

# Utility Procurement of Wind Resources

**R**esource acquisition is the companion to resource portfolio management. There is little point in designing a resource portfolio as a hedge against future uncertainties if an entirely different mix of resources is actually acquired. Unfortunately, discussions of restructuring the electric industry and the introduction of greater competition have caused some utilities to abandon or consider abandoning the acquisition of renewable resources including wind, even though those resources had been previously determined to be valuable additions to the utility's resource mix. This paper discusses resource acquisition issues for today's utilities and suggests how resource acquisition strategies implemented during the transition to a more competitive electricity market can be compatible with resource acquisition strategies required for a restructured industry.

## Background

Until recently in many states, renewable resources such as wind have been acquired as demonstration projects. But in the last few years, as the cost of renewables declined and their performance improved, state regulators and utilities became interested in acquiring wind and other renewables as part of their long-term resource portfolios.

At first, utilities wanting to contract for new generation resources ran bidding solicitations in which all supply resources competed. However, because of the contrast in the characteristics of renewables compared to traditional fossil resources, it was difficult to fairly compare these resources in the same solicitation. Related to this problem was the fact that renewables such as wind have both different benefits as well as different costs. As a result, fossil resources with the lowest first cost tended to win the bids even though renewables often had added benefits identified in resource planning but not valued in the resource acquisition process.

After a review of the results, some states and utilities decided to initiate a separate process for the acquisition of renewables. They developed renewables-only solicitations to evaluate proposals and acquire renewables separately from more traditional fuel-based technologies. As renewable technologies evolved and utilities became more and more specific about their generation needs, the prices bid by wind developers continued to decline. The price of winning wind bids now approach the price of new fossil generating plants even without including the value of the added benefits wind provides. Several hundred megawatts of contracts were tentatively won by wind and other renewables over the past three years.

However, despite joining the ranks of the lowest cost electricity supply options, renewable power including wind is facing new challenges in the United States. In the face of an uncertain industry future and increased competition, planned solicitations for renewable resources have been canceled and apparent winning bids revoked. These actions have postponed progress toward the sustained development of renewable resources. It is particularly unfortunate for wind resources given the cost

reductions wind has been able to achieve and the momentum that was building for the sustainable development of wind in a number of states.

## **Issues and answers for today's utility acquisition programs**

*Utilities have acquired wind as part of their long-term resource portfolios.* Though in retrospect the utilities' reaction to increased competition and industry restructuring is not surprising, it may not be prudent. It is expected that utilities are positioning themselves for new competitive markets. But customers' selection of an electric service provider will be based on a number of factors in addition to cost. The apparent concern for having the lowest short-term price which seems to be driving the reconsideration of renewable resource acquisitions may not serve either utilities' or their customers' interests in the long term. Renewables not only provide important risk mitigation functions as part of a utility's resource portfolio (see NWCC paper on Wind Energy Issues in Resource Portfolio Management) but they have other characteristics particularly appealing to certain customer groups. Once customers are free to select the electricity supplier and resource portfolio which suits their needs, environmental characteristics and price stability may become as important as short-term price to residential and commercial customers.

Now is not the time to cut back on renewables but rather to contribute toward their sustained development. Utility acquisition of renewables during the transition is important not only so renewable resources will be available at competitive prices when and where needed, but so that distribution utilities are perceived as attractive providers of electric services by smaller as well as larger electric customers.

## **Resource acquisition issues**

### **Recent FERC opinions**

The language in recent Federal Energy Regulatory Commission (FERC) opinions appear to forbid renewables-only solicitations. However, careful reading of those decisions and discussions with FERC commissioners seems to suggest otherwise. FERC has said numerous times that it supports renewables and the exercise of state authority in the planning and acquisition of resource supply portfolios. There is certainly no question that utilities can acquire renewables if they desire to do so. Nor is there any question about the ability of state utility commissions to require utilities under their jurisdiction to purchase renewables under state statutory authority. Moreover, there is nothing in any of the FERC opinions to suggest that commissions may not include incentives for portfolio diversity and renewable development as part of their rate making process. States have the authority to implement renewable acquisition strategies as long as they are consistent with state statutes and do not invoke the Public Utility Regulatory Policy Act (PURPA).

FERC's recent opinions seem to be rooted in its desire to have new resource acquisitions compatible with a more competitive industry and not contribute to stranded investments. This is a legitimate concern and one that is manageable.

### **Targeted acquisitions and green tariffs**

As discussed above, renewables are acquired much more efficiently through targeted acquisitions aimed at filling specified needs in a utility's resource portfolio as long as such acquisitions are consistent with FERC opinions. Moreover, if utilities offer their smaller customers a choice of resource portfolio options, renewables acquisitions targeted to meet those customer demands would clearly be consistent with a move to a more competitive market and would be unlikely to contribute to stranded costs in a restructured electric industry. The key is to think strategically and acquire renewables as part of an overall strategy compatible with a competitive restructured electric industry.

## **Acquisition implementation details<sup>1</sup>**

### **Length of contracts and out clauses**

One of the issues confronting utility acquisition policy is the nature of new competitive markets. Renewable resources require regulatory stability and some price certainty to provide the basis for renewable project financing. At the same time, power purchase contracts signed during this transition period must include a significant amount of flexibility to meet utility competitive needs. This problem of contract length may not be as daunting as it first appears.

For example, a contract could be offered with terms and conditions for an early buy-out, as well as provisions for the conversion of the power purchase contract to a contract-for-differences<sup>2</sup> or other type of hedging contract appropriate to the new competitive market structure. These provisions would be triggered by a restructuring of the industry in that state. Minimum time might be required before the new provisions would be enforced in order to allow for some certainty of revenue to support renewable project financing. As with all power purchase agreements, contracts should include a predictable and sufficient revenue stream, clear and equitable interconnection specifications, and contain no open-ended liabilities that could make the contract unable to be financed.

<p><b>Acquisition implementation details</b></p> <ul style="list-style-type: none"><li>• <i>Length of contracts and out clauses</i></li><li>• <i>Performance-based contracts</i></li><li>• <i>Transmission and interconnection issues</i></li></ul>
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### **Performance-based contracts**

In general, wind and other renewable projects should be reimbursed for the benefits they provide. To the extent that contracts specify various resource benefits to be provided by the project (e.g. resources to meet specific customer portfolio requirements, research and development information such as resource and technology data, reactive power, and other system operating services), the basis of payment for those benefits should be stated clearly. Any curtailment provisions should be very specific rather than open ended. If economic curtailment is included, projects should be permitted the option of accepting the alternative short-term market price rather than physically curtailing power, if the facility's variable operating costs allow. Under these circumstances, wind and other renewable resources are likely to be paid for the benefits they produce through a contract that meets both present utility needs and is compatible with a future competitive market.

### ***Renewables can reduce risk for utilities and appeal to certain customers* Transmission and interconnection issues**

To avoid the use of interconnection as an inhibitor to renewable resource development and to foster confidence in the process, requirements for interconnection must be explicit and available to all interested parties. If new interconnection facilities, line extensions or line reinforcements are needed, the design and costs should be fair, reasonable and consistent with standard utility practice in the region. When new projects are added near distributed load centers, they can reduce transmission line losses and overloading that would have occurred had power been dispatched from central power stations. Those projects should be paid some portion of the transmission cost savings.

Transmission constraints and the need for transmission upgrades should not prevent project development. Analysis of transmission system constraints and the cost of options for dealing with those constraints should be available to project developers in advance of solicitations so that appropriate siting decisions can be made. (See NWCC Issues Paper "Wind Energy Transmission and Utility Integration Issues" by Robert Putnam.)

### **Other transition issues**

During the period of transition (while policy decisions are being made or transition costs for stranded investments are being collected), a number of additional issues will arise that may negatively affect renewables as well as customers.

### **Market power**

It may be particularly tempting during the transition for large industry players to use their market power to

discourage or prevent entry by non-affiliated or smaller generation developers. This can be done by canceling contracts (as discussed previously), gaming the system so developer's payments are below their fair value and establishing that prevent certain resources from participating. Though tempting, such behavior could backfire and result in fines, litigation and negative customer reactions. Regulators should be particularly vigilant during the transition to ensure market power abuses are not allowed.

### **Rules of participation**

Rules of participation for evolving power pool structures can either encourage or discourage renewable development. Mechanisms should be identified that will allow intermittent resources like wind to fully participate in power pool transactions rather than instituting rules that allow only firm energy transactions. Non-utility project operators should be included rather than excluded from pool membership.

### **Transition costs**

When the industry is restructured, above market costs from some utility generation investments may be charged to all customers as a "transition cost," "systems benefit charge" or "wires charge." Under some proposals, these uneconomic generation assets may continue operation and compete in the competitive wholesale market under a protected status. These transition costs may include future operating costs, including some portion of fixed operating costs. Where costs for utility plants are partially recovered by "transition cost" cost recovery, these plants may compete on their variable fuel costs alone, and new technology competitors such as wind will face unfair competition. To the extent that large electric users are able to avoid transition costs through special reduced rates, transition costs may fall disproportionately on smaller customers. In such a situation, the ability of those customers to select renewable portfolios (which might cost slightly more in the short-term) will be reduced. These anti-competitive activities should not be tolerated.

### **Other generation asset issues**

Where existing fossil generation is given some protected status during the transition period and fuel costs are passed through to customers without being included in the competitive price of power, both customers and competing resources like wind will be harmed. Labor and other variable costs associated with operating and administering generation resources may be allocated as some type of customer charge rather than as part of the generation facility's competitive costs when determining electric service costs. If that happens, other resources will be placed at a disadvantage and customers may pay more for generation than they should pay.

**Other transition issues include:**

- *Market power*
- *Rules of participation*
- *Transition costs*
- *Other generation asset issues*
- *Experimental programs*

Incentives to cease operation of old, dirty generation to provide continued air quality improvements and to prevent reduced air quality should be considered when weighing the decision to bring retired plants back into service. With the reduction or elimination of regulatory oversight and the influence of short-term electricity markets, dirty generation could be operated longer than would otherwise have happened under traditional regulation. Inefficient facilities that in recent years have been left idle might be brought back into service because of their very low, depreciated costs. Old source reviews or pollution caps should be instituted as part of any restructuring plan to protect air quality and to encourage the introduction of new, cleaner technologies such as wind. To the extent that performance-based regulation is used during the transition, non-price environmental criteria should be included to encourage responsible resource acquisitions. Finally, distribution utilities that retain business relationships with generating plants should be required to obtain all their supply resources through competitive bidding.

### **Experimental programs**

Some utilities are beginning to offer their customers alternative supply portfolios with significant amounts of low-cost renewables and stabilized rates. As utilities improve these new products and their ability to market them to customers matures, these options may be selected by significant segments of customers. Programs to investigate the feasibility and popularity of such options could be undertaken productively before or during the transition to enhance customer loyalty before competition becomes more intense.

Commissions should encourage utilities to undertake programs they allow greater expression of customer choice in the resources acquired by the utility.

## Resource acquisition in a restructured industry

In most restructuring scenarios, some type of distribution utility will be purchasing electricity for some or all of its retail customers. If there is wholesale competition only, the distribution utility will be purchasing for all customers. If there is retail competition, the remnant distribution utility will be purchasing for all of its remaining customers. Where there is retail competition, it is probable that the customers remaining with the remnant distribution utility will include more residential and commercial than industrial customers due to the ability of large customers to negotiate "volume discount" purchases directly from the wholesale market. Given present restructuring discussions, some form of performance-based regulation is likely to be used in the regulation of continuing utility functions, such as transmission, distribution and resource acquisition for remaining utility customers. Assuming these types of scenarios, the following resource acquisition concerns and strategies might be relevant.

### Resource acquisition implementation policies

#### Resource acquisition concerns and strategies

- *Ease of participation*
- *Facilitating market options for smaller customers*
- *Customer information*

Probably the greatest need through the transition and into the initial phase of the restructured industry will be regulatory stability. This is particularly important for the financing of new generation facilities like wind. The financial community will not want to risk investing in new generating resources unless it is quite confident it understands the conditions under which any new facilities will be operating

and unless they have some basis for projecting the probable revenue stream for the facility. Changing rules and a lack of regulatory stability will doom the ability of new facilities to be financed and compete in the marketplace.

#### Ease of participation

To offset the risk of market power abuse by owners of large amounts of generation, wholesale market structures and rules of participation should support ease of entry and participation by a wide variety of suppliers. By keeping entry barriers low, commissions and legislatures can encourage new market entrants. The unbundling, resale and pricing of utility functions needed by new suppliers will be of key importance in supporting a wide variety of new suppliers.

#### Facilitating market options for smaller customers

Both the volume buying power of large customers and the transaction costs associated with serving smaller customers can make it difficult to develop strategies that allow smaller customers to be able to exercise their preferences in a competitive electric marketplace. Nonetheless, facilitating competitive programs for smaller customers will likely result in the greater selection of renewable resources and certainly result in greater customer satisfaction.

To accomplish this, consideration should be given to laws and guidelines that encourage small customer aggregation and reduced transaction costs for smaller customers exercising their electricity supply and service preferences. Requirements for and allocation of the costs of real-time-pricing and time-of-use meters should be carefully considered to ensure that metering policies do not become an impediment rather than a tool to increase customer choice and participation in aggregation schemes. Where a state chooses to implement competition in retail electric markets, smaller customers should be included at the same time as large customers to avoid the danger of "cream skimming" by large customers and the risk of unintended cost transfers to smaller customers.

## Customer information

One of the key ingredients to the efficient operation of a competitive market is the availability of accurate information by both buyers and sellers. If information about electricity use by various groups of customers is exclusively retained by the former monopoly utility, it will stifle competition and the ability to market resource portfolios that meet customer needs. Similarly, for customers to make informed comparisons concerning the selection of resource portfolios being marketed to them, they need to have accurate information on the benefits, costs and risks of competing resources. To assist in this endeavor, distribution utilities should be required to provide customers and potential customers with cost, benefit and risk data on the resources contained in their supply portfolios. To the extent that renewables are less well known and understood by the public, such information will assist customers in better understanding the generation options available to them. (Also see the NWCC paper on "Issues in Resource Portfolio Management" for a more detailed discussion of portfolio information and consumer protection against fraud and misrepresentation.)

## Summary and conclusions

*Transmission constraints and the need for transmission upgrades should not prevent project development.* As renewable technologies have evolved and utilities have become more sophisticated about their generation needs, the prices bid by wind developers in utility resource solicitations have declined dramatically. The price of winning wind bids in 1995 approach the price of new fossil generating resources even without including the value of the added benefits wind provides. Several hundred megawatts of contracts were tentatively won by wind and other renewables over the past several years.

But, despite joining the ranks of the lowest cost electricity supply options, renewable power, including wind, is facing new challenges in the United States. In the face of an uncertain industry future and increased competition, planned solicitations for renewable resources have been canceled and apparent winning bids have been revoked. These actions have postponed progress toward the sustained development of renewable resources.

However, the apparent concern for having the lowest short-term price, which seems to be driving the reconsideration of renewable resource acquisitions, may not serve either utilities' or their customers' interests in the long term. Once customers are free to select the electricity supplier and resource portfolio that suits their needs, environmental characteristics and price stability may become as important as short-term price to many customers. Acquiring resources that exhibit these characteristics is as important in the transition as it will be under a reorganized industry.

*Renewable power, including wind, is facing new challenges in the United States.* As we move into a new era in the electric industry, resource acquisition and implementation issues must be reconsidered. Probably the greatest need through the transition and into the initial phase of the restructured industry will be regulatory stability. This is particularly important for the financing of new generation facilities like wind. The financial community will not want to risk investing in new generating resources of any type unless they are quite confident they understand the conditions under which any new facilities will be operating and unless they have some basis for projecting the probable revenue stream for the facility. Capital intensive resources such as wind are particularly vulnerable to this problem.

In addition, the ability of smaller customers to express their resource preferences in a market based system (where public opinion polls indicate that renewables may achieve their strongest customer support) is very important for renewable resources. Ease of entry and participation in the competitive market by renewables and the accuracy of consumer information are also critical to the overall success of wind and other renewables in the competitive industry of tomorrow.

1. For a more detailed discussion, see Jan Hamrin and Nancy Rader, Investing in the *Future: A Regulator's Guide to Renewables*, the National Association of Regulatory Utility Commissioners, 1993.

2. In this type of hedging contract the electric generation seller is paid a fixed amount over time which is a combination of the short-term market price and an adjustment with the purchaser for the difference.

*Ease of entry and participation and accurate consumer information are critical to the overall success of wind in a competitive market.*

### **National Wind Coordinating Committee**

The content and form of the papers in this series have been reviewed and approved by the National Wind Coordinating Committee. Committee members include representatives from investor-owned utilities, public utilities, state legislatures, state utility commissions, state land commissions, consumer advocacy offices, state energy offices and environmental organizations. The purpose of the National Wind Coordinating Committee is to ensure the responsible use of wind power in the United States. The committee identifies issues that affect the use of wind power, established dialogue among key stakeholders and catalyzes appropriate activities.

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*The Wind Energy Series is a product of the National Wind Coordinating Committee (NWCC). The NWCC is a collaborative endeavor that includes representatives from electric utilities and support organizations, state legislatures, state utility commissions, consumer advocacy offices, wind equipment suppliers and developers, green power marketers, environmental organizations, and state and federal agencies.*

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