

Your Energy SavingsSM Business Program

Case Study: Pat Milliken Ford



In September of 2009, Pat Milliken Ford, a family-owned and operated car dealership in Redford, Mich., launched an ambitious effort to renovate the dealership's showroom. The project was undertaken for several reasons. They wanted to modernize their showroom and increase the level of comfort for their customers. They also realized that they could increase their competitiveness and reduce costs by increasing their energy efficiency.

DTE Energy's Your Energy Savings program helped the company to achieve these goals by offering nearly \$11,000 in custom incentives to help offset the purchase and installation costs of new energy efficient equipment.

The renovation resulted in a number of changes to the dealership's showroom. Changes included the removal of all T12 fluorescent lighting fixtures and replacement with new T8 fluorescent fixtures, removal of incandescent lighting and replacement with LED lighting, adding daylighting controls to the showroom and replacing the inefficient single pane glass windows with new higher efficiency double pane windows. Energy use was reduced by nearly 136,000 kilowatt-hours per year, resulting in an estimated savings of more than \$9,500 per year. That's enough energy to power 12 average-sized homes for one year.¹

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T12 to High Performance T8 Lighting

Nationally, lighting accounts for approximately 25% of energy consumption in commercial buildings.² One of the best ways to improve energy efficiency is to replace T12 fixtures with T8 fixtures paired with electronic ballasts. Though still very common, T12 lighting has become outdated and inefficient when compared to newer lighting options. T8 fixtures produce less heat than older T12 fixtures, lowering your summer cooling load. Electronic ballasts are also cooler, eliminate flicker and emit less noise.

In addition to increased energy efficiency, the lighting also enhanced the look and feel of the showroom. General Manager Brian Godfrey stated, "The new showroom lights are much brighter over the cars, creating an auto show feel, customers appreciate the cleaner look and have said they were glad to see us making the investment."

Light Emitting Diode (LED) Exit Signs

Standard exit signs are expensive to operate – just one sign with an incandescent light bulb can use up to \$28 of electricity annually. Incandescent bulbs must be replaced several times per year and can increase the risk of a fire inspection violation. Even CFL equipped exit signs consume more electricity per year than LED exit signs and will still require regular lamp replacement every 10-11 months.

Pat Milliken Ford installed ENERGY STAR® qualified LED exit signs which use less than five watts of electricity, consuming only about \$4 of electricity per year. With a rated life of over 10 years, LED exit signs also reduce operating costs because they require minimal maintenance and infrequent lamp replacement.



Daylighting Controls

Buildings designed with daylighting integrated electric lighting controls can be a great way to conserve energy. These systems adjust artificial light levels in relation to natural lighting conditions. The large number of windows in the showroom made it an ideal candidate for this measure.

According to Godfrey, "The use of daylighting controls to dim the lights near the showroom windows when sunlight is streaming in has been effective; energy is saved with no change in illumination."



1- http://tonto.eia.doe.gov/ask/electricity_faqs.asp, retrieved 3/11/10.

2- http://buildingsdatabook.eren.doe.gov/docs/DataBooks/2009_BEDB_Updated.pdf, retrieved 3/11/10.

Double Pane Windows



The 40 year old single pane showroom windows at Pat Milliken Ford were cold and drafty, leading employees to use personal space heaters to stay warm. Buildings with single pane windows demonstrate a large thermal deficiency. The best solution is to replace the windows with a multi-wall polycarbonate system.

Polycarbonate systems have been successfully used in many facilities and have the advantage of not reducing the natural day-lighting or ventilation. Godfrey noted, “The new windows have made the work space much more comfortable for our sales representatives and customers. No more personal electric heaters!”

The energy savings achieved by Pat Milliken Ford were modeled using eQUEST and are summarized as follows. Please note that the percent savings listed are relative to the base case.

Measure	Annual Lighting Savings (kWh)	Annual Space Cooling Savings (kWh)	Annual Ventilation Savings (kWh)	Total (kWh)
Showroom Glass Upgrade	0 (0%)	2,070 (12%)	4,890 (5%)	6,960 (1%)
Light Fixture Upgrade	119,890 (49%)	3,370 (20%)	2,370 (2%)	125,620 (11%)
Daylighting	2,810 (1%)	270 (2%)	220 (0%)	3,310 (0%)

The below is a summary of the peak coincident demand savings achieved by the renovations as modeled by eQUEST. Please note that the percent savings listed are relative to the base case.

Measure	Annual Lighting Savings (kW)	Annual Space Cooling Savings (kW)	Annual Ventilation Savings (kW)	Total (kW)
Showroom Glass Upgrade	0 (0%)	1.78 (8%)	1.37 (5%)	3.15 (1%)
Light Fixture Upgrade	29.97 (49%)	4.10 (18%)	0.73 (2%)	34.79 (11%)
Daylighting	0.52 (1%)	0.20 (1%)	0.06 (0%)	0.78 (0%)

It should be noted that all of these measures resulted in slightly higher heating costs. This is due, in part, to less waste heat being generated by more efficient equipment.

Having witnessed the benefits of energy efficiency first-hand, Pat Milliken Ford is taking steps to further reduce costs. Godfrey noted, “We’ve reduced our energy use by about 11% so far, but exterior lighting is half of our energy load, so we’re now looking at more efficient exterior lights to reduce our costs even further.”

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Your Incentives to Save

DTE Energy's Your Energy Savings Program offers cash incentives to help business customers reduce their energy use. These incentives reduce the up-front cost of installing more efficient equipment and make it easier for you to invest in energy efficiency. Since a portion of energy costs are a controllable operating expense, every dollar saved can make an impact on your bottom line.

Making it Easier to Save

The program offers incentives for an array of energy-saving technologies – electric and gas. Customers can pick from a prescriptive menu of projects with preset incentives or propose a custom project with verifiable energy savings.

To participate in the program, simply follow these steps:

- Check your eligibility with program requirements
- Submit a preapproval application to reserve your funding
- Install the eligible measures according to the application specifications
- Complete, sign and submit final application with all documentation within 60 days of project completion

Contact Us

We can help you understand the incentive requirements and available resources. You can contact us via letter, fax, e-mail or phone. You can also download incentive applications from the program website at:

YourEnergySavings.com

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