

## Maine MEP Lean Energy Project Cuts Costs for US Felt

### Sanford-based manufacturer responds to economic downturn with process improvements and efficiency gains

**Sanford, Maine:** Faced with the challenge of responding to the nation's sustained economic downturn, U.S. Felt adopted a strategy that embraced change. To achieve immediate cost reductions, the Maine-based manufacturer adjusted its production cycle to the decreased demand and reduced the employee work week at its Sanford facility from five days to four. But company managers recognized that cutting costs were only one part of solution; they also needed to examine whether production efficiencies could be improved. To help with that initiative, U.S. Felt sought the assistance of the Maine Manufacturing Extension Partnership (Maine MEP).

After meeting with company managers and reviewing the Sanford facility, Maine MEP project managers proposed that U.S. Felt participate in MEP's Lean Energy and Environment pilot program. The program was developed over the past year by Maine MEP and its New England MEP counterparts to specifically help energy-intensive manufacturers. The program pioneers a new approach to energy efficiency by integrating energy and environmental metrics into the lean manufacturing methodologies traditionally employed by MEPs. Unlike conventional energy audits, the Lean Energy and Environment program identifies manufacturing process inefficiencies that, when improved, can reduce, reuse or eliminate the need for energy in the first place.

"The Lean Energy and Environment program provides an opportunity for companies like U.S. Felt to analyze their energy consumption and identify ways to reengineer production processes to reduce energy use. Energy savings often are surprisingly large. At a time when revenues for many firms remain flat, cutting energy costs is one way manufacturers can improve their bottom line," said Bob Doiron, Maine MEP project manager.

U.S. Felt proved to be a prime example of how the Lean Energy and Environment program can help Maine manufacturers permanently cut costs by reducing electricity usage and aggressively attacking their waste stream.

The project began with employee training sessions that laid out the Lean principles underlying the new approach to energy and environmental savings. The project team decided to target the company's wet side process for a Value Stream Mapping exercise, because that process requires large amounts of energy, steam and water and generates approximately 80 percent of the company's revenue. Bringing in an energy auditor and environmental specialist, the MEP project team brainstormed ways for reengineering the production process to reduce both energy usage and waste products.

The results were impressive. The project team succeeded in reducing the felt waste stream by 50 percent, greening the production process and saving thousands of dollars in production costs. They reduced natural gas and electricity consumption by improving the efficiency of the boiler system and the material dryer and by introducing electricity-saving devices. They fixed air compressor leaks and made lighting changes, both of which achieved significant energy savings. In total, the energy conservation and environmental improvements achieved annual cost savings of \$30,000.

The MEP project team also addressed front-end process improvements by conducting a kaizen event with employees. The kaizen event reduced redundant paperwork by 25 percent, cut work order errors by 15 percent, and cut work order corrections from 30 percent to 3 percent. These efficiency improvements resulted in the more productive use of human resources, and typically impact the balance sheet through cost savings and increased customer satisfaction.

"The MEP Lean Energy and Environment project played a significant role in helping us achieve cost

savings,” said U.S. Felt President Vin Boragine. “In these tough economic times, our company has had to become more internally focused. With Maine MEP’s assistance, we brought together a team that identified ways of cutting energy costs while greening our production process and improving our utilization of resources. The project promoted an internal dynamic of collaboration that was good for our employees, good for the environment and good for our bottom line.”