



WIND TURBINE MANUFACTURING GOES MAINSTREAM

BECOME A GLOBAL GIANT OR A LOCAL SPECIALIST

The wind industry is expanding. At the same time, the industry is also maturing, raising the prospect of stiffer competition and a wave of mergers. Turbine manufacturers need to figure out what their strengths are – and then position themselves ahead of the action.

The wind turbine manufacturing business looks stronger than ever before, with the industry sporting an average annual growth rate in excess of 30 percent for the past two years. International turbine makers are now all profitable, posting average margins above 5 percent. And following years in which wind was considered economically unviable, the lifetime cost of an onshore wind farm is less than that of a coal-fired power plant.

But wind's graduation from nice idea to mainstream industry is going to trigger serious competition. The European onshore market is increasingly saturated, which means wind turbine manufacturers will have to look for new markets. The competition in these will drive down prices at a time when governments worldwide are already reducing wind subsidies or cranking up competition through tendering procedures.

To survive in the new era, wind equipment firms need to position themselves correctly. We think turbine manufacturers can remain competitive in the long run only by adopting one of two business models: "Global Full-Liner" or "Local Dominator."

GLOBAL FULL-LINER: INTERNATIONAL SCOPE AND ECONOMIES OF SCALE

Opportunities in new markets are going to require global scale. One growth area will be offshore wind farms, which benefit from stronger winds and do not encounter resistance from affected residents. But they

are large scale and difficult to construct, making them high-risk endeavors. To be entrusted with such projects, turbine manufacturers will need the engineering depth and financial strength to cope with the inevitable hitches during rollout. The ability to supply plant components and systems – such as substations and grid connections – can also be an advantage.

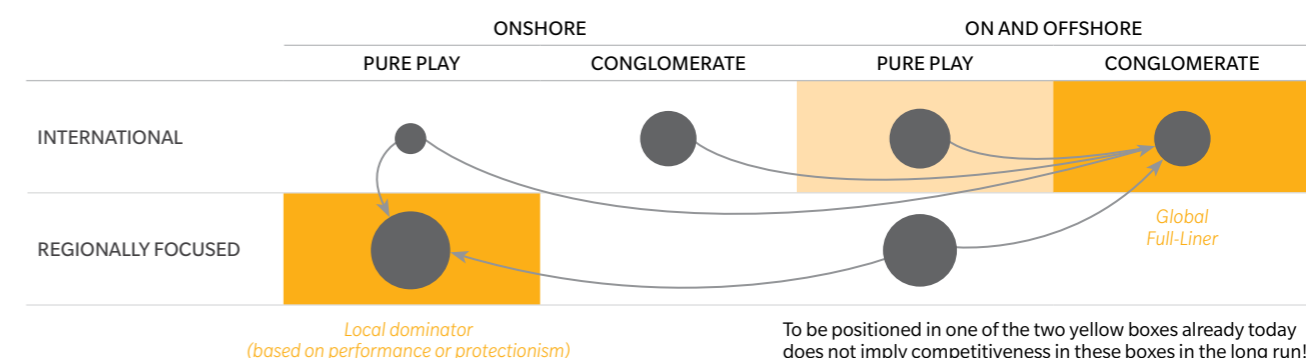
Other growth will come from the US and the emerging markets. In those markets, seizing business will mean engaging in international competition, which will call for scale in the form of an international footprint. Wind operations that are part of a conglomerate may be able to leverage expertise and commercial muscle from the group's other businesses.

More generally, scale will be of benefit in the tougher competition of the future. Economies of scale can reduce operational costs by purchasing source materials in larger lots and making processes more efficient through automation and digitization. And higher revenues will absorb the robust research and development (R&D) budgets needed to boost the performance of both individual turbines and wind parks – incrementally and through disruptive technologies. Some equipment

2% OF CHINESE WIND TURBINES WERE EXPORTED IN 2014



Exhibit 1: Winning formulas
Turbine manufacturers need to pick the right strategy in a maturing industry



Note: Size of circle indicates market share of players who are lined up in these positions today
Source: EWEA, Société Générale, Oliver Wyman analysis

makers have let innovation spending slip in recent years, as part of their drive for profitability: Western manufacturers spent just 1.9 percent of their revenues on R&D in 2015, down from 4.5 percent in 2011.

LOCAL DOMINATOR: MARKET INTIMACY AND LIFE-CYCLE ECONOMICS

The other way to survive is through local dominance in the onshore segment. A manufacturer that focuses on just a few local markets can perfectly tailor its products to the local climate, grid conditions, and regulatory requirements. It can concentrate on a relatively narrow – yet profitable – product portfolio, avoiding the complexity and greater risks of the offshore segment. High local market share also enables a manufacturer to support a dense service network and provide wind farm operators with superior service. Such networks also operate more efficiently, as technicians spend less time on the road and more on the turbines.

Moreover, a high local market share helps turn a wind turbine manufacturer into an integral part of the local community, with close relationships to customers and regulators. That can give the company a head start on new opportunities, such as subsequent waves of repowering (see Exhibit 1).

M&A IS MORE THAN JUST CONSOLIDATION

One way for turbine manufacturers to position themselves correctly is through merger-and-acquisition

(M&A) activity. Previous waves of M&A often served to get outsiders into the business, and had little impact on the industry's overall structure – which is still relatively fragmented, even as it matures. Future deals will have to aim squarely to get a wind turbine manufacturer into the right business model. M&A activity that increases a company's size but fails to position it in one of the two sustainable business models will not do the job. M&A could also be the way Chinese companies become global players. In 2015, five of the top 10 manufacturers by global capacity installation were China-based, but this strong showing is misleading. Turbine imports accounted for less than 1 percent of the Chinese market in 2014, indicating that Chinese authorities have closed their market to foreign competition.

Internationally, Chinese turbine makers are not competitive: Their exports were equivalent to less than 2 percent of the Chinese market. Overseas acquisitions would bring them new technology and operational know-how, especially in running international sales and service networks, and would also expand their global scale and market access. The coming wave of mergers will dwarf past consolidation activity. But there may only be a limited number of available partners who can meet suitors' specific needs. The time for wind equipment makers to act is now.

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