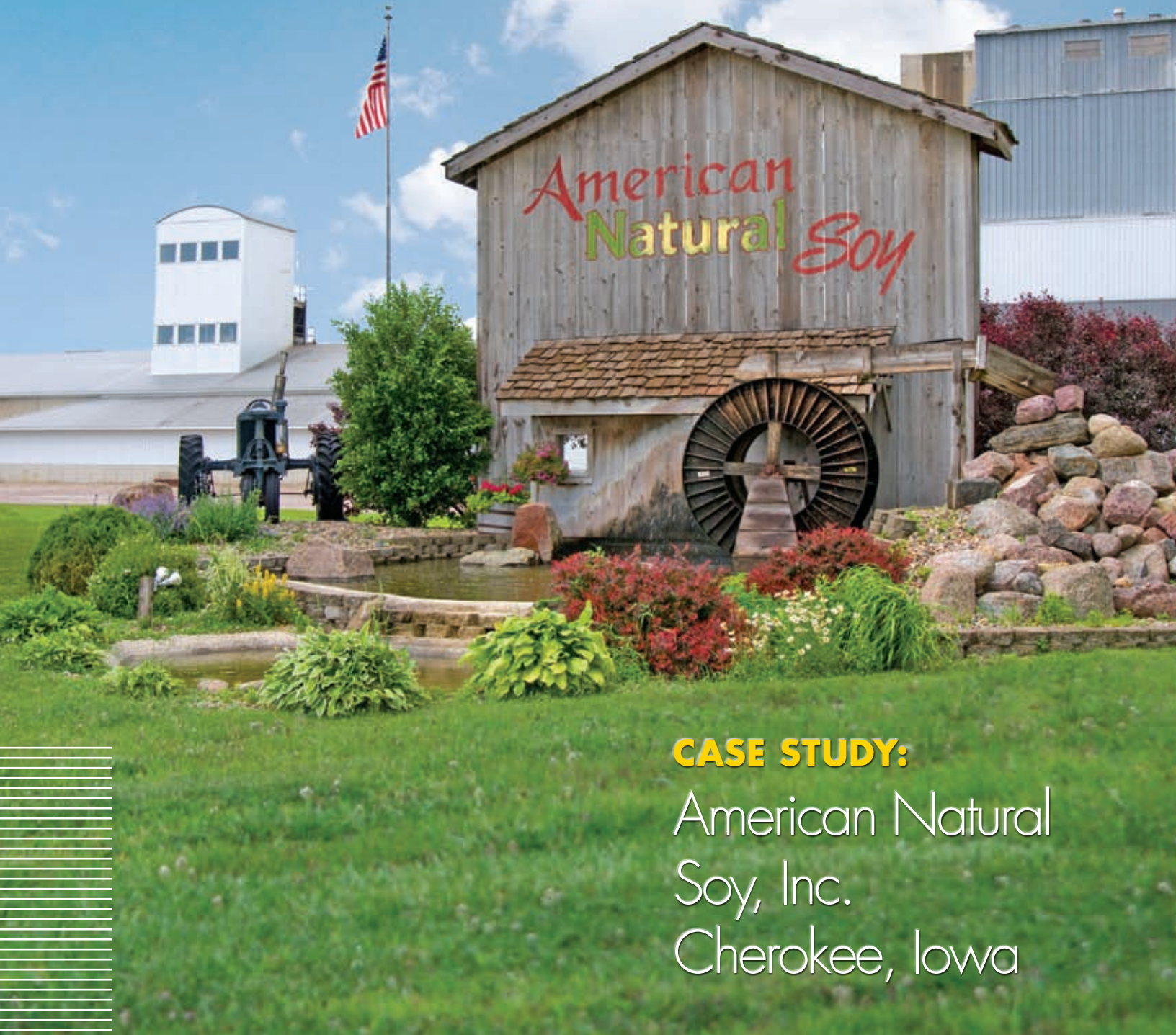


OILSEED PROCESSOR INSULATES PLANT FROM HIGH ENERGY COSTS



CASE STUDY:

American Natural
Soy, Inc.
Cherokee, Iowa


Saving energy is a beautiful thing

No one was more surprised to see the cadre of scientists from beauty products giant Este Lauder come to Cherokee, Iowa, to visit his organic oilseed processing plant than Mark Schuett.

Schuett is founder and president of American Natural Soy, Inc., a company that manufactures a special ingredient Este Lauder had long been searching for to expand one of its popular cosmetics lines.

With manufacturing facilities in Northwest Iowa, American Natural Soy is one of the largest organic oilseed processors in the United States. And now, with one of the cosmetic industry's leaders choosing it as a partner, this home-grown Iowa company is poised to become even bigger.

American Natural Soy organically processes soybeans to produce soy lecithin, a derivative of soybean oil. Instead of using chemicals, its plant extracts lecithin mechanically through a process that involves heat and pressure.



Mark Schuett, left, Founder and President of American Natural Soy, Inc., gives Alliant Energy Strategic Account Manager Jan Bowles a lesson in processing oil seeds.

CHALLENGE

Initially, the company produced oils for use in a variety of products, such as baked goods, baby formula, nonstick cooking agents, chocolate and confections for the organic food industry.

But business really started to boom when Estee Lauder came to town looking for a company to supply organic soy lecithin for its Origins Organics line of body lotion and facial moisturizer.

To accommodate its rapid growth and expansion into the cosmetics industry, the company has grown from eight to 23 people, upgraded state-of-the-art equipment and has moved from a batch-by-batch process to a continuous-feed processing system.

The cost of operations has also grown. To help control his escalating natural gas costs, Schuett turned to Alliant Energy.

SOLUTION

While the continuous feed process was implemented, Alliant Energy identified several areas where adding insulation would help lower natural gas costs. Jan Bowles is American Natural Soy's Alliant Energy Strategic Account Manager.

"American Natural Soy uses natural gas to process their oil seeds. And with the cost of natural gas on the rise, it was crucial to the company's profitability to find ways of reducing energy costs," said Bowles.

"Working with an area contractor, we identified several areas that would benefit from insulating the refinery pipes and installing removable blanket insulation," she explained.

American Natural Soy installed 87 custom-built insulation blankets in several areas, including boiler covers and pipes, oil-to-oil heat exchangers, process equipment, flanges, gate valves and elbows.

RESULT

Un-insulated pipe temperatures ranged from 180 degrees to 450 degrees Fahrenheit. To help retain valuable heat, some 442 feet of jacketing was installed on refinery pipes.

Stainless steel jacketing was also installed over the insulation in critical areas so it could stand up to the frequent washing required with processing food for human consumption.

As a result, American Natural Soy was able to save 39,360 therms of natural gas annually; that amounts to a savings of \$35,327. What's more, the company's return on investment is less than three years.

RECOMMENDATION

The environment benefited, too, noted Bowles. "Insulating the pipes also reduced the plant's CO₂ emissions by 197 metric tons," she calculated.

"Alliant Energy was proactive in helping us find ways to better manage our energy use. They brought vital information to the table and provided expert counsel," said Schuett.

"Investing in insulation for our refinery pipes was not only good economics, it was the right thing to do for the environment. They were very professional and provided valuable recommendations."



American Natural Soy, Inc.

Annual natural gas therms savings: 39,360

Environmental impact of natural gas therms savings

Reduction in carbon dioxide emissions (lbs./year) 197 metric tons

Equivalent to:

- Removing 36 passenger vehicles from the road
- Annual energy use of 17 homes
- Carbon sequestered by 5,046 tree seedlings grown for 10 years



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