

How Purchase Decisions Affect The Utility-Scale Buy Chain

*Do you understand the rationale behind your customers' buying decisions?
A recent study sheds some light on the issue.*

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Wind power continued its rapid growth in 2009, despite challenging economic conditions. Boosted by federal stimulus funding, the U.S. added a record 10,000 MW of wind capacity last year, increasing installed capacity by 39%. This brought cumulative U.S. installations to more than 35,000 MW, culminating five years of 39% compound annual capacity growth, according to the American Wind Energy Association.

With this substantial expansion, there is increasing attention to the supply chain of components and services that come together to create wind turbines and projects. Much of this attention comes from U.S. manufacturers and service companies seeking to enter the supply chain, as wind turbine original equipment manufacturers (OEMs) and developers expand U.S. operations.

This flow of products and services can be viewed from a different angle – a concept called the buy chain. Buy-chain analysis seeks to understand what drives buying decisions at various links in the chain from raw materials to finished product.

The aim is to gain more robust knowledge of who is buying what, why they are buying and how they are buying or – in, other words, the circumstances around buyers' pur-

chase decisions and key factors driving them. A better understanding of such purchase dynamics can help manufacturers and service companies be more successful wind industry suppliers.

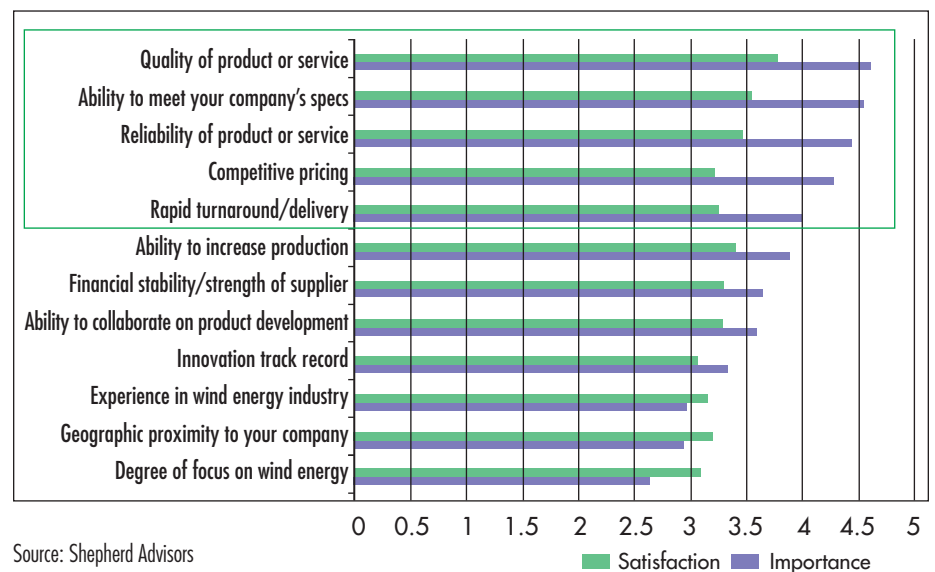
Buy chain

In order to gain this understanding, our firm collaborated with the University of Michigan Ross School of Business to conduct the first wind energy buy-chain survey. The buy chain is effectively a series of purchasing decisions following the money

– from end user back to raw materials. In essence, it is the supply chain inverted. At each link in the chain, there is a unique set of circumstances influencing the buyer's purchase decision.

Clearly, various supplier attributes – such as product, service and pricing – are key drivers in the purchase. But numerous other factors – policy, regulation, competition, economic conditions, financing and others – can significantly impact the purchase decision. For a supplier to sell most effectively, he or she needs to under-

Figure 1: Supplier Attribute Importance vs. Satisfaction: Manufacturers



Source: Shepherd Advisors

stand how these factors collectively influence customers.

Moreover, understanding how these forces are impacting “customers’ customers” can provide critical insights as to what is driving the direct customer’s thinking.

Taking the wind industry as an example, at the top of the buy chain, policies such as renewable portfolio standards and tax incentives impact demand for wind power. This drives the level and nature of demand for wind installations by utilities and power producers and how and when they engage wind developers.

This demand flows through developers to service providers – such as construction, and turbine OEMs – to tier and component suppliers and, ultimately, raw materials.

Results

In the survey, respondents were asked to score 12 supplier attributes (on a scale of 1 to 5) in terms of importance to their purchase decisions. In addition, respondents were asked to indicate how satisfied they were with their key suppliers across this same set of attributes.

For manufacturers making purchase decisions, quality, ability to meet specifications, reliability, competitive pricing and rapid turnaround rose to the top in terms of importance.

In contrast, degree of focus on wind energy, geographic proximity and experience in wind industry ranked lowest in importance.

Among supplier attributes, the ability to increase production, financial stability and strength of the supplier, the ability to collaborate and innovation track record were of moderate importance to manufacturers.

Among manufacturers, the gap between importance and satisfaction was largest for the five most important attributes.

For service providers, quality, ability to meet specifications, reliability, competitive pricing and rapid turnaround constituted the top tier of attributes. These criteria were sim-

ilar to the manufacturers’ preferences.

Service providers also echoed manufacturers’ perspective on geographic proximity, with that attribute clearly registering as least important. For this group, degree of focus on wind energy and experience in wind industry ranked relatively higher than for manufacturers.

Like manufacturers, service providers viewed the ability to increase production, financial stability and strength of the supplier, the ability to collaborate and innovation track record to be attributes of moderate importance.

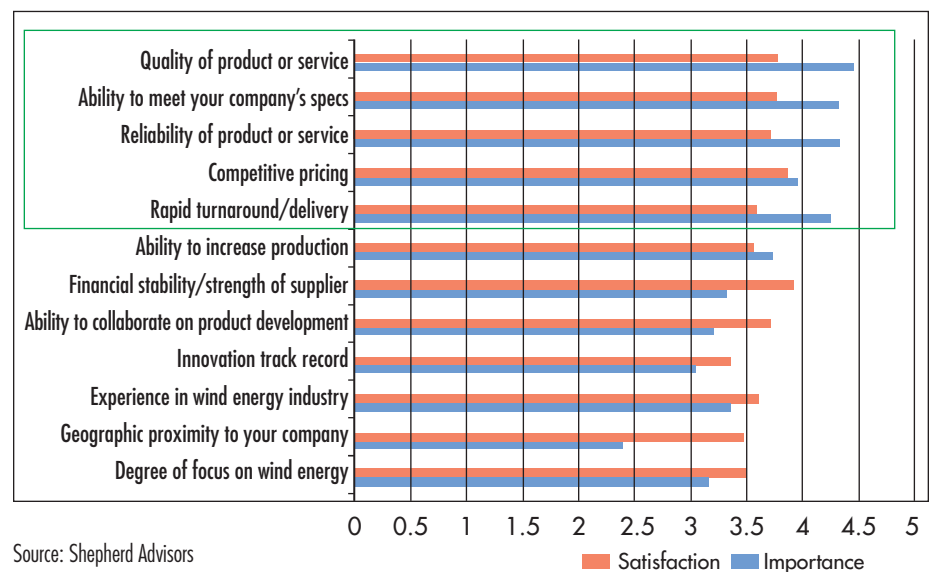
For service providers, gaps between importance and satisfaction were largest for four of the five most

over the next three years. In contrast, 22% of manufacturers and 13% of service providers expect wind revenue annual growth of 5% or less during that time period.

On the supplier front, 33% of manufacturers and 57% of service providers expect to add wind suppliers within the next year. For those expecting to add suppliers, the primary reasons for doing so were “anticipating increase in volume” and “new capabilities are required.”

The relatively higher growth expectations from service providers could be attributed to the way 2009 unfolded. Stimulus funding, such as the U.S. Department of the Treasury’s Section 1603 program, spurred sub-

Figure 2: Supplier Attribute Importance vs. Satisfaction: Service Providers



Source: Shepherd Advisors

important attributes – quality, ability to meet specifications, reliability and rapid turnaround. Generally, gaps between importance and satisfaction were larger for manufacturers than service providers.

In addition to the supplier attribute rankings, respondents provided insights into their outlook for the wind industry. Both groups expressed optimism toward growth prospects, with service providers being somewhat more bullish. Forty-three percent of manufacturers and 52% of service providers expect wind revenues to grow at least 20% annually

stantial installations in the fourth quarter, from which certain types of service providers directly benefited. This surge in project activity may have positively influenced expectations. In contrast, manufacturers throughout the supply chain generally would not have experienced those benefits, because equipment for the fourth-quarter installations had already been produced and was awaiting installation or already in OEM inventory.

Wind industry buyers want suppliers they can count on to deliver the fundamentals.

Respondents ranked quality, reliability, ability to meet specifications, competitive pricing and rapid turnaround as the most important factors in choosing their suppliers. Purchases are generally concentrated among relatively few suppliers, with 55% of manufacturers and 50% of service providers having three or fewer wind suppliers.

Nevertheless, opportunities exist to establish new, so-called trusted supplier relationships. The gap between importance and satisfaction scores was highest for quality, reliability, ability to meet specifications, competitive pricing and rapid turnaround, indicating a number of potential unmet needs in critical areas.

For manufacturers, focus on wind energy and wind industry experience ranked relatively low on the supplier-attribute importance scale, suggesting opportunities for capable new entrants. Some 33% of manufacturers and 57% of service providers expressed expectations to add suppliers within the next year.

Respondents are cautiously optimistic about growth prospects in the wind industry. Overall, 40% projected annual wind revenue growth of at least 20% over the next three years. At the same time, fewer than 25% foresee annual wind revenue growth of 5% or less.

Methodology

The Wind Energy Buy-Chain survey represented an initial effort to gather insights on purchase decisions by collecting feedback directly from the marketplace. Shepherd Advisors worked with a team of Michigan MBA students in the market research

class to develop the survey, which was then fielded via e-mail by the student team. Surveys were sent to more than 1,000 wind supply-chain participants including:

- Utilities/power producers and wind farm developers;

- Wind turbine OEMs, manufacturers (Tier 1, Tier 2, components), and manufacturing equipment suppliers; and

- Service providers (e.g., wind resource assessment, wind farm design, permitting, engineering, construction, logistics, operations and maintenance).

The survey focused primarily on understanding the importance of different attributes that respondents demand from suppliers, as well as satisfaction with suppliers along those attributes.

In addition – along with basic demographic information – respondents were asked to comment on their company's wind industry participation (e.g., experience, wind revenues) and growth expectations. The survey was conducted in November 2009.

Surveys were sent to 1,070 contacts representing a broad cross-section of wind industry participants. From this pool, 94 responses were received, corresponding to a 9% response rate. Respondents included 48 manufacturers (51%), 42 service providers (45%), three developers and one utility.

Among the manufacturers, 8% were OEMs, 29% were Tier 1 manufacturers, 13% were Tier 2 manufacturers, 35% were component manufacturers and 15% were equipment manufacturers.

Completed surveys were returned by 73 respondents (7% of contacts), including 41 manufacturers, 31 service providers and one developer.

Respondents represented a broad, evenly distributed spectrum of company size based on number of employees, with 14% of responses from companies with 10 or fewer employees, 18% from companies with 11 to 50 employees, 18% from companies with 51 to 100 employees, 21% of responses from companies with 101 to 250 employees, 14% from companies with 251 to 500 employees and 15% from companies with more than 500 employees.

Respondents – both manufacturers and service providers – were diverse in terms of their wind industry revenues, with strong representation across size ranges. Similarly, respondents represented a cross-section of industry experience, with manufacturers weighted somewhat toward fewer years and service providers toward the middle range.

Across the manufacturer and service provider groups, more than six of 10 respondents drew a predominant portion (at least 80%) of their revenue from outside the wind industry. Wind suppliers were relatively concentrated, with at least half of the respondents having three or fewer suppliers. **SNP**

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