

# Henry Vilas Zoo Aviary



Madison Gas & Electric installed an ecopower® unit in the Aviary Building at the Henry Vilas Zoo located in Madison, Wisconsin. The building temperature is kept at 75°F year round. The single ecopower unit assists in heating the space, maintaining that temperature for the birds it houses.

The ecopower modulates based on the thermal needs of the building. During the cold Wisconsin winters the unit runs 24 hours a day. As the weather warms, the unit modulates to a slower engine speed creating less BTU's per hour so it can continue to run and create electricity. The ecopower will shut off when the heating needs are met, the buffer storage tank is fully heated, and the thermal energy is no longer needed. In the zoo's case, the unit was only completely off one month during the summer.



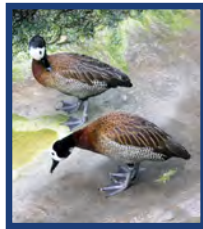
Since this is a Madison Gas & Electric installation, it created a unique scenario in which a separate gas meter and electric meter could be directly tied to the ecopower. They pay for the gas to run the ecopower to create heat for the facility, and instead of using the electricity produced on site, Madison Gas & Electric puts it back on the grid for use elsewhere.

**Location:** Madison, WI

**Install Date:** June 2012

**Job Site:** Aviary building at the Henry Vilas Zoo

**Job Description:** One ecopower® is installed for space heating of a zoo building that houses tropical birds. The temperature is kept at 75°F year round.



**Conclusion:** In conjunction with their current heating plant, one ecopower assists in heating and maintaining the temperature of the aviary building. The higher thermal demand during winter months kept the unit running close to full RPM's 24 hours a day. The unit did modulate to slower speeds during warmer weather, only shutting off for one month because the outside temperature sustained the temperature inside the building and didn't require the thermal energy ecopower creates. The unit used the same amount of natural gas it would use to run a standard boiler creating over 290 million BTU's of heat, and additionally created 23,823 kWh of electricity in one year.

Month	Read Date	kW produced	Therms used
Jun 2013	6/17/13	1,849	334
Jul 2013	7/16/13	314	55
Aug 2013	8/15/13	-	-
Sep 2013	9/17/13	389	78
Oct 2013	10/16/13	2,319	418
Nov 2013	11/14/13	2,640	474
Dec 2013	12/16/13	2,783	499
Jan 2014	01/16/14	2,796	500
Feb 2014	02/17/14	2,868	513
Mar 2014	03/17/14	2,530	454
Apr 2014	04/15/14	2,628	475
May 2014	05/15/14	2,707	488
June 2014	06/16/14	1,838	330

**Total therms used  
in 1 year: 4,618 therms**  
(to produce approximately  
291,609, 907 BTU's of heat)

**Total kilowatts  
produced in 1 year:  
25,661 kW**