





# THE AGE OF HEAT PUMPS IS HERE



by Craig Buros, CEO & General Manager

omeowners are increasingly turning to innovative solutions to regulate indoor climate. Among these solutions, heat pump technology stands out as a versatile and energy efficient option for heating and cooling homes. With the ability to extract heat from the air or ground, heat pumps offer numerous advantages that make them an attractive choice for new, replacement, or additions to home heating and cooling systems.

Heat pumps operate on the principle of transferring heat from one place to another, rather than generating heat directly. In colder months, heat pumps extract heat from outdoor air or the ground, depending on the system, and transfer it indoors to warm the living space. This technology has improved a lot over the past 10-20 years. Newer model heat pumps can operate effectively in sub-zero weather. Conversely, during warmer months, they can reverse the process to cool the home by removing heat from indoor air and transferring it outside.

### High Efficiency and Low Operating Costs

One of the primary advantages of heat pumps is their high energy efficiency. Unlike traditional heating systems, heat pumps use electricity to transfer heat, making them significantly more efficient. According to the U.S. Department of Energy, heat pumps can provide up to three times more

energy than the electrical energy they consume, resulting in lower utility bills.

While the initial investment in a heat pump system may be higher compared to conventional heating and cooling systems, homeowners can recoup the cost through long-term savings on energy bills. Efficiency translates into lower monthly heating and cooling expenses, leading to substantial savings over the system's lifespan.

### Considerations Before Installation

While heat pumps offer numerous benefits, it is essential for homeowners to consider several factors before installing a system:

**Climate:** Heat pump efficiency may vary depending on climate conditions. While they perform extremely well in moderate climates, homeowners may need supplemental heating during times of extreme cold during Wisconsin winters.

**Insulation:** Adequate insulation and air sealing are crucial for maximizing the efficiency of heat pump systems. Homes with poor insulation may experience heat loss, reducing the effectiveness of the system.

**Sizing:** Proper sizing is critical to ensure optimal performance and efficiency. An oversized system may lead to increased energy consumption and uneven heating/cooling.





Above (left to right): Contractors burying ground loops for a geothermal heat pump system; each indoor air-handler of a mini-split heat pump is typically mounted up and out of the way in the space it will be heating and cooling.

Right (left to right): Contractors installing the outdoor compressor unit of a heat pump mini-split system; the outdoor compressor for a centrally ducted air-source heat pump looks like a standard air-conditioner.





**Installation:** Professional installation by certified technicians is essential to ensure the proper functioning and safety of the heat pump system. Experienced professionals can assess the home's layout, insulation and energy needs to recommend the most suitable system.

### Types of heat pump systems

### · Ducted heat pump

If your home has a forced air furnace, a centralized air-source heat pump can work well. A compressor outside your home that looks like an A/C unit is connected to your home's existing duct system. Like your furnace, the temperature is controlled through one main thermostat. This is a good solution if your system has quality ductwork that heats and cools every room evenly.

### Mini-split heat pump

If your home does not have ductwork or the ductwork is poorly designed or leaky, a ductless mini-split heat pump might be your best option. With a mini-split heat pump, tubes connected to the outside compressor carry refrigerant to one or more air handlers, which are mounted high on a wall to distribute air. Thermostats regulate each air handler, providing control of different zones in the home.

### • Geothermal (or ground-source) heat pump

Several feet underground, the temperature remains constant year-round, typically around 50 degrees in our area. Heat is transferred into or out of the ground by pipes buried in a loop 10 feet underground or drilled up to 400 feet into the earth. The pipes carry water or anti-freeze solution to a compressor, which uses a refrigerant to transfer the heat to or from your home's ducts.

A geothermal heat pump system is extremely energy efficient since the earth's temperature is warmer than the outside air in the winter and cooler than the outside air in the summer. This efficiency comes with a higher initial cost.

Heat pump technology offers homeowners a sustainable, energy-efficient, and versatile solution for heating and cooling their homes. They are becoming a preferred choice for households looking to reduce energy costs and enhance indoor comfort.

Vernon Electric Co-op has great incentives for heat pumps that can be combined with incentives from Wisconsin's Focus on Energy program and the Federal Government's 30 percent tax credit.

Incentives for Heat Pumps*		
	Air Source & Mini Splits	Geothermal
Vernon Electric Co-op	\$300 per Ton	\$500 per Ton
Focus on Energy	\$400 to \$1,300	\$750 to \$1,000
Federal Tax Credit	30% up to \$2,000	30%
* Some conditions may apply. Check for details.		



## Painting THE PAST

# BILL ZIERKE CAPTURES THE VANISHING BARNS OF RURAL WISCONSIN

### By Leah Call

he counties served by Vernon Electric Cooperative (VEC) boast a rich agricultural history. Dotting the countryside are remnants of old barns—once filled with dairy cows and hard working families—now standing silent, weathered by time and slowly disappearing from the landscape. Onalaska-based artist Bill Zierke, a relative of VEC's Chief Financial Officer Karla Yanske, spent decades of his life preserving these pieces of the past on canvas.

Dozens of Zierke's farm-themed paintings have been featured in Lang's On the Farm wall calendars, spanning the years 2020 to 2024. Each painting was created from photos he took over the years.

"I saw most of the barns while hunting or just riding around," said Zierke, who always kept a camera close by. "No one was fixing them up. They were all falling apart."

Many local barns from throughout Vernon County have been featured in the paintings Zierke has done over the past 75+ years. VEC members may even discover their own homesteads immortalized in Zierke's art. That was the case in 1995 when a gentleman spotted his father's farm among a collection of Zierke's paintings on display at The Pump House in La Crosse.



### An Artist's Eye

Like the subject of his paintings, Zierke is aging. At 92, he no longer drives, walks a little slower, and his eyesight isn't what it used to be, but his artistic vision is sharper than ever. He spends countless hours in his studio, located in the lower level of the Onalaska home he shares with his wife, Elaine, a talented musician who plays piano and organ for area churches.

Barn and farm-themed paintings line the walls of the lower-level—each one signed with the year it was painted. Inside Zierke's studio a well-worn desk chair sits in front of a paint-splattered artist's table. It's there that Zierke becomes immersed in his art.

Each painting is a labor of love, typically taking about a week. "I first draw up a few sketches," explained Zierke. "If I don't like them, I'll draw more. Then I start painting."

Stepping away for a bit is part of the process. He will sometimes sit in the lawn and drink a soda while the paint dries. "Acrylic gets a little darker when it dries," he added. "You have to know what you are doing with your paint, too."

Stepping away and returning to see the painting in different light, at different parts of the day, allows Zierke to perfect his artwork.

### A Passion for Art

Growing up in the depression, Zierke has fond memories of childhood days along the Mississippi. A creative soul from an early age, he always loved art and even recalls the name of his first art teacher. His love of art continued through later school years, always choosing art elective classes. At 16 he purchased his first camera with money earned from a part-time job. That camera marked the beginning of a journey to preserve the rural past with paint and brushstrokes.

Zierke continued taking art classes and worked as a framer at a gallery, though he never made art his primary vocation. Nevertheless. he was always creating in his spare time. He was able to focus more fully on his art in the 1990s after retiring from a lifetime career managing Pla-Mor Lanes in La Crosse. Exhibiting his art at various galleries



Bill and Elaine Zierke

and art shows, Zierke has won three state awards from the Wisconsin Regional Art Program and a Lifetime Achievement Award from the Driftless Area Art Festival.

Though he doesn't venture out much anymore to discover new farm scenes to paint, Zierke still receives requests to do commissioned work for individuals throughout the country. "If someone wants a painting of their farm, I tell them to take a bunch of photos—at least half a dozen, from different angles. That works better than just a straight on shot of the barn," he explained.

Original artwork and prints by Zierke are on sale online at wildwings.com. He also sells his paintings at The Frame Gallery in Holmen and direct from his home studio. Art enthusiasts can find Zierke's work on display at the upcoming Art Fair on the Green in La Crosse July 27, and the Driftless Art Festival in Soldiers Grove, September 21-22.

Reflecting on the role art has played in his life, Zierke noted, "Art has been good to me. I didn't make a living at it, but I never stopped, because I love it."



Artist Bill Zierke in his Onalaska home studio. Many of his barn paintings have been featured in On the Farm wall calendars, and they cover the lower-level walls of his home.



## YOUTH LEADERSHIP CONFERENCE

July 16-18, 2024 **UW-Stout** 

Vernon Electric Cooperative invites student applications for the 2024 Youth Leadership Conference (YLC) taking place at UW-Stout this summer. YLC, spanning three dynamic days, offers high school students a platform to enhance their leadership and team-building skills while gaining insights into cooperative businesses.

Participants in the conference will engage with youth leaders from across Wisconsin, showcasing the strength and importance of cooperation. Highly acclaimed motivational speakers, attuned to the concerns of teenagers, will delve into relevant life topics, empowering attendees to evolve as effective leaders. For many, this event marks their initial exposure to college campus life.

YLC is a youth-led leadership conference organized by a youth board elected during the preceding year's event. Students involved in the conference elect a six-member youth board who will plan YLC the following year. Youth board members will partake in the NRECA Youth Tour in Washington, D.C., visit the WECA offices, and explore State Capitol legislative offices. An integral aspect of the YLC is the annual WECA Essay Contest, in which students compete for scholarships of \$1000, \$500, and \$250 by composing essays on co-op-oriented subjects.

Eligibility for attendance is extended to students whose parents/ guardians are members of Vernon Electric Cooperative, with full sponsorship provided by the cooperative. With only 10 spots available on a first-come, first-served basis, interested students are encouraged to contact our office promptly to obtain an application.

> For additional program information, please reach out to:

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