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Niagara Falls' First Zero Net Energy Home, Developed by National Fuel and Niagara Area Habitat for Humanity, is the Ultimate Energy-Efficient, Low-Emissions Home

(Oct. 30, 2019) WILLIAMSVILLE, N.Y. – For more than seven years, the single-family home located at 2718 Orleans Ave. in Niagara Falls, N.Y., has sat vacant as it fell into an unlivable state of disrepair. As of today, that is no longer the case. National Fuel Gas Distribution Corporation (National Fuel or the Utility) and the Niagara Area Habitat for Humanity (Habitat for Humanity) have partnered to redesign, renovate, and utilize a combination of natural gas and renewable energy to produce Niagara Falls' first Zero Net Energy (ZNE) home.

This ZNE home is a real-world demonstration, or a pilot, for National Fuel to test pathways for consumers to minimize carbon emissions while having a reliable, affordable heat source throughout winters in a cold Northeast climate. Based on the house's redesign and retrofitting, including highly-efficient natural gas equipment and on-site solar panels, it is anticipated that carbon dioxide emissions will be 60% less than in a typical residential home. By reducing the level of greenhouse gas emissions, the ZNE home will have a positive effect on the environment.

The ZNE home is more than a house with solar panels. It is designed to put energy conservation and emissions reductions first. From its smart design to its energy modeling and advanced building techniques, it features a highly insulated building envelope as well as windows and doors. Additionally, the house incorporates an airtight structure in combination with a fresh air recirculation system, comfortable temperatures, a quiet indoor environment, and energy-efficient heating and cooling systems and lighting. By generating power for use in the home from the solar panels on the roof, and using less electricity from the electric utility, this ZNE home will hopefully generate close to, and possibly even more energy, than what is needed, thus turning it into a net positive energy home.

“Our commitment to the health and vitality of our local communities drives us to continually look for ways to reduce environmental impact,” said Donna L. DeCarolus, President, National Fuel Gas Distribution Corporation. “With the high-performance design from David Thomas Kazmierczak Architects and advanced engineering from our long-time partner C.J. Brown, we believe this ZNE home will make it more attainable to produce as much energy as needed for our cold Western New York region while significantly reducing carbon emissions through a combination of renewable energy and the use of natural gas. We are appreciative of our partnership with the Niagara Area Habitat for Humanity and their volunteers that logged more than 17,000 hours to rebuild and retrofit this home. We have several more projects that are in development now as we test alternative home energy system designs.”

(more)

“Remodeling or retrofitting existing homes so they are significantly more energy-efficient and environmentally friendly is important and the Niagara Area Habitat for Humanity is pleased to partner with National Fuel,” said Gina Beam, Executive Director for the Niagara Area Habitat for Humanity. “This home was not without its challenges as everyone involved in this project went through a learning curve, as with any new endeavor. But the end result is a beautiful home for a deserving family that will not over-tax their budget and is environmentally sound. Habitat looks forward to future projects with our friends at National Fuel.”

The benefits of the ZNE house include:

- **Environmentally Friendly**

The combination of design, building techniques, and technologies that go into this ZNE home all result in a home that produces substantially reduced carbon emissions. ZNE homes are built using an active solar photovoltaic (PV) system, making use of natural daylight to create electric power and providing the home with renewable energy from the solar PV panels on the roof.

- **Lower Cost Utility Bills**

This ZNE home’s yearly total utility bill will be minimal based on the renewable energy produced from the solar panels along with high-efficiency natural gas equipment and a high-efficiency building shell. From day one, this ZNE home has the potential to use less energy and have lower energy bills than a similar standard home.

- **Cleaner, Fresher Indoor Air**

Built with airtight walls, this ZNE home incorporates an advanced energy-efficient fresh air system. The advanced ventilation system provides pre-heated or pre-cooled fresh filtered air.

- **Instant Hot Water**

The tankless hot water system in the home will require reduced energy while providing nearly instant hot water on demand, which will provide savings on the natural gas and water bill.

- **Year-Round Comfort**

This ZNE home has a highly energy-efficient, quiet, and easy-to-use comfort system for heating and cooling, making the home exceptionally pleasant to live in year-round.

- **Low Maintenance Home**

Due to its durable, airtight construction and fresh air system, this ZNE home will be low maintenance and easy to keep clean. Properly maintained humidity levels reduce the potential for mold or water damage.

- **Positive Energy**

By generating power for use in the home from the solar panels on the roof, and using less electricity from the electric utility (National Grid), this ZNE home will hopefully generate close to, and possibly even more energy, than what is needed, thus turning it into a net positive energy home.

National Fuel Gas Distribution Corporation is the Utility segment of National Fuel Gas Company, a diversified energy company that is engaged in a number of natural gas-related activities. The Utility provides natural gas service to approximately 740,000 customers in Western New York and northwestern Pennsylvania. Additional information about National Fuel and its customer services is available at www.nationalfuel.com.