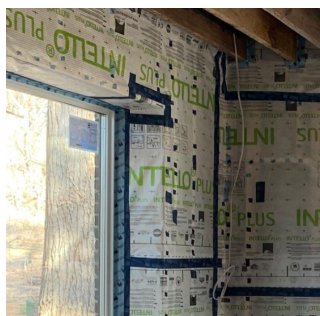


## THE NET-ZERO CRAFTSMAN

Homeowner Vanessa Bertelli retrofits a 1928 masonry craftsman in Washington DC to meet Net-Zero without breaking the bank.

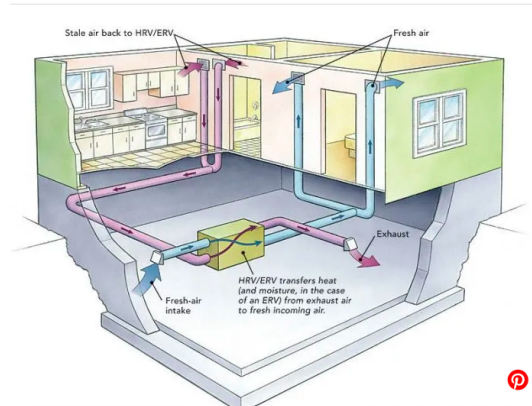
- Using materials and building techniques available to all homeowners (see below), **this home now consumes less energy than it produces** ([Net-Zero Energy Home](#))
- It is one of the first single family home retrofits to have met the stringent standards of the [DC Net-Zero Energy Program](#) administered by the Department of Consumer and Regulatory Affairs (DCRA) and the DC Sustainable Energy Utility (DCSEU).
- Net-Zero retrofits are [key to reaching net zero emissions by 2050](#).



*Air sealing a masonry home. Framing is added to the inside of the exterior walls to allow for insulation. The walls are then wrapped in an airtight membrane which gets taped to ceilings, floors and windows. Drywall is carefully installed over the airtight membrane.*

In addition to common features of environmentally conscious renovations, such as energy star appliances, LED lighting, and properly-installed insulation, this residential retrofit goes significantly further with:

- **Complete Electrification:** Joining a movement that is sweeping the world, **the 100 year old building is now powered only by electricity** - no gas, no petrol, no propane, no wood. Read about the many advantages of electrification [here](#), and learn why induction cooking is superior to gas from tik tok phenom chef [Jon Kung](#).
- **Air sealing:** Through the use of [triple-glazed high-efficiency windows](#), [airtight membrane](#) and [air sealing technology](#), at 0.6 Air Changes per Hour (ACH) **the building far exceeds the 2017 Energy Conservation Code for new (!) buildings** of 3 ACH. In addition to reducing the energy needed to heat and cool, air sealing is also critical to reduce moisture, and maintain healthy indoor air in urban areas.
- **Energy recovery ventilation (ERV):** Two ERVs supply filtered fresh outdoor air to living areas and bedrooms while simultaneously exhausting stale air from kitchen and bathrooms. To increase energy efficiency and increase comfort, the ERVs recover heat and moisture. One of the ERVs is connected to a Variable Refrigerant Flow (VRF) HVAC to provide supplemental heating and cooling when needed.



### [DC Net-Zero Energy \(NZE\) Program](#)

This program, a collaboration between DCRA and the DC Sustainable Energy Utility (DCSEU), is designed to help DC residents and trade allies understand and navigate the process for designing, permitting, and completing NZE residential projects in DC. If approved, projects can receive up to \$10,000 in incentives from the program.

The District has some of the most aggressive clean energy and climate goals in the country <https://doee.dc.gov/cleanenergydc>. Read about its policies, grants and incentives on [green buildings](#).

### **Contacts**

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