-fired generation. Such posturing increases the bargaining power of the purchasing utilities which already have the advantage of picking from a diversity of projects employing new and older technologies alike. While this might result in short-term savings for ratepayers, it may increase confusion and mistrust on the part of developers, which will serve to decrease competition, thereby increasing costs for ratepayers.

Indeed, as has been seen with solar PV projects, only after more than a decade of subsidized development have prices fallen to competitive levels. Measuring the economics of emerging clean energy technologies against mature technologies will retard, if not defeat, the goal of achieving the benefits of economies of scale in promising alternatives.

The ability of the market to absorb increased generation costs from new technologies is also substantially reduced by the increases in rates for needed infrastructure upgrades and safety efforts. In the end, ratepayers can only bear so many costs and the costs of infrastruc-

ture are a necessary investment before most new generation can be added. In effect, ratepayers must be willing to pay more or, alternatively, accept a more modest renewable energy mandate or a greater diversity of “clean,” as opposed to renewable, resources.

3. Parochial State Interests

Another impediment to cost-effective, expedient, and efficient development of renewable generation is a multitude of parochial state interests. To meet the challenges of developing renewable resources, which are geography-dependent, states need to be willing to work cooperatively and on a regional basis. In California, however, political pressure to create jobs in-state and pressure from the unions has resulted in a strong preference, embodied in new legislation, for projects developed in-state. Many other states with RPS programs similarly establish quotas for the number of Renewable Energy Credits that must come from in-state resources. Similarly, Arizona is soliciting solar developers to site projects within its borders to supply power to the Southwestern region while opposing the permitting and construction of a transmission line needed to sell such power. This sort of cognitive dissonance undermines both the state’s and region’s efforts to green the grid.

Policymakers are right to do what is necessary to ensure the delivery of the purchased power and to avoid contract-shuffling transactions that result in little more than green-washing system power. However, rules should be flexible enough to accommodate technological and contractual innovations that meet the state’s policy needs. In order to develop the least-cost resources, states should position themselves to draw from the largest pool of resources possible.

Thus, even if the project can be otherwise cost competitive, local interests can cause a cost differential or physical impediment that can be problematic. Federal Courts further balkanized energy infrastructure planning by overturning the Federal Energy Regulatory Commission’s (FERC) backstop authority for regional transmission siting. This backstop authority would have permitted FERC to step in and designate transmission corridors for streamlined permitting and construction once states had failed to do so.

4. Limited Clean Energy Definition

California’s heavy emphasis on the development of “renewable” resources excludes other promising clean generation technologies. In doing so it may be ignoring more cost-effective carbon reductions from the other 66 to 80 percent of the state’s electricity generation portfolio. Carbon capture and sequestration coupled with enhanced oil recovery technologies are but one example of cleantech that utilizes existing technologies at a cost that is competitive with many renewable technologies. Nuclear power has also advanced much farther and is now much more safe and reliable (Fukushima Daiichi notwithstanding) than when California placed a moratorium³ on all new generators a generation ago. Finally modern waste-to-power generation technologies have GHG emissions profiles comparable to the cleanest natural gas facilities and should be deployed in large municipalities that could benefit from the added value

³ Under current law the moratorium will remain in place until a solution is found for storage or recycling of spent fuel.

of landfill waste diversion. Both new clean technologies and nuclear power offer even greater potential for cheap, reliable and cleaner power than some of the more seemingly attractive renewable options. Certainly the combination of all could be a global solution that should not be ignored.

5. Grid Integration Process Hurdles

A Need to Rationalize and Streamline Transmission Planning and Interconnection

At least in California, if an in-state generation project wishes to be connected to the grid, it needs to go through a draconian interconnection process at the California Independent System Operator (CAISO) that requires sponsors to commit large sums for studies and to reserve a space in the interconnection study process queue. Several projects have been halted or abandoned due to the huge cost of the process for infrastructure upgrades, sometimes requiring tens to hundreds of millions pledged as security even to get the project studied prior to any actual construction. Further, if the project drops out for nearly any reason, including the inability to negotiate agreements with the target utility, that utility may be able to keep between 50 percent and 100 percent of the pledged security; and variations are categorically denied despite the flexibility provided by the tariffs and the law. Others face new challenges through added transmission access charges such as those that are being assessed in the Pacific Northwest due to the availability of excess hydroelectric power.

Curtailed Issues Looming on the Horizon

As the installed capacity of renewable generation grows there will be an increasing need for utilities, balancing authorities—those entities that operate the system and ensure that the power supply at least meets the demand—and transmission owners to “curtail” deliveries of renewable energy for a multitude of reasons. Curtailment occurs when a facility that is otherwise operational and capable of generating and delivering power is taken off line and idled. Under the majority of power purchase agreements executed in the recent past, when curtailment occurs the generator does not get paid. Various reasons for curtailment include a lack of transmission capacity, the need to balance the grid, and protection of endangered species. Curtailment risk is higher for wind projects since they generally produce during off-peak hours.

Not only does the unpredictability of curtailment increase developer risk, it also represents a missed opportunity for society. By one estimate curtailed wind energy is likely to exceed 40 terawatt hours in 2011.⁴

While economic curtailments are at odds with regulatory loading orders, as utility portfolios of renewables increase in size and cost, there will be increasing pressure to curtail unneeded renewable generation for economic reasons. Developers should be mindful of the terms governing curtailment in power purchase agreements and interconnection agreements. Curtailment issues also highlight the immediate need for advanced grid storage technologies.

⁴ Dr. David Doty, “Kicking Oil Addiction with Windfuels”, GreentechMedia.com (Feb. 2, 2011), available at <http://www.greentechmedia.com/articles/read/guest-post-kicking-oil-addiction-permanently-with-windfuels/>.

6. Utility Contracting and Planning

A final potential pitfall that developers should be aware of is the constantly evolving utility procurement process and the analysis that is needed to meet utility portfolio needs. A power purchase agreement (PPA) with a utility is a normal prerequisite for obtaining project financing and the key step in the project development process. The negotiation of PPAs is an ever-evolving process due to changes in regulations, rules, and utility policy and business needs. As a result, project developers, even those with highly viable and cost-competitive projects, are often left empty handed after months of work. In addition, as discussed above, the utilities are in a much stronger negotiating position and assume project failures into their procurement plans. In many states, utilities in the market for renewable power purchase agreements are the only game in town for renewable developers. This problem is further exacerbated by a lack of transparency in the negotiation and regulatory approval process.

Conclusion

While California wants it all, in short, the state may only stagger along with the hope of meeting increasing renewable portfolio goals unless unnecessary and contradictory impediments are removed. The state needs to (1) streamline and simplify the project review process, (2) enact limited environmental review exemptions for clean and renewable power projects, (3) accept a price premium for new technology, (4) expand what qualifies as “clean” energy for total generation portfolios, and (5) not impede the developing renewable resources in surrounding states. If not, Murphy’s Law may continue to apply to everyone’s detriment.

The message to any developer is that projects can and are being built in California. However, the key to success is the recognition of the potential pitfalls of the process at the beginning of the project by early association with regional and experienced counsel and advisors knowledgeable about energy project development. Renewable project proponents need to build grass roots and political support just as traditional project proponents must. Having a good team together early to plan is critical. Such steps may even make Murphy’s gloomy prediction much less likely.

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