

Leading Manufacturers Find Energy Savings

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Executives enjoying the current renaissance of manufacturing in the United States have found a new weapon in their constant battle with production costs: energy savings. Whether through creating their own electric generating capacity, driving good bargains with competitive suppliers, negotiating (perhaps for the first time) with their local utility or managing their production process to take advantage of price signals in the energy marketplace, leading manufacturers are taking an active role determining the energy component of the costs of their products. The time has never been better, as fracking is driving down electric and gas prices, maturing renewable industries are making sustainable options more affordable, and competitive and regulatory pressures facing utilities mean manufacturing facilities with electric load needs are highly desirable customers. Next generation manufacturers are taking note.



Thomas McCann Mullooly The Changing Energy Marketplace

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The modern energy marketplace is changing. Energy costs as a percent of cost of manufactured goods fell by 11 percent between 2006 and 2010, according to the U.S. Energy Information Agency (EIA), and those prices have continued to fall. Over that same time period, the EIA recently reported a 36 percent decrease in the average natural gas price paid by manufacturers.

While prices may be declining, overall usage and cost is projected to increase. Annual non-renewable energy expenditures for the industrial sector have been projected to grow from approximately \$206 billion in 2010 to \$584 billion in 2040.[1]

Thus, manufacturers find themselves with increased bargaining power that can lead to larger savings. Manufacturers are attractive customers because of their stable credit rating, predictable power needs, ability to draw power off-peak, and the potential for participation in demand response programs. Manufacturer decisions on siting or moving operations can be significantly influenced by the electric rates in a given state. Thus, rate pressures cause alarm among politicians, who recognize that major electric users are often major employers and tax payers.

Retail competition in the electric industry has contributed to these trends. Retail competition allows customers to choose a generation provider for power delivered through the local utility's transmission and distribution system. This gives customers choice among competitive suppliers and the potential to secure electricity at lower rates with more flexible terms and added services. Retail competition is available in 17 states and the District of Columbia. In retail competition states, rates have gone down 1.7% for industrial users between 1997 and 2012, compared to a steady increase of 10.1% in regulated states.[2]

Finally, there has been renewed interest in self-generation. Whether erecting on-site wind turbines, placing solar panels on factory rooftops or investing in co-generation facilities, self-generation has caught the interest of manufacturing executives.

Next Steps Toward Cost Savings

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Kurt Rempe There are steps manufacturing executives can use to take advantage of

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the changing energy marketplace. First, assign a responsible manager and set goals, which could be as general as identifying the potential actions in this arena to create value for the enterprise, or more specific such as reducing overall energy costs, creating a greener manufacturing process or helping to create a more positive image.

Second, establish a baseline of energy usage, both company-wide and per facility. Most enterprises will be solicited from consultants promising to revamp energy usage, often seeking to share in the savings. Before committing to a long-term contractual relationship, it is important to understand from an independent source what the current level and costs are for energy usage. This can be accomplished through an internal audit of utility billing history. A professional audit will assess overall energy needs and determine how much power is being used and whether the current physical plant is optimized to conserve power. But again, before committing to an audit, a wider view of the energy landscape is needed. The terms and conditions of the consultant's contract should be subject to close legal review to make certain that the company's goals align with the consultant's incentives.

Third, determine whether self-generation is a viable option. Is the company's electric usage large enough to justify generating energy behind the utility meter? Would solar panels or a cogeneration unit contribute to the manufacturing process? Does the local regulatory regime allow an industrial generator to deliver power to the grid, sometimes referred to as "net metering," and if so, on what price, terms, conditions and with what degree of ongoing regulatory risk? Even if net metering is available, does the company want to commit to taking the steps necessary to sell power wholesale?

If self-generation is an option, numerous contractual issues will arise. How should the project be structured from a tax and financing perspective? What real estate rights might be required for siting or leasing a generating facility or rooftop? Engineering, Procurement and Construction (EPC) contractors and major component suppliers will all have their preferred terms and conditions for making the project a reality, but those might not match the manufacturer's goals for that particular project. Again, close legal review is required for EPC contracts, with particular attention to warranties, and the risks assumed by either side when the unexpected occurs.

Fourth, examine whether you are taking advantage of all the electric and natural gas supply opportunities available to each facility. In markets with retail competition, does the company have in place an auction or other process by which offers from competing suppliers can be evaluated? In evaluating those bids, the services offered will vary, so purchasers need to push ahead of time for apples-to-apples terms and conditions. Bringing in legal review early on, rather than at the deadline when the provider has quoted a great price but you must take or leave it is a prudent move. In markets without retail competition, manufacturers need to ask themselves when the last time was that they reviewed a utility tariff book to determine whether they were receiving the most favorable rate available. There might be an opportunity to work with counsel and negotiate a tailored "contract tariff." A typical contract tariff allows for lower overall costs in recognition of the

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user's unique usage patterns, and yet provides enough benefit to the utility to protect other ratepayers from having to subsidize a lower cost for one large user.

Fifth, is a "demand response" program right for your facility? Demand response programs offer incentive payments for electricity users to change their consumption patterns at times of high wholesale market prices (time-based programs) or when system reliability is jeopardized (reliability-based programs). Many programs are remotely monitored and fully implemented by the utility and require little investment of time or money by the program participant. Participation in demand response is booming and these programs are becoming increasingly mature, sophisticated and lucrative for participants.^[3] Utilities view demand response programs as a cheap way to avoid investments in new plants and transmission, industry views these programs as a lucrative source of income, and regulators, governments and citizens groups view these programs as an environmentally friendly way to conserve energy and reduce rates for all classes of customers. Your energy manager should become familiar with any demand response program available for each company facility and coordinate the legal and business review of the steps, obligations and potential impact on the business from participation.

Nearly 60,000 industrial facilities world-wide participate in demand response programs with the lion's-share of participants in North America.[4] FERC reports that demand response programs are particularly strong in the Midwest.[5] One manufacturer was reported to have received approximately \$400,000 in annual payments for an Illinois facility essentially for shutting down operations briefly, during which time it performed needed maintenance and cleaning.[6]

Seizing the Opportunity

Manufacturers are seizing opportunities to reduce costs and sometimes to reduce the impact on the environment. The energy marketplace is subject to extensive regulation, and there are many consultants pitching one size fits all approaches to optimizing a facility's acquisition and use of energy. Executives should take a comprehensive approach, engage counsel to help assess the regulatory and practical issues moving forward and follow the right steps to a promising energy future.

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[1] See *EIA Annual Energy Outlook 2013 with Projections to 2040*, at Table A3 (figures shown in nominal dollars) [http://www.eia.gov/forecasts/aeo/pdf/0383\(2013\).pdf](http://www.eia.gov/forecasts/aeo/pdf/0383(2013).pdf) [6].

[2] Inflation adjusted information prepared by the COMPETE Coalition,

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<http://www.competecoalition.com/blog/2013/07/us-ftc-staff-urges-arizona-regulators-open-retail-electricity-market-competition> [7]. For example, in the Midwest, Illinois deregulated and brought its historically high rates down well below the national average, while Wisconsin (fully regulated) and Michigan (partially deregulated) have the highest rates in the region. See EIA Electric Power Monthly, May 2013, Table 5.6.A <http://www.eia.gov/electricity/monthly/pdf/epm.pdf> [8] (showing MI and WI rates are the highest in the Midwest and rising over the previous year, prior reports with data going back to 2010 show similar figures). We also note that in the West and Southwest, many states which initially considered retail competition ended up suspending or repealing the programs. While retail competition is common in the Northeast, there are no Southern states open for retail choice. But even in states that have not deregulated, customers are using creative strategies to reduce consumption and negotiate lower rates with the incumbent utility.

[3] See Federal Energy Regulatory Commission Assessment of Demand Response & Advanced Metering 2012 Staff Report (FERC Staff Report), at Table 3-1 (showing a list of the various incentive-based and time-based demand response programs currently available) <http://www.ferc.gov/legal/staff-reports/12-20-12-demand-response.pdf> [9]. For FERC's most recent report on demand response, see <http://www.ferc.gov/legal/staff-reports/2013/oct-demand-response.pdf> [10].

[4] See Navigant Research, Demand Response for Industrial Markets (Industrial Peak Load Curtailment and Payments: Global Market Analysis and Forecasts), <http://www.navigantresearch.com/research/demand-response-for-industrial-markets/> [11]; see also <http://news.thomasnet.com/IMT/2013/07/10/manufacturers-increasingly-turn-to-demand-response-as-a-revenue-stream/> [12].

[5] See generally FERC Staff Report at 25, 27-29, and Figure 3-3 and Table 3-2 (showing a number of Midwest states with high potential peak reduction in energy use under demand response programs).

[6] See <http://news.thomasnet.com/IMT/2013/07/10/manufacturers-increasingly-turn-to-demand-response-as-a-revenue-stream/> [12]. We also note that reports project a 13.6% compound annual growth rate for enrollment in demand response programs among industrial customers from 2013 through 2020 with annual payments to industrial customers reaching \$4.3 billion by 2019. *Id.* See also Navigant Research, Industrial Demand Response Payments Will Reach \$4.3 Billion Annually by 2019, <http://www.navigantresearch.com/newsroom/industrial-demand-response-payments-will-reach-4-3-billion-annually-by-2019> [13].

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