



# Ball Corporation makes a cost-saving change.



## The DeForest plant replaces high-cost compressed air with low-cost blowers.

### The Company

Ball Corporation's facility in DeForest manufactures metal cans in various sizes for Midwestern fruit and vegetable packers. This facility was the original site of the Oconomowoc Canning Company and today employs approximately 100 people.



*These industrial-sized air compressors at the Ball DeForest plant see far less use as compressed air is replaced with lower-cost blowers in several applications in the manufacturing process.*

Ball Corporation has a well-developed sustainability strategy with the goal of making the company a sustainable enterprise using a five-pronged approach that is based on optimizing efficiency and reducing the use of resources.

When Jeff Dahlgren, Plant Engineering Manager of the DeForest facility heard about the Profitable

### Results

**The Profitable Sustainability Initiative energy project at Ball Corporation delivered:**

- ▶ ROI of 2.5 years in energy savings alone by replacing expensive compressed air with point-of-use blowers
- ▶ Savings from repairing compressed air leaks estimated to be \$700 per leak annually
- ▶ Additional savings expected as blowers replace compressed air in other manufacturing processes throughout the DeForest plant

Sustainability Initiative (PSI), he knew that it was a perfect fit for the operation. "I was very interested in the results of the PSI diagnostic performed by WMEP and BT Squared," said Dahlgren. "I knew there were areas for improvement, and the diagnostic provided a way to review, categorize and prioritize opportunities for savings and sustainability improvements. We looked at our manufacturing processes, shipping, logistics, office processes and energy use to find the projects that offered the greatest ROI."

### The Wisconsin Profitable Sustainability Initiative

PSI is a state-funded program to accelerate the adoption of sustainability strategies by Wisconsin



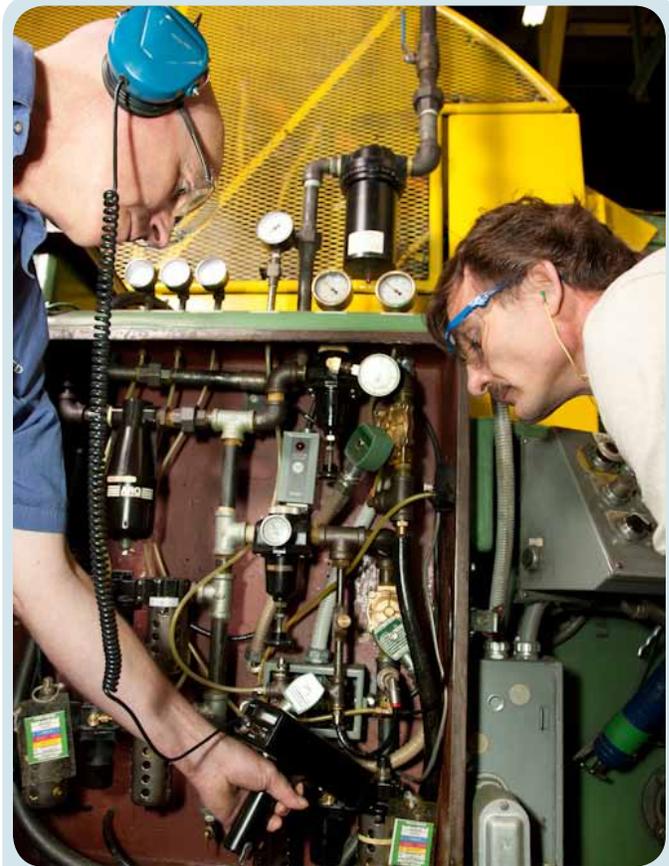
manufacturers. The goal is to help participants reduce costs, gain competitive advantage and minimize environmental impacts. PSI brings together a team of energy, environmental, logistics and lean experts to work with manufacturers to identify and implement improvements. Projects are prioritized based on business needs, fast payback and high ROI.

## The Issue

The PSI diagnostic and assessment process revealed a large opportunity for immediate savings in energy use, specifically the use of compressed air. Compressed air is considered to be energy industry's fourth utility following electricity, natural gas and water. The cost of compressed air is often hidden in overhead and, as a result, is often misunderstood as a "free" utility.



Cans move on a conveyor as air from a knife blower cools the weld. Blowers provide results equivalent to that of expensive compressed air.



Mark Tusler of BT Squared and Jeff Dahlgren of Ball Corporation examine valves for leaks of compressed air.

Mark Tusler, project engineer from BT Squared, performed an air leak audit focusing on valves providing compressed air throughout the facility.

Using an ultra-sonic probe, Tusler found several leaks with an average leak diameter of approximately 1/16 inch. The leaks resulted in an estimated loss of 6 cubic feet per minute of compressed air at 100 psi. National standards estimate that each 1/16 diameter leak results in approximately \$700 annual energy costs.

"Ball has developed a maintenance schedule to eliminate the leaks through regular maintenance by the end of the year," said Tusler, "Once all of the leaks are repaired, the company should realize savings of thousands of dollars annually."

## Results

A project identified by the assessment was very promising: replacing high pressure compressed air provided by industrial-sized compressors with lower-pressure compressed air provided by blowers located near the point of use. Blowers consume less electricity than air compressors while meeting the compressed air needs for metal-sheet separation, cooling and particulates/dust removal (can haring).



*Blowers are used to separate sheets of metal so that they can be individually cut to the proper size to manufacture cans.*

To purchase the new blowers, Ball used grant money from the PSI program combined with a grant from Focus on Energy. “The annual energy cost savings for Ball using the new blowers is estimated to pay for the invested equipment in about 2.5 years,” said Dahlgren. “I can really see the savings when I look at our air compressors – we used to use two industrial compressors for this part of the operation, and now one is idle much of the time. That’s impressive.”

“I was impressed by how well the PSI program worked, and especially the fact that it is structured so that we could choose the projects that made sense for us,” said Dahlgren, “We’re also happy with the results so far, and we plan to install blowers throughout the plant, increasing our savings. Plus,

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*Jeff Dahlgren*

*Plant Engineering Manager  
Ball Corporation - DeForest Facility*



*Blowers are used to blow debris from cans as they move through the automated assembly line.*

I’ve already had project engineers from other Ball plants inquiring about using blowers instead of air compressors.”

## About WMEP

WMEP is a private, nonprofit consulting organization committed to the growth and success of Wisconsin manufacturers. A leader in Next Generation Manufacturing, WMEP brings best practices to Wisconsin firms to help them achieve world-class performance through innovation and transformation.

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