



“The Act On Energy (team) was responsive and cooperative.”

— **Darrell Munton**  
Evonik Contract Engineer

The tiny village of Mapleton, Illinois, is home to a chemical processing facility owned by Evonik Industries. The fatty acids produced at the Mapleton plant are a key ingredient in many everyday consumer products, like fabric softeners.

In 2009, the global giant joined forces with the Ameren Illinois Utilities' Act On Energy® program to make motors in the Mapleton plant more efficient. Motors are critical to operations at the Mapleton facility – the driving force behind chemical mixing, cooling towers, water filtration and other processes.

“We use a lot of pumps and fans driven by motors,” says Contract Engineer Darrell Munton. “And most motors are oversized in order to meet the most demanding conditions.”

With most motors running at full speed more than 70 percent of the time, regardless of load requirements, Munton knew there was room for efficiency improvements and that variable frequency drives (VFDs) could help.

VFDs enhance efficiency by better matching the motor's speed to changing processing needs. A small computerized feedback system provides constant monitoring of load requirements and automatically adjusts the motor speed.

Evonik successfully applied for Act On Energy incentives to defray the costs to purchase and install VFDs on seven motors.

“Variable frequency drives add another layer of control, so we can adjust the speed to varying degrees in a way we couldn't before,” says Munton.

The motors equipped with VFDs don't work any harder than they need to, which has led to dramatic reductions in energy use. In addition, the VFDs allow slower acceleration of the motors, which will reduce wear and tear on equipment and lower maintenance costs.

“A lot of facilities have motors that aren't controlled very effectively,” says Act On Energy's Christopher Durand. “Adding controls makes a system less wasteful – and Act On Energy can help.”

Today, Evonik is fattening its bottom line by churning out fatty acids more efficiently. All with a little help from Act On Energy.

## The Bottom Line

Act On Energy provided Evonik more than \$51,000 in incentives to complete six VFD projects. These incentives reduced the collective payback on the projects by 1.15 years and are helping Evonik save more than \$80,800 in energy costs every year!

## Benefits to Evonik:

- \$51,564 in Act On Energy incentives
- 1.01 million kilowatt-hours saved every year
- \$80,809 annual savings in energy costs
- Motors are more responsive to changing operational needs
- Reduced wear and tear on equipment
- Lower maintenance costs
- Project payback in just under 14 months

## Evonik VFD Projects

In 2009, Evonik worked with Act On Energy to install variable frequency drives on seven motors.

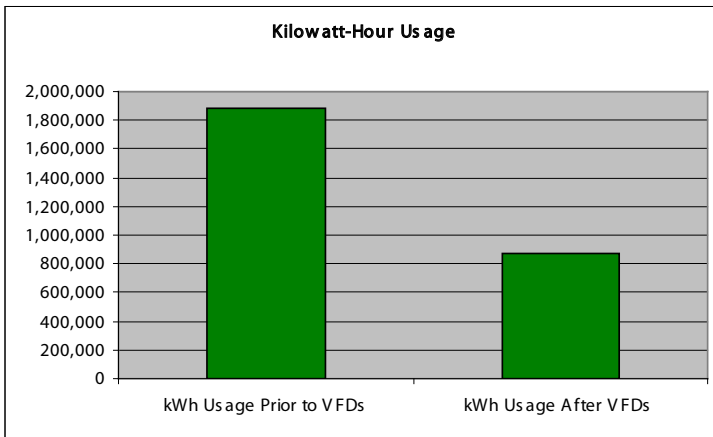
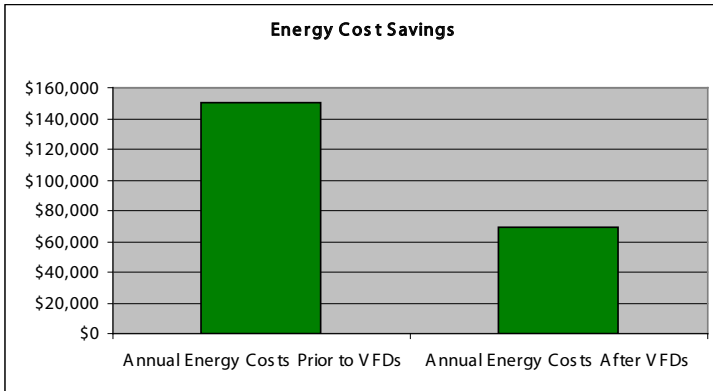
## Process Motors

- Two 50-horsepower pump motors for a reverse osmosis water filtration system
- Two 30-horsepower chemical mixing/agitator motors

## Cooling Towers

- Three cooling tower pump motors of varying horsepower

# Act On Energy Incentives + VFDs = FASTER SAVINGS for Evonik



“Sometimes customers hesitate to add something new to equipment that is working, but a simple change like adding a VFD can lead to big dollar savings – and doing something now rather than later makes a big difference in your payback.

You can act on energy today.”

— **Christopher Durand**  
Act On Energy

## Energy efficiency. It's good business.

In the first two years of the Act On Energy program, the Ameren Illinois Utilities will give more than \$10 million in incentive payments and help their business customers save \$11.5 million dollars in energy costs every year.

Incentives are available for a variety of energy-saving projects, including lighting, heating and cooling, refrigeration, motors, VFDs, process improvements and compressed air.

In the first year of the program, Act On Energy was able to help businesses:

- Reduce 42,857 metric tons of carbon emissions – equivalent to removing 8,537 cars off the road each year.
- Achieve at least 54,000,000 kWh in energy savings – equivalent to powering over 4,959 homes for a year
- Generate 393 projects that have been completed by contractors throughout the Ameren Illinois Utilities' service territory.
- Save \$4.8 million annually in electric energy costs.

## Why wait?

Act on energy – and save!

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