

# Phase Innovations Participates in Energy & Greenhouse Gas Impact Evaluation of Ventilation System



## Phase Innovations, LLC.

Phase Innovations, LLC (Phase Innovations) has developed a room ventilation product sized to fit into a partially open window much like a window air conditioner. The ventilation product called PureAtmos® is used to manage fresh air entering the home year round. When used during the heating season, the product recovers heat from the exhaust air, warming the incoming air. When used during the cooling season, heat is removed from the incoming air. This provides fresh air inside the room with minimal energy loss.

## Challenge

Phase Innovations requested the New York State Pollution Prevention Institute (NYSP21) to evaluate the estimated energy savings and greenhouse gas (GHG) impact of their PureAtmos® Ventilation System with heat recovery as compared to a whole house sized ventilation system also with heat recovery.<sup>1</sup>

## Solution

For this analysis, NYSP21 used Phase Innovations' product specifications to calculate the energy and GHG impact of the PureAtmos® product as compared to a whole house ventilation system with an energy recovery ventilator (ERV). NYSP21 calculated the energy consumption of the baseline house ventilation system including the electrical energy to operate the system and natural gas combustion to make up the heat lost through ventilation. The standard used for the analysis was the ANSI/ASHRAE Standard 62.2-2013.

## Results

Based on information provided by Phase Innovations, NYSP21 estimates the annual energy use and GHG emissions impact per unit are as follows, as compared to a whole house energy recover ventilation system operating in a newly constructed, 2400 ft<sup>2</sup> single family residence with four bedrooms.

## Challenge

- Phase Innovations requested NYSP21's assistance to conduct an energy and GHG impact of their PureAtmos® Ventilation System with heat recovery

## Solution

- NYSP21 evaluated the estimated energy use and GHG impact for Phase Innovations' product as compared to a whole house ventilation system with an energy recovery ventilator

## Results

- Phase Innovations' PureAtmos® room ventilation system has the potential to reduce electrical energy and fossil fuel consumption per household by an estimated:
  - 669.1 kWh/unit annually (electrical energy)
  - 324 kWh/unit annually (natural gas energy)
  - Total energy displaced: 992.6 kWh/unit annually

- Phase Innovations' PureAtmos® room ventilation system has the potential to reduce electrical energy and fossil fuel consumption per household by an estimated:
  - 669.1 kWh/unit annually (electrical energy)
  - 324 kWh/unit annually (natural gas energy)
  - Total energy displaced: 992.6 kWh/unit annually
- Phase Innovations' PureAtmos® room ventilation system has the potential to reduce annual GHG emissions by an estimated 93.3 kg CO<sub>2</sub> / unit annually

**Note:**

*The estimated energy and GHG emission impact calculations noted above have been calculated by NYSP2I at RIT based on information and claims provided by NYSP2I by Phase Innovations about the PureAtmos® product as compared to a whole house energy recovery ventilation system in a 2400 ft<sup>2</sup> single family five bedroom house with ventilation rates per ANSI/ASHRAE Standard 62.2.-2013.*

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<sup>1</sup>United States Census Bureau, Characteristics of New Housing, Completed through 2017 - <https://www.census.gov/construction/chars/completed.html>