ALEXANDER PROUDFOOT
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Gaining Energy Efficiencies

Proudfoot Helps an Oil Refinery Achieve Energy Cost Reductions

Industry:
Oil and Gas

Location:
Europe

Function:
Energy Management

Business Challenges:
Cost Escalation

RESULTS

- **7% decrease in energy consumption**
- **Benefits exceeded Eur 140 million**
- **Annual reduction in CO_2 emissions of 274kt**

The Challenges

Uncertainty about energy supply and stability is pushing energy efficiency to the forefront of oil and gas executives' agendas. One of the world's leading oil companies found itself face-to-face with this uncertainty as successive price hikes tripled its energy cost base within three years. The company was now spending Eur 2.5 billion on energy, an overwhelming 60 percent of its refinery operating costs. Knowing it needed an outside perspective, the company approached Alexander Proudfoot with a clear objective—reduce energy consumption by four percent with no additional capital expenditures.

Proudfoot conducted an extensive review of the company's refinery operations to identify where opportunities existed to achieve energy savings with no required investments. The review included tours of the intricate refining processes and a gap analysis to assess current energy performance versus the industry's best practices. Proudfoot uncovered significant energy savings potential that focused on people: improving management's decision-making process, building key management skills and changing workforce behaviors.

After consulting with technical experts to ensure that yield was not sacrificed for energy savings, Proudfoot created a blueprint for change that could be rolled out refinery by refinery.

The Approach

Proudfoot partnered with the oil company to identify key energy drivers and set highly tailored improvement targets for each refinery. Once all areas of the operation were involved, action plans and priorities were developed for the short-, medium- and long-term.

To improve management's decision-making process, the joint team developed an energy management operating system to raise the visibility of energy performance. With the emphasis on short interval control, the system monitored energy usage and provided accurate, timely data that the management team could use to better plan, measure and control energy consumption.

The management team and front-line supervisors received extensive training on the new system and its associated management tools. These tools had an immediate impact, shifting management's focus from actions to outcomes. Variance identification and root cause analysis helped to drive the development of daily action plans as well as their implementation and review. The new system also improved communication because it obliged key departments to work together in a way they had not done previously.

Proudfoot actively engaged supervisors at each refinery to foster ownership of the changes. As a result, supervisors felt more involved and began making personal recommendations as to where and how the company could achieve greater energy efficiencies.

The last piece of the puzzle focused on ensuring the new tools and systems drove lasting change. Proudfoot's comprehensive methodology included the training, coaching and communications necessary to ensure a new sustainable approach to energy management.

The Results

Proudfoot began with a pilot project at one refinery with a goal of reducing energy consumption by five percent and has exceeded that goal by delivering a seven percent improvement without the need for additional capital expenditures. The pilot blueprint has since rolled out to additional refineries with similar seven percent improvement rates. The oil company's Head of Refining is delighted with the financial results as well as the corresponding culture shift to one of energy consciousness and active management. ■