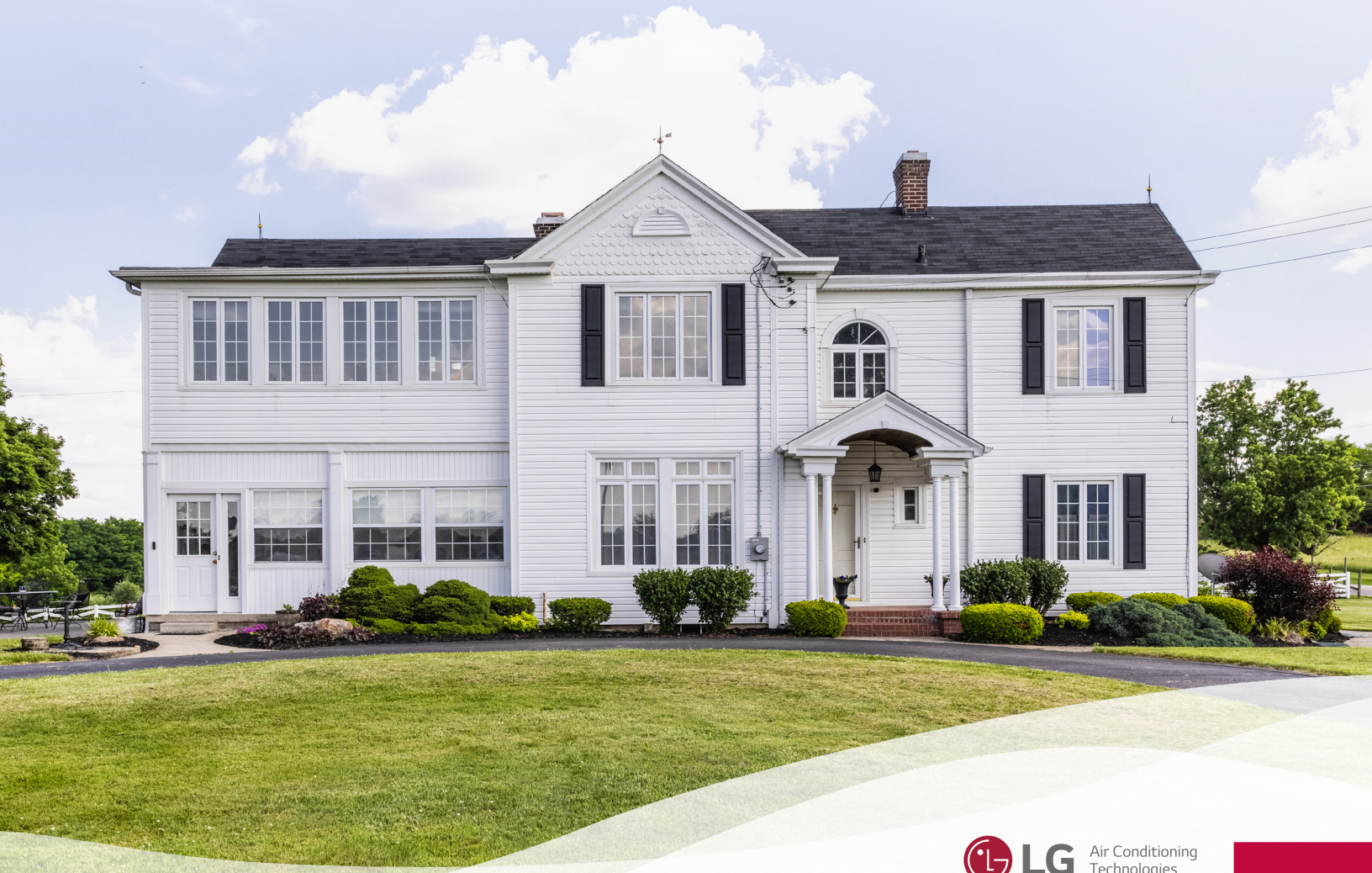
RESIDENTIAL CASE STUDY

The Hellmann 1800s Farmhouse

Independence, Kentucky



LG Air Conditioning Technologies

Bringing modern comfort to a historic Kentucky home

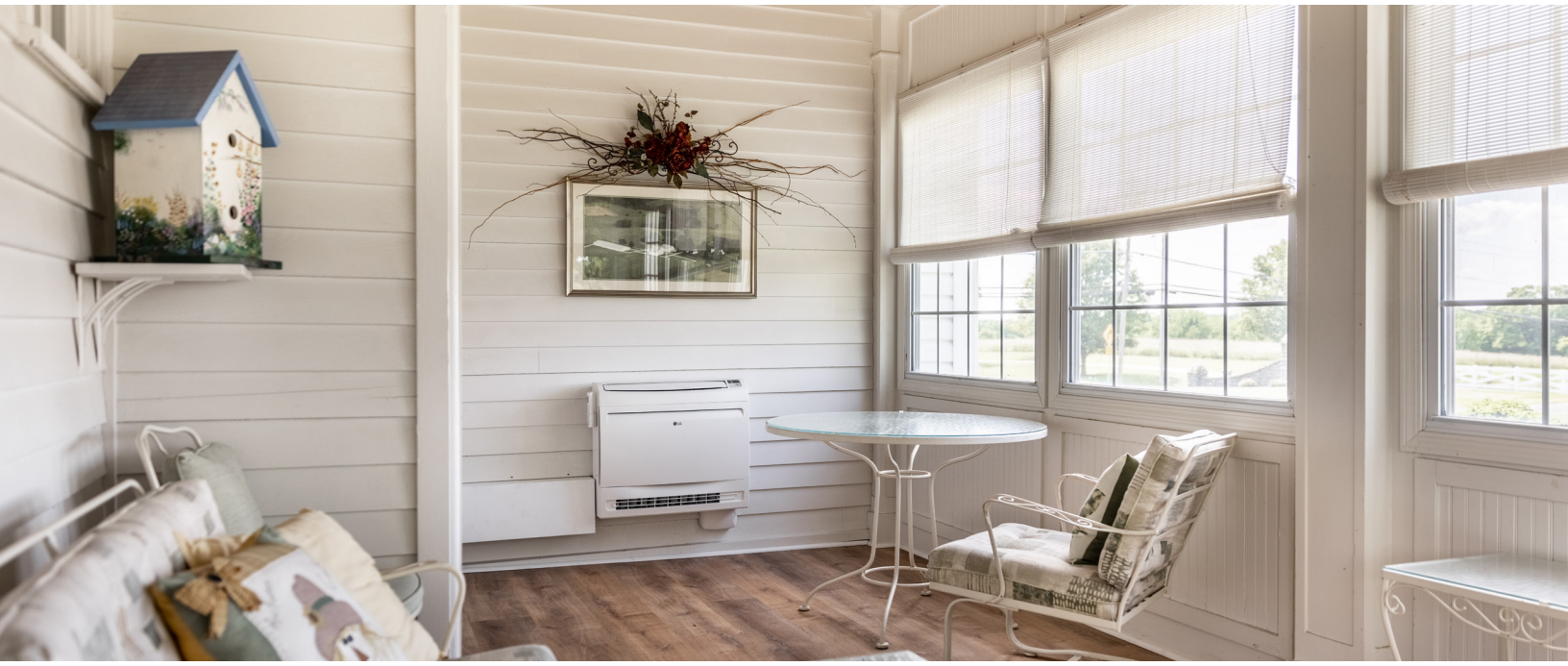
Tucked into the rolling hills of northern Kentucky just 15 miles south of bustling Cincinnati, the city of Independence offers its 28,000 residents' access to urban amenities in a picturesque, rural setting. The landscape is dotted with farmhouses, but one 200-year-old home on a sprawling 150-acre property has a unique story.

Originally a log cabin in the 1700s, the house has been transformed over the centuries, with structural elements, updates and modern comforts added along the way. The renovations, including a large expansion in the 1920s and a handful of recent modernizations, have kept the home livable throughout the generations.

The current owner, Dr. C.J. "Jay" Hellmann, was 6 years old when he moved into the house. His fond memories of growing up on the farm are coupled with memories of sweating through the summer months. With its historic charm and cherished family memories from across the decades, the home means everything to him and his family, who value the farmhouse's historical integrity but also require modern comfort.

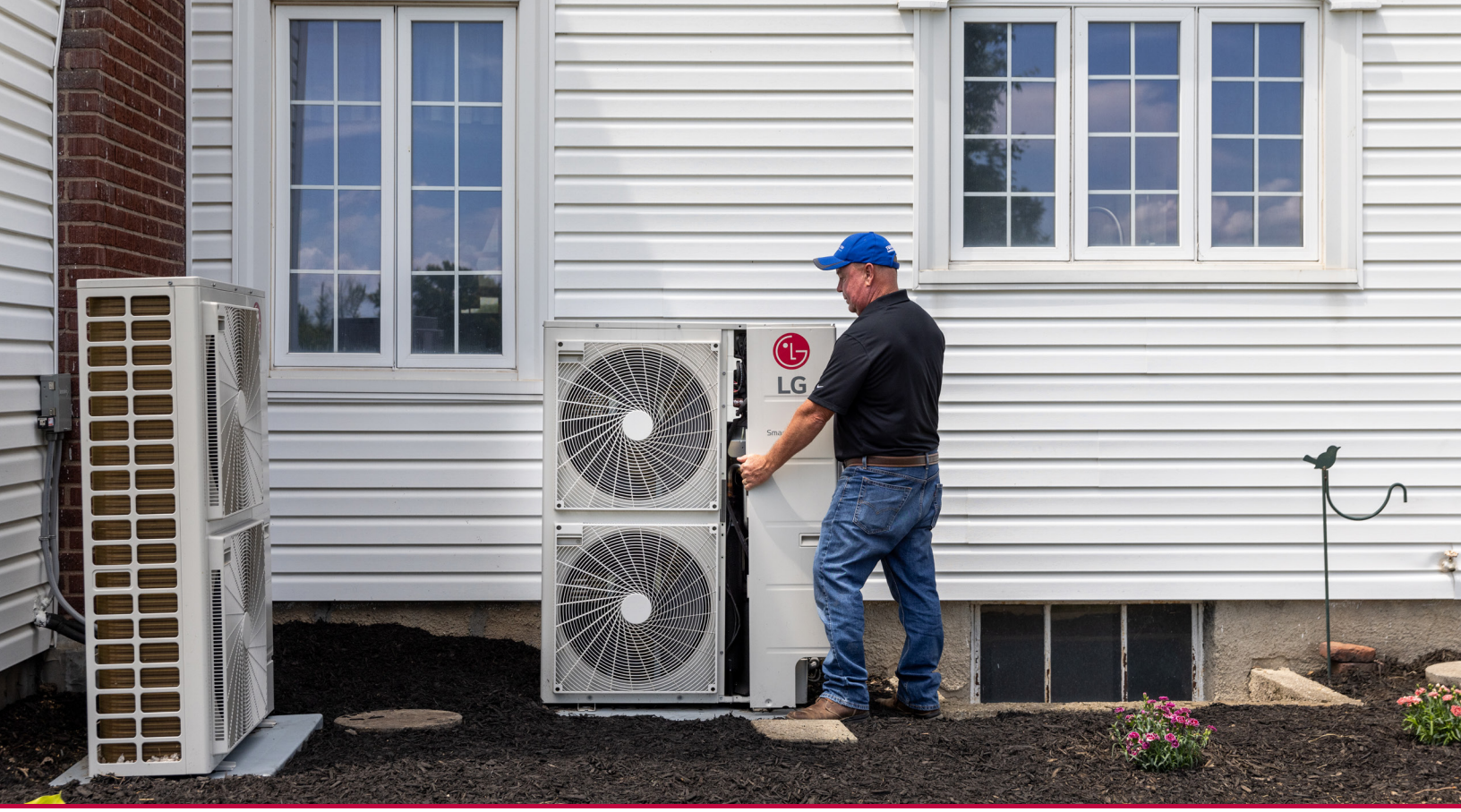
As Hellmann prepared the home for his daughter and son-in-law to move into, he focused on making the house more comfortable by finding effective and efficient ways to heat and cool the living areas.

> **"The family had an oil furnace. They're very expensive to run, not very efficient, and [produced] dirty air. The next generation moved in and wanted something a little more comfortable and cleaner."**
>
> *- Josh Williams, Sales Manager, Corken Steel Products*



Ahead of the Expected

with LG HVAC Solutions



Project Highlights

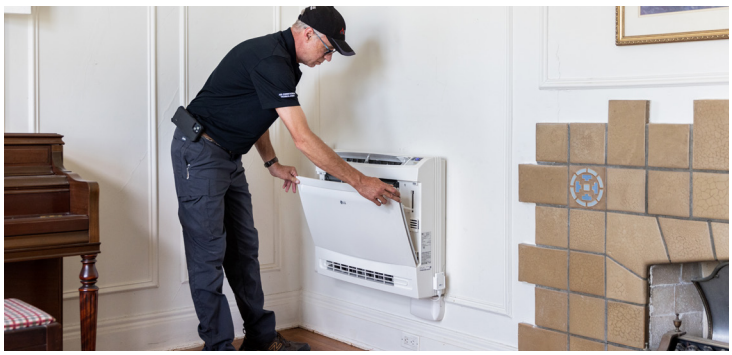
The farmhouse had both a rich history and antiquated infrastructure. It was steam-heated by a large, inefficient oil furnace in the basement and did not have ductwork or an air conditioner. Hellmann and his family felt the lack of air conditioning acutely during Kentucky's humid summer months, which frequently see temperatures over 90° F .

The family sought an HVAC solution that would fit their needs without compromising the farmhouse's historic aesthetic.

As the owner of Call Now Heating and Cooling, an Independence-based HVAC contracting business, Hellmann was familiar with LG but hadn't considered the brand's inverter technology until he met an LG sales representative at a local event. The two discussed the benefits of heat pump technology and how an LG system could suit the home's needs. Shortly after, Hellmann scheduled a walkthrough of the house, which helped determine the best comfort solutions to condition the home evenly and efficiently while preserving its charm.

"I have an HVAC business and I can pick any equipment I want," he said. "I picked LG for a few reasons, including the quality of the equipment that we looked at, the availability, and that it matched — it looked good in the home. The support from LG was also a key part of my decision."

Hellmann and his team at Call Now Heating and Cooling collaborated with Corken Steel, a ductwork fabricator and HVAC wholesaler, and LG to design an energy-efficient solution that tackled the challenges of bringing modern HVAC products into a coveted older home.

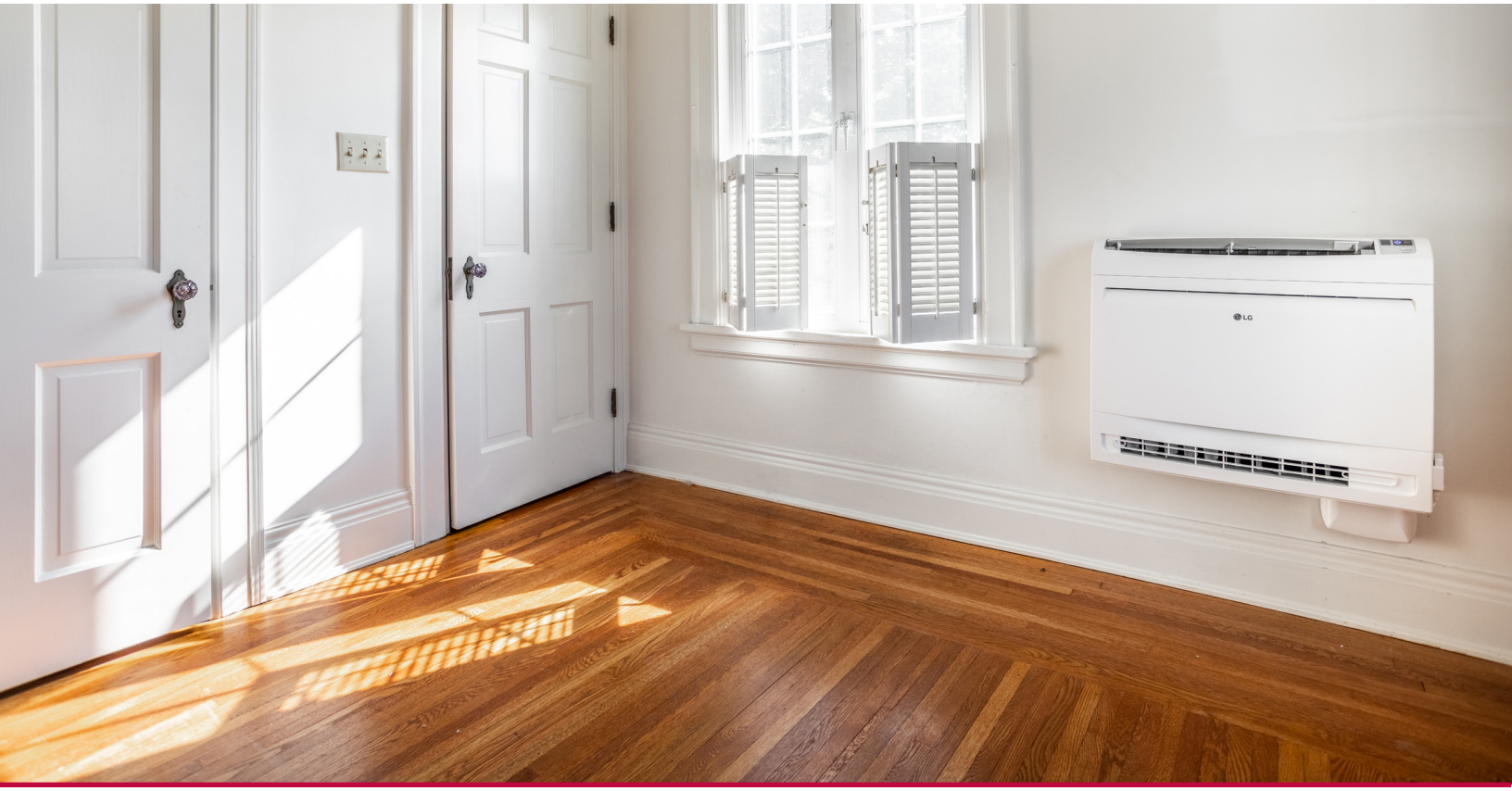


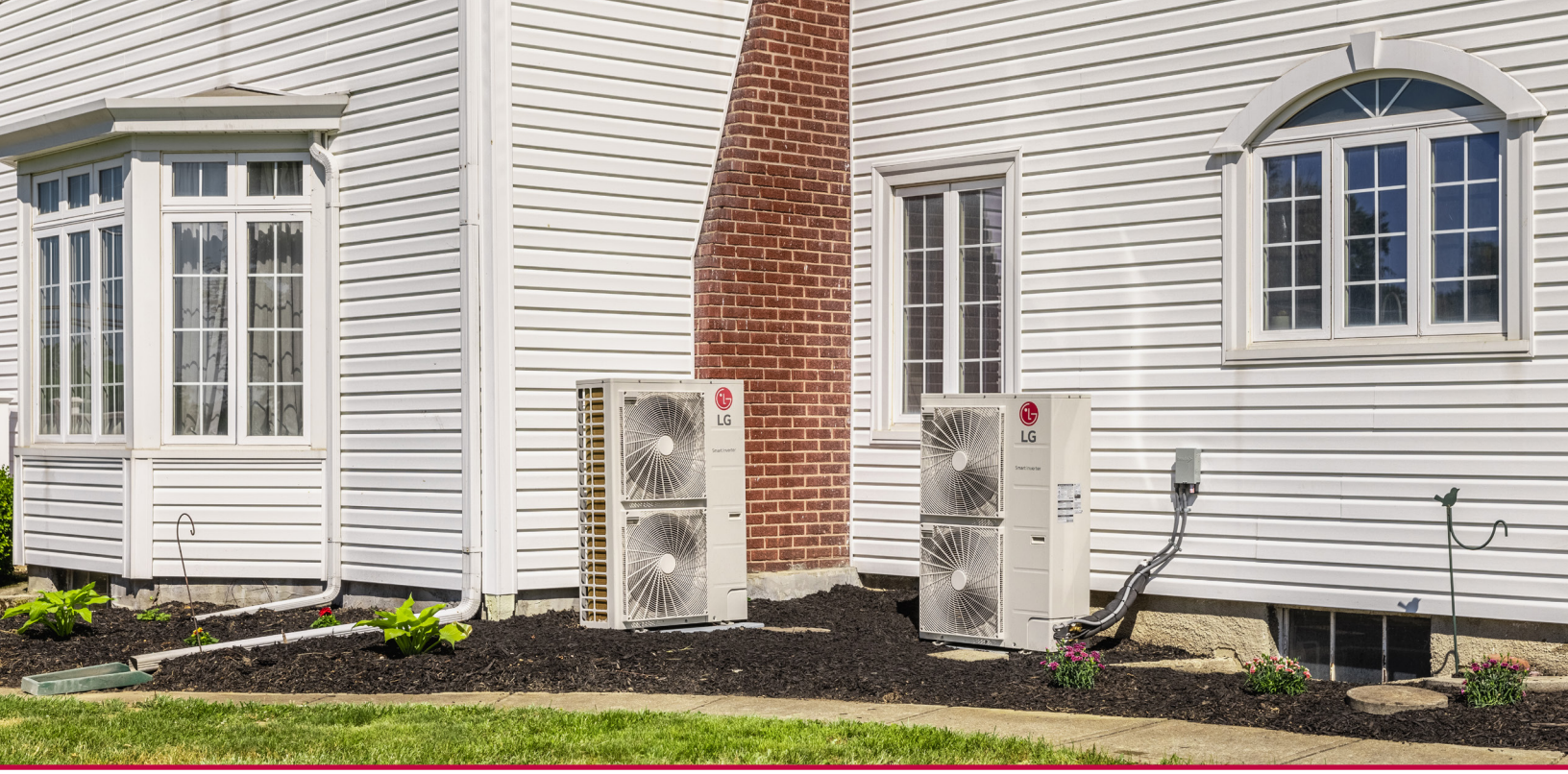
Challenges

Older homes can pose significant heating and cooling challenges due to inadequate insulation, uneven heat distribution from existing systems and a lack of ductwork.

With traditional systems, this combination of obstacles can lead to expensive and invasive installations where large units take up valuable space. Hellmann sought a solution that would avoid these disruptions and involve fewer adjustments to the home's footprint and architecture.

He found that an all-electric inverter heat pump system from LG addressed all these challenges.





Solution

The team decided on a whole-home solution using two Multi F Max with LGRED° units to deliver customized comfort to every part of the house. One low-static ducted unit can heat and cool the first level, and six low-wall ductless console units can condition the second floor.

After selecting the system, the team began installing it in harmony with the farmhouse's environment, which required hiding the equipment wherever possible. Together, they determined how to work around steam pipes, where to run lines and drains, the layout of units, and where to place the equipment to maximize airflow.

Given the farmhouse's historic nature, this was not a simple installation; it required the team's ingenuity and dedication to maintaining the home's integrity.

The first-floor units use minimal duct runs installed through the floors and into the basement, where the old boiler system was located. Rather than installing multiple ducted systems for heating and cooling throughout the farmhouse, the team ran refrigerant and power/communication lines discretely through the attic for the low-wall console units in the upstairs rooms and sunroom and utilized an old, now unused, laundry chute to run lines into the basement and outdoor units.

> **"Our representative from LG made it exceptional to work together. He always answered when we had a question, and if he didn't know the answer, he told us who to call to get what we needed."**
>
> *- Brad Helton, HVAC Technician, Call Now Heating and Cooling*

The strong relationship between Call Now Heating and Cooling, Corken Steel and LG made it possible for Corken and Call Now to design a comprehensive solution to fit Hellmann's needs, streamline installation, and create benefits they hadn't originally anticipated.

Result

Ultimately, the team's main priority was met — the new HVAC system complemented the home's aesthetic and preserved its historic charm, while efficiently heating and cooling. The LG low-wall units' appearance blended nicely with the farmhouse's style and their flexibility and small footprints meant they could be placed with consideration for the rooms' designs.

Aesthetics aside, the Hellmann farmhouse reaps many additional benefits from the LG system. The homeowners now enjoy consistent, customized comfort along with reduced noise, improved indoor air quality and greater energy efficiency.

> **"The system has better air quality, it's easier to maintain and the units put out a very hot heat and a very cool air compared to a normal heat pump system."**
>
> - *Casey Whalen, Installation Manager, Call Now Heating and Cooling*

All-electric heating means Hellmann no longer pays for oil to heat the home in Kentucky's cold winters. This is a significant contributor to energy savings. With the old furnace, he'd spent nearly $1,500 every 30-40 days for oil. Now, with the all-electric LG system, he pays about a quarter of that, even in the coldest months.

Zoned comfort control offered by the LG system also contributes to energy savings. Using thermostats, remote controls and smartphone applications, the family can set each zone in their home to a different temperature or even turn units off altogether, depending on the room's use and occupancy.

"Having a new LG system in this home is very exciting," shared Hellmann. "We're able to have cool air in a house that's 200 years old and has never had cool air before. This was the first summer that you could sit in here and be totally comfortable, have fresh air, and comfortably use different rooms like the porch. It has made the house more livable, much more useful, and much more comfortable."

Breathing new life into a centuries-old home is a tough task. For the family, the fix has been renovations and modernizations over the years. And Hellman says none stands to benefit the family more or give them a greater return on their investment than the all-electric LG inverter heat pump system.

LG HVAC Products:

- **Multi F Max with LGRED°**
- **Low Wall Console**
- **Low Static Ducted**
- **Distribution Box**
- **Y Branch Connector**
- **Wi-Fi Module with LG ThinQ Compatibility**
- **Standard III Wired Remote Controller**

Project Team:

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Owners
Call Now Heating and Cooling

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Installation Manager
Call Now Heating and Cooling

Brad Helton,
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The individual(s) or company featured in this case study is a customer sharing their personal experience with LG Air Conditioning Technology products. Their statements are based on their personal opinions and experiences. The case study is intended for informational purposes only.