

## Alcoa: C-Suite Participation in Energy Efficiency Increases Accountability and Staff Engagement Throughout the Organization

Alcoa's corporate leadership recognizes the benefits of working with the U.S. Department of Energy through the *Save Energy Now* LEADER initiative to advance the company's industrial energy efficiency initiatives.

Alcoa is the largest manufacturer of aluminum and aluminum products in the United States, and one of the largest consumers of electricity on the North American continent. Accordingly, energy consumption at Alcoa's U.S. facilities represents a significant expenditure for the company. Energy consumption by all sources accounts for approximately 26% of the company's total alumina refining production costs, while electric power alone accounts for approximately 27% of the company's primary aluminum production costs. Due in large part to rising energy prices, Alcoa has placed—and maintained—great emphasis on energy management as a cost control measure.<sup>1</sup>

### Committing to Energy Efficiency

Alcoa began to focus its attention on reducing the energy intensity of its refining and smelting processes in 1990, in addition to decreasing their associated carbon emissions. This energy and environmental focus was incorporated



Jeff Walker (ITP's former Partnership Development & Deployment Supervisor) and Rick Bowen (Alcoa's President of Energy) at the Alcoa LEADER signing event.

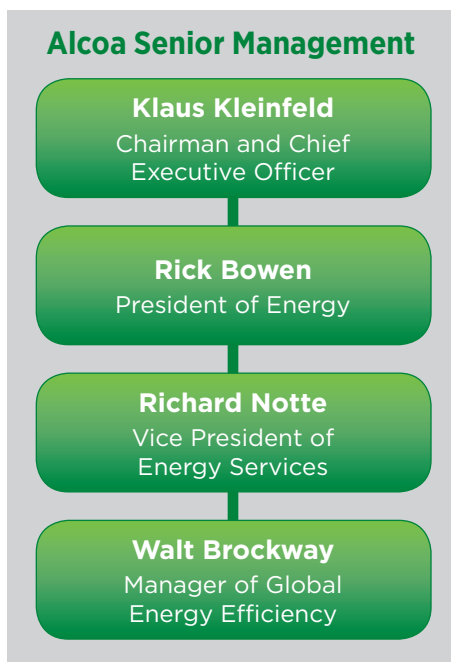
into the company's first set of sustainability goals in 1993.<sup>2</sup> Since that time, Alcoa has revised its goals on several occasions. The company's newest goals—established in 2009—are to reduce the energy intensity of its primary operations 10% by 2020 (from a 2005 base year) and 15% by 2030. Further, Alcoa aims to reduce the energy intensity of all its other businesses 20% by 2020 and 30% by 2030.<sup>3</sup>

To help achieve these goals, the company developed a number of supporting programs. For example, in 2002 Alcoa's Chief Executive Officer (CEO) and management team established a program called the Energy Efficiency Network. The program's mission is to identify energy efficiency improvement opportunities within the company's operations. To identify these types of opportunities, the network conducts energy efficiency surveys at each of Alcoa's operating locations. After a plant has been surveyed, it is up to the facility's manager and energy team to decide whether to implement the resulting energy efficiency recommendations. To date, Alcoa's Energy Efficiency Network has identified more than \$100 million in potential savings opportunities.<sup>4</sup>

Alcoa has a long history of working closely with the U.S. Department of Energy (DOE), benefiting from its unique set of tools and resources as well as access to other experts in the field. One recent partnership opportunity occurred in 2009 when Alcoa worked with the DOE to conduct an energy assessment on the combustion systems at one of its U.S.-based smelter facilities. Using DOE's Process Heating Assessment and Survey Tool, Alcoa identified nearly \$500,000 in energy savings opportunities for that plant that required no capital investment.

### Corporate Energy Management at Alcoa

Alcoa views energy management as a continuous priority for which many people throughout the organization are responsible. In fact, beginning in 2010, Alcoa linked leadership performance pay directly to the company's energy performance.<sup>5</sup> On a day-to-day basis, Alcoa's President of Energy, Rick Bowen, develops the company's corporate-wide energy strategy, in addition to leading the energy team's efficiency efforts.<sup>6</sup> He reports directly to the company's Chairman and CEO, Klaus Kleinfeld. The Vice President of Energy Services, Richard Notte, reports to Rick Bowen. Additionally,



Richard Notte oversees the activities of Alcoa's energy team. A key member of this team, Walt Brockway, serves as manager of global energy efficiency. He identifies and encourages the replication of effective programs to improve the efficiency of Alcoa's global facilities. Another one of Walt Brockway's responsibilities is to share the company's energy management success stories internally—through e-mail updates and celebratory events—to generate a sense of pride among staff members. The energy team frequently collaborates with Alcoa's Public Relations Department to commemorate accomplishments and generate conversation around energy, both inside and outside the organization.

Alcoa's CEO rolled out an enhanced corporate-wide sustainability program in 2009 that placed new emphasis on the company's energy program. As part of this effort, the CEO tasked Rick Bowen with reporting energy-related metrics to the company's senior leadership on an annual basis. Within the energy team, Rick Bowen monitors quarterly reports to allow for course corrections throughout the year. Alcoa's leaders believe that making mid-level managers responsible for monitoring systems, as well as reporting the results to senior

management, increases the level of accountability and engagement throughout the organization. Upon receiving the reporting directive from Alcoa's CEO, Rick Bowen asked his team to quickly implement the data collection process. The team began by addressing the most energy intensive processes first. Subsequently, the team is focusing on less intensive areas on an individual basis. To that end, one of Walt Brockway's initiatives is to encourage each plant manager to invest in additional measurement and verification instruments. This will enable managers to monitor plant-level energy metrics, in addition to energy use by major pieces of equipment.<sup>7</sup>

## Achieving Corporate Buy-In; Taking Alcoa's Energy Program to the Next Level

Richard Notte and Walt Brockway came together in 2010 to make the business case for joining DOE's *Save Energy Now* LEADER initiative to the company's corporate leaders. By joining the initiative, Alcoa voluntarily agreed to reduce its facilities' energy consumption by 2.5% annually for 10 years. This ambitious goal caught the attention of Alcoa's senior leadership. However, before committing, senior management needed to see the value proposition and agree that the goals were achievable. Together, Walt Brockway and Richard Notte championed the program. They highlighted successes achieved through Alcoa and DOE's long-term working relationship. Additionally, they provided example success stories, detailing the achievements of current *Save Energy Now* LEADER companies. Although the LEADER Pledge goal (reduce energy intensity 25% in 10 years) was higher than the energy reduction targets previously set by Alcoa (reduce energy intensity 20% by 2020), what really resonated with management was the LEADER program's technical assistance offerings from DOE, including a toolbox of information resources, trainings, assessments, peer networking opportunities, and more.

Combined, this information made a strong business case for joining the LEADER initiative. Convinced of the program's value, Alcoa's CEO and corporate team agreed to join the program and target the more ambitious *Save Energy Now* LEADER goal for non smelting locations in the U.S. In May 2010, Alcoa made it official and publicly signed the *Save Energy Now* LEADER Pledge at a ceremony held during the Gulf Coast Industrial Energy Efficiency Forum—an event co-hosted by DOE's Industrial Technologies Program and the Industrial Energy Technology Conference.

## Corporate Support for Energy Project Funding

Financing large capital projects can be a major obstacle for many corporations. Alcoa has a single capital plan from which each business unit competes to secure its allotment of funding for energy projects each fiscal year. In order to obtain funding, each business unit is required to develop a presentation about all of the projects it wants to conduct in the following year.

### U.S. Department of Energy: Making a Difference for Alcoa

When asked about the keys to Alcoa's success, Rick Bowen noted its partnership with the U.S. Department of Energy as a critical element. Specifically, Alcoa's partnership with DOE:

- Jumpstarted conversation among industrial organizations that are typically reluctant to share information in order to protect their competitiveness.
- Facilitated networking across industries. Many different types of plants use similar technologies, and it has been very beneficial to have those lines of communication available.
- Provided access to tools and resources that have proved invaluable.

**Rick Bowen**  
President of Energy, Alcoa

To be considered successful, projects typically must have a payback period of two years or less.

Business units deliver their presentations to the company's CEO, as well as other corporate leaders. The president of energy helps the energy team develop its annual presentation. Making formal presentations to corporate leaders can often be daunting. However, Alcoa's energy team is fortunate that its energy projects frequently have good returns on investment, which is looked upon favorably by Alcoa's senior leadership.

Even though Alcoa's senior leadership have responded positively to the energy program, the global manager of energy efficiency and his team have to find ways to maintain momentum for energy efficiency throughout the company. In particular, emerging aluminum smelting technologies have acted as a catalyst to enhance Alcoa's efforts in energy efficiency. Most companies that commit to energy efficiency improvements will eventually face the day when they have picked most of the 'low-hanging fruit.' At that time, next steps may seem unclear. Additionally, efficiency projects start to necessitate a more significant commitment of both workforce and capital. In times like these, it takes strong corporate leadership to pull an organization through.

## Generating Energy Conversation Across the Organization

When Rick Bowen joined Alcoa in 2009 as president of energy, he was fortunate that he transitioned to a company where energy was not only an important issue, but it was also part of the company's existing sustainability goals. Further, he had the full support of corporate leadership. He firmly believes that the only way to be successful with energy

is to secure management support. For organizations whose corporate leadership may not be aware of the importance of establishing and supporting such a program, Rick Bowen recommends making the argument in dollars and cents. As he put it, "The economics of energy efficiency is the biggest card you can hold when arguing in favor of it."<sup>8</sup> He also pointed out that even in organizations less energy intensive than Alcoa, a small change in energy use can translate to large dollar savings. Incorporating the idea that these savings can often be achieved through measures that are not capital intensive can improve the likelihood of success when petitioning senior management. Simple behavior changes, such as teaching your staff how to use equipment effectively and scheduling production in an efficient manner, can make a world of difference in energy costs with little to no capital investment.

*"Lower energy use goes straight to the bottom line."*

**Rick Bowen**

President of Energy, Alcoa

## Conclusion

Alcoa's corporate leaders have established energy as a priority throughout the organization. Not only have they placed high expectations on the reporting of progress, but they have also placed great weight on the achievement of goals. The company's energy team believes that without the support of corporate leadership, Alcoa could not have realized the progress it has already made. For Alcoa's corporate leaders, it was about best positioning their company to be competitive in a challenging marketplace. To ensure this, they had to control the costs of an energy intensive business. Thus, cutting energy consumption quickly became a key focus. From this core concept, Alcoa's leaders have elevated the idea of being energy efficient into a company-wide endeavor. The resulting positive impacts on both the company and its employees speak for themselves.

## Endnotes

<sup>1</sup> Interview with Rick Bowen and Walt Brockway. January 19, 2011.

<sup>2</sup> Alcoa. "Sustainability of Resources." [http://www.alcoa.com/sustainability/en/info\\_page/resources\\_overview.asp](http://www.alcoa.com/sustainability/en/info_page/resources_overview.asp).

<sup>3</sup> Alcoa. "Strategic Sustainability Targets." [http://www.alcoa.com/sustainability/en/info\\_page/home\\_strategic\\_framework.asp](http://www.alcoa.com/sustainability/en/info_page/home_strategic_framework.asp).

<sup>4</sup> Alcoa. "Energy." [http://www.alcoa.com/sustainability/en/info\\_page/operations\\_env\\_energy.asp](http://www.alcoa.com/sustainability/en/info_page/operations_env_energy.asp).

<sup>5</sup> Alcoa. "Energy." [http://www.alcoa.com/sustainability/en/info\\_page/operations\\_env\\_energy.asp](http://www.alcoa.com/sustainability/en/info_page/operations_env_energy.asp).

<sup>6</sup> Alcoa. "Alcoa Business Unit Leaders - Rick Bowen." Accessed January 20, 2011. [http://www.alcoa.com/global/en/investment/bu\\_presidents/rick\\_bowen.asp](http://www.alcoa.com/global/en/investment/bu_presidents/rick_bowen.asp).

<sup>7</sup> Interview with Rick Bowen and Walt Brockway. January 19, 2011.

<sup>8</sup> Ibid.