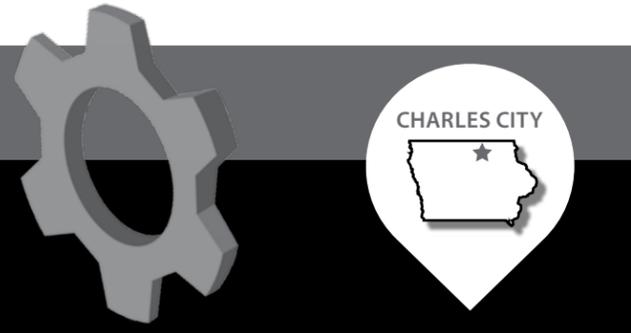


# ZOETIS



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**COMPANY PROFILE**

Once a component of Pfizer, Zoetis became a standalone company in 2012, and established its global presence as the largest company in the animal health industry. Zoetis discovers, develops, manufactures and commercializes a diverse portfolio of animal health medicines and vaccines. They cater to the needs of veterinarians, livestock farmers, and companion animal owners. With more than 60 years of experience in animal health, Zoetis sells product in more than 100 countries, supports 8 different species of animals, and provides approximately 300 varying product lines.

**PROJECT BACKGROUND**

Zoetis' energy bill is calculated from actual energy usage and the highest rate of demand in a month. Utility providers must maintain the capacity to provide energy without interruption when all facilities drawing on that source are operating at maximum energy usage. The cost of this stored energy is passed on to the consumer in the form of peak demand charges. The goal of this 24-week project is to identify key contributors to the electrical load and develop strategies to reduce energy consumption, particularly during peak load hours.



**INCENTIVES TO CHANGE**

The production processes at Zoetis require a highly controlled environment. Maintaining such specific conditions can be energy intensive. Zoetis is constantly looking for ways to improve the efficiency of its facility and improve environmental performance. Identifying and improving the efficiency of major energy users could significantly reduce energy costs and improve environmental impact.

**RESULTS**

The greatest impact on peak demand of all the analyzed criteria was dew point, which is a weather measurement that incorporates both temperature and humidity. Dew point has a significant impact on the facility's demand because the air must be treated when either the temperature is high or humidity is high. Additionally, the equipment used to counter the heat and humidity conditions are large energy users such as chillers and air handling units.

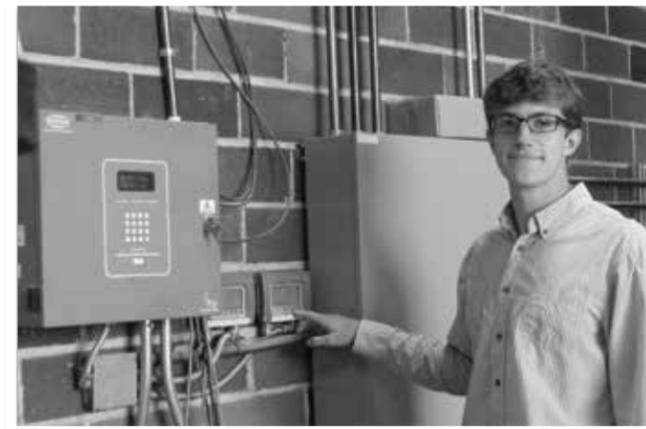
**Humidity Setbacks:** Air handlers cool air to a designated set point when the outdoor air temperature is too high. To reduce humidity, the air handlers cool the air even further, which condenses moisture out of the air. The air is then heated back up to the temperature set point. Given this additional workload, dew point has large impact on the electrical demand from the chillers and air handlers. Allowing the humidity level to rise by eight percent would significantly reduce the need for dehumidification.

PROJECT	ANNUAL COST SAVINGS	ENVIRONMENTAL RESULTS	STATUS
HUMIDITY SETBACKS	\$33,798	545,122 kWh	RECOMMENDED
NIGHTTIME TEMPERATURE SETBACKS	\$1,656	26,730 kWh	RECOMMENDED
WINTER TEMPERATURE SETBACK	\$6,919	84,077 kWh 8,133 Therms	RECOMMENDED
LAB TEMPERATURE SETBACK	\$1,202	19,394 kWh	RECOMMENDED
PIPE AND VALVE INSULATION	\$7,082	14,306 Therms	RECOMMENDED

**Nighttime Temperature Setbacks:** The primary office building on site is unoccupied at night. Allowing the temperature to rise during unoccupied hours would result in a decreased load on the chillers without sacrificing human comfort.

**Winter Temperature Setback:** In the winter, an interstitial heats intake air then cools it into lab rooms. This process of heating and cooling is unnecessary. To reduce the need for heating and cooling, the temperature set point of the interstitial could be lowered. This reduces the load on the boilers as well as the load on the chillers.

**Lab Temperature Setback:** Zoetis has many labs which contain incubators. These incubators produce a lot of heat in the labs, and the labs must be constantly cooled to keep the temperature in a comfortable range. To reduce the cooling load, cooling can be stopped during days when the labs are unoccupied. This eliminates unnecessary cooling while also maintaining comfortable temperatures for occupants.



**Pipe and Valve Insulation:** Steam and condensate lines have very high temperatures. Without insulation, pipes and valves can leak a significant amount of heat, which increases the demand on steam generation and the cooling load of the rooms. Some valves and sections of pipe are uninsulated. Insulating these areas would increase their thermal efficiency and save energy.

