

# PRINCE GEORGE'S COUNTY NET-ZERO HOMES



Redevelopment Authority  
of Prince George's County



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The Redevelopment Authority of Prince George's County (RDA) is leading the transition to sustainable neighborhoods by kicking off the Net-Zero Home Demonstration Project on one of its currently vacant properties – 3719 34th Street in Mt. Rainier. This new home will serve as a model of future residential development in Prince George's County. The RFP for the Net-Zero Demonstration Project can be found on the RDA website.

## WHAT IS A NET-ZERO ENERGY HOME?

A net-zero energy (NZE) home has two key energy features: (1) highly energy-efficient technologies that significantly reduce energy demand (with particular emphasis on specially designed building envelopes), and (2) renewable energy sources produced on site that supply at least as much energy as the home needs over the course of a year. One key aspect to achieving a NZE home is using whole-building design processes that address the building as an integrated system—improving energy efficiency and minimizing both construction and operating costs.

## WHY IS NZE IMPORTANT?

Net-zero energy homes are important for reasons that affect the residents that live within them, the surrounding neighborhoods, and our global community.

In 2007, there were nearly 128 million residential housing units in the U.S. Buildings account for approximately 39% of this country's total energy use, and residential buildings account for 53.7% of that total. Residential buildings account for roughly 20% of the nation's total carbon emissions. The statistics revealing residential buildings as high-energy consumers and high-carbon-emission generators are startling, and rethinking the baseline design of residential homes is essential for bringing energy costs down and slowing the rate of global climate change. NZE homes are part of the solution to our local and global environmental problems.

## WHAT ARE THE BENEFITS?

For occupants, NZE homes are cheaper to operate and maintain (often with zero-cost energy usage), and they are usually healthier homes to occupy. Under the RDA's requirements, the model home will be designed to optimize indoor air quality, green the surrounding site, work with (rather than against) natural processes, and ultimately, to stand out as a home where people want to live and spend time.

## HOW DOES RDA EXPECT TO MEET NZE?

RDA expects that the NZE demonstration home will use many "passive building technologies" to achieve maximum energy efficiency – through house design, building orientation, building materials, and a maximally efficient building envelope. Because standard home appliances cannot function only with passive systems in our local climate, renewable energy sources at the site supply these necessary building energy loads.

## WHY MT. RAINIER?

The NZE home will be located in Mt. Rainier, within the Gateway Arts District, a community that has embraced sustainable living. Mt. Rainier has proven itself to be a leader in sustainability efforts in the County – willing to innovate and step out of the "business-as-usual" ways of operating. The community has expressed willingness to be the location for this first model of NZE housing in the County, and the RDA anticipates that Mt. Rainier will provide the public support and interaction that this innovation requires.

For more information check the Redevelopment Authority's website. You can view the Request for Proposals at:  
<http://www.princegeorgescountymd.gov/sites/redevelopmentauthority/Pages/default.aspx>.