

# MaineHousing to Sell Carbon Saved from Weatherization to Chevrolet

The Maine State Housing Authority (MaineHousing), responsible for the state's Weatherization Assistance Program (WAP), recently cemented a deal related to their project to measure and sell the carbon saved from energy efficiency measures installed while weatherizing low-income homes. Chevrolet intends to invest nearly \$1 million in the MaineHousing project to reduce the carbon footprint of their vehicles while simultaneously helping to weatherize more low-income homes throughout the state.

Maine has always been a pioneer of WAP. In fact, weatherization as a concept originated there in the early 1970s under the name "winterization," as the state sought to help heat its low-income citizens' homes during the harsh winter months. Since that time, WAP has expanded to include all 50 states, U.S. territories, and Indian tribes. Despite the proven benefits of WAP, including job creation and the avoided use of 24.1 million barrels of oil annually, federal funding is inadequate to meet the demand for program services. Seeking new revenue streams, Dale McCormick, Director of MaineHousing, decided to capitalize on those carbons savings.

Ms. McCormick faced an enormous challenge in this task. No methodology existed for measuring the carbon emissions saved from energy efficiency retrofits. Although residential housing accounts for nearly 22 percent of America's carbon emissions—which total over one billion tons a year—carbon reduction standards heretofore have focused on the low-hanging fruit of power plants, landfills, and vehicle emissions. MaineHousing thus had to create a methodology for measuring the carbon saved from each of their weatherized homes. This methodology is the first of its kind for residential energy efficiency retrofits. The project takes an aggregated approach to monetizing carbon reductions—essentially pooling all carbon saved in individual homes and bundling it together for sale.

MaineHousing employed the Verified Carbon Standard (VCS) as the carbon standard for their project. One of more than fifteen different global carbon standards, the VCS is one of the most rigorous, requiring two independently validated assessments of any proposed methodology. In addition, independent verifiers will be required to validate all carbon emission reductions claimed by any project and verify that all claimed reductions are truly "real (have happened), additional (beyond business-as-usual activities), measurable, permanent (not temporarily displace emissions), independently verified and unique (not used more than once to offset emissions)." Only then can they be sold. Meeting the criteria took more than three years for MaineHousing, but they finally established a proven methodology in 2010.

The methodology to measure carbon emissions saved from residential energy retrofits falls under four broad categories and employs the high standards and best practices already established under WAP. Categories include whole-house energy efficiency retrofits; building envelopment enhancements such as insulation and air sealing; replacement of appliances; and replacement of mobile homes. The methodology details exacting measurements for each category, including reductions for single appliances or air-sealing measures. In sum, Maine was able to calculate that if WAP service providers could reduce home energy use by 25 percent, the carbon reduction should be 1.8 tons of carbon per year per home in the state.

This exceptional and groundbreaking work by MaineHousing caught the eye of Chevrolet and its parent company General Motors (GM). In an effort to have customers rethink their company, GM is looking for ways to offset both its production techniques as well as its end product by investing \$40 million in carbon offsets over the next three to five years. The company hopes to reach a goal of reducing carbon emissions by 8 million metric tons nationwide from the 1.9 million vehicles it hopes to sell in the United States in 2011. Between 2009 and 2014, MaineHousing plans to weatherize 5,500 homes. Over a 20 year period, revenue from the carbon offset sales from the


homes in the project will contribute approximately 12 percent of the cost to weatherize those homes. Chevrolet is supporting MaineHousing's investment in energy efficiency retrofits for low-income people by purchasing the first few years of carbon emission reductions saved through weatherization.


Ms. McCormick likes to say her carbon is "beautiful carbon." Not only does it help save the environment, it provides a "social benefit" by simultaneously funding further home weatherization that would not otherwise happen. Chevrolet will be the first company in America to invest in this "beautiful carbon" to help families that cannot afford to heat their homes.

"I applaud Chevy for trying to offset the use of their product," Ms. McCormick said. "We're delighted to be a part of this historic effort."

MaineHousing and Ms. McCormick want to help other states take advantage of leveraged funds from the carbon market, as they have. The weatherization methodology is freely available at [www.v-c-s.org](http://www.v-c-s.org) and is flexible enough to fit the needs of almost any state efficiency program for all income classes—lower, middle, and upper income—and dwelling types—single family, multi-family, and mobile homes. MaineHousing hopes to guide state WAP managers through the process of measuring and selling the carbon emission reductions of the homes in their states. The success of Maine's carbon program and the partnership with Chevrolet proves that the carbon market could be a boon to WAP, further allowing it to assist those in greatest need. For more information see [www.mainehousing.org/carbon](http://www.mainehousing.org/carbon).


# DOING THE MATH

One weatherized  removes **2.65** metric tons of CO<sub>2</sub> from entering the atmosphere each year. **2.65**

Because 1 metric ton of CO<sub>2</sub> = **1** carbon credit, and **1** verified carbon credit sells for **\$9.20** on the  voluntary carbon market, each stands to earn **\$24.38** annually. **X \$9.20**  

---

**\$24.38**

The American Recovery and Reinvestment Act weatherized **380,000**  as of January 2011. If each home earns **\$24.38** in carbon offsets revenue, the U.S. stands to earn **\$9,264,400** per year to re-invest in its weatherization program. **380,000**  
**X \$24.38**  

---

**\$9,264,400**

Because carbon offsets from a single  continue for **20 years**, by 2030 offsets from the **ARRA** weatherizations would bring the U.S. over **\$185 million**. **X \$9,264,400**  

---

**\$185,288,000**

CO<sub>2</sub> abatement data for Whole House Weatherization was calculated by Oak Ridge National Laboratory for the Department of Energy. The data was published in the Weatherization Assistance Program Technical Memorandum Background Data and Statistics, March 2010.