



**Climate Smart Communities – Capital District**  
**Recommendations for a Multifamily Energy Efficiency Campaign**  
**in Watervliet, NY**  
**May 2013**

**BACKGROUND**

The Climate Smart Communities (CSC) program is a New York State initiative to help local governments reduce greenhouse gas (GHG) emissions, prepare for the effects of climate change, and save taxpayers money. The program is designed to address 10 focus areas, or “pledge elements,” outlined in the CSC pledge. As part of this program, the State is offering technical assistance to communities that have adopted the CSC pledge, including Watervliet.

On November 9, 2012, the City met with the Capital District Regional Planning Commission and VHB<sup>1</sup> to discuss their existing CSC efforts. Mayor Manning identified the multifamily housing sector as a priority for an energy efficiency campaign. This document provides guidance on how to create this campaign using the City’s 10% Challenge Program as a foundation. It will help the City address Pledge Element 9 of the Climate Smart Communities Program: *Inform and Inspire the Public*.

**INTRODUCTION**

Climate protection is a priority for the City of Watervliet. Over the last two years, the City signed the Climate Smart Communities Pledge, launched the Watervliet Organic Waste program, and created a 10% Challenge for residents and businesses to increase their energy efficiency. The City’s greenhouse gas (GHG) emissions inventory indicated the residential sector as the third largest source of GHG emissions. In 2010, the residential sector was responsible for **17%, or 17,824 metric tons of carbon dioxide equivalent (MTCDE)**, of GHG emissions in the City<sup>2</sup>. Recognizing that the multifamily structures comprised a good majority of the City’s housing stock, Mayor Michael Manning made it a priority to increase energy efficiency outreach efforts to reduce energy use and greenhouse gas emissions from the residential sector.

This document provides an analysis of the demographics and housing stock in the City, reviews Watervliet’s current programs, and recommends next steps for building a successful multifamily housing energy efficiency campaign.

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<sup>1</sup> CDRPC, with assistance from VHB, leads the Climate Smart Communities Regional Coordinator Pilot Program for the Capital Region.

<sup>2</sup> Capital District Regional Greenhouse Gas Emissions Inventory, 2012.



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**WATERVLIET’S DEMOGRAPHICS AND HOUSING STOCK**

**Population, Age and Race**

It is important for a community to assess their demographic data before starting a campaign, to tailor the program accordingly. This section breaks down the resident composition (population, age, race, and income) and assesses the housing stock in in Watervliet.

As shown in Table 1, in 2010 the City had a population of 10,254. The population is somewhat diverse – while Watervliet is primarily White (83.5%), the City is comprised of 9% Black, 6.1% Hispanic or Latino, and 2.5% Asian residents. In order to reach the entire population with its energy efficiency campaign, the City should consider translating education and outreach materials into various languages.

Table 1: Population <sup>3</sup>	
Population, 2010	10,254

Source: U.S. Census Bureau, 2010

Table 2: Population Percentage by Race <sup>2</sup>	
White	83.5%
Black	8.9%
American Indian/Alaskan Native	0.4%
Asian	2.5%
Hispanic	6%
Two or more races	3.1%
Hispanic or Latino origin	6.1%

Source: U.S. Census Bureau, 2010

**Housing Stock**

According to the American Community Survey, in 2011 there were 5,271 housing units in Watervliet. Of those housing units, 75.4% of Watervliet residents lived in multifamily homes of 2 units or more (Table 3). Over half (54%) of the housing structures in Watervliet are comprised of 2-4 units. Structures with 10-19 units are the second most common at 11.2%

Table 3: Housing Units <sup>4</sup>		
Units in a Structure	Number of Units	Percentage of total
1-unit, detached	1,181	22.4%
1-unit, attached	112	2.1%
2 units	2,023	38.4%
3 or 4 units	839	15.9%
5 to 9 units	241	4.6%
10 to 19 units	589	11.2%
20 or more units	286	5.4%
<b>Total housing units</b>	<b>5,271</b>	<b>100%</b>

Source: American Community Survey 5-Year Estimates 2007-2011

<sup>3</sup> U.S. Census Bureau, 2010: <http://quickfacts.census.gov/qfd/states/36/3678674.html>

<sup>4</sup> American Community Survey 5-Year Estimates, 2007-2011: [http://factfinder2.census.gov/bkmk/table/1.0/en/ACS/11\\_5YR/DP04/1600000US3678674%7C0400000US36](http://factfinder2.census.gov/bkmk/table/1.0/en/ACS/11_5YR/DP04/1600000US3678674%7C0400000US36)



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A large majority of residents (80.7%) have lived in the same location for more than a year (Table 4) and are renters. Homeownership rate is at 37.4%, which is well below the state average of 54.8%. This can present challenges when addressing energy efficiency since tenants are not likely to make investments in older homes they do not own. However, since a large majority of tenants are staying in their dwellings longer than one year, the case can be made that they would be enticed to make energy efficiency improvements to save money on their utilities.

The U.S. Census also determined that a majority of residents are living in older homes. As shown in Table 5, over 65% of residents live in homes that were built prior to 1939. This can present opportunities when addressing energy efficiency. According to the International Association of Certified Home Builders, “studies have shown that buildings constructed before 1940 require less energy consumption for heating and cooling than houses built during the subsequent 35 years.” Before electricity was available, homes used natural sources of lighting, heating and ventilation because the house protected occupants from the elements<sup>5</sup>.

Another important consideration when developing the campaign is income. According to the 2010 U.S. Census, the median household income in Watervliet was \$41,703, which was below the Capital Region average of \$55,683, according to the Capital Region Sustainability Plan<sup>6</sup>. The per Capita income was also lower at \$23,285 – the NYS State average was \$29,175. The data also shows that 12.3% of the City’s residents are below the poverty level, which is higher than the Capital Region at 10.6%. Programs to address energy efficiency need to consider the limited resources that residents have to make changes in their homes. There are programs out there to reduce the barriers to making these upgrades. For instance, low income households can apply to receive for free energy efficiency assistance, such as NYSERDA’s EmPower program (<http://nyserdagreen.org/empower>).

Table 4: Select Housing Information <sup>7</sup>	
Living in same house 1 year & over, percent, 2007-2011	80.7%
Homeownership rate, 2007-2011	37.4%
Per capita income in the past 12 months (2011 dollars), 2007-2011	\$23,285
Median household income, 2007-2011	\$41,703
Persons below poverty level, percent, 2007-2011	12.3%

Source: U.S. Census Bureau, 2010

Table 5: Age of Housing Stock <sup>3</sup>		
Age	Number	Percentage
Built 2005 or later	64	1.2%
Built 2000 to 2004	31	0.6%
Built 1990 to 1999	107	2.0%
Built 1980 to 1989	212	4.0%
Built 1970 to 1979	490	9.3%
Built 1960 to 1969	310	5.9%
Built 1950 to 1959	248	4.7%
Built 1940 to 1949	321	6.1%
Built 1939 or earlier	3,488	66.2%

Source: American Community Survey 5-Year Estimates, 2007-2011

<sup>5</sup> International Association of Certified Home Inspectors: <http://www.nachi.org/energy-efficiency-historic-buildings.htm>

<sup>6</sup> Capital Region Sustainability Plan: [http://sustainablecapitalregion.net/Report\\_12\\_26\\_12/5-Economic\\_Development.pdf](http://sustainablecapitalregion.net/Report_12_26_12/5-Economic_Development.pdf)

<sup>7</sup> U.S. Census Bureau, 2010: <http://quickfacts.census.gov/qfd/states/36/3678674.html>



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In summary, the majority of residents are living in 2-4 bedroom, older homes for longer than one year. While the City is still primarily White, education and outreach programs still need to consider not just the demographic differences but income levels as well, as the City is above the Capital Region’s averages for per capita and median household income and has a higher percentage of residents below the poverty level as well.

#### **WHAT MAKES ENERGY EFFICIENCY CAMPAIGNS WORK?**

A study from Binghamton University, SUNY in Binghamton, New York, analyzed the effectiveness of public outreach efforts in support of energy efficiency initiatives, based on four case studies<sup>8</sup>. The analysis found four common effective strategies:

1. Collaboration between community leaders, including government officials, business leaders, and social groups
2. An “effective and exhaustive use of media”
3. Highlighting opportunities for rebates and financial incentives
4. Providing information about energy upgrades and individual energy conservation efforts

In each of the four case studies, strategies were used in tandem to achieve success. Each campaign relied on a variety of methods over time, combined with local customization, to increase participation in energy efficiency initiatives. For example:

- Efficiency Vermont authored dozens of weekly newspaper columns about energy efficiency to generate public interest.
- The Flex Your Power campaign in California used a variety of media for outreach, including take home “Water and Energy Conservation Kits” that included information on increasing energy efficiency to reduce utility bills, as well as bilingual messages.
- The Bringing Good Energy to Oregon campaign used free DVDs containing a video of a professional home energy assessor guiding residents through self-assessments of their homes as a means of outreach.
- In Marshfield, Massachusetts, community leaders spent 18 months spreading the message of energy efficiency and conservation using direct mail postcards and other marketing.

Tailored, multi-layered campaigns are crucial to reaching the diverse populations that live in our communities. One size does not fit all – using strategies in conjunction with each other to reach all sectors of the community will increase the likelihood of a successful energy efficiency campaign in Watervliet.

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<sup>5</sup> Beasley, M.; Fierstein, J.; Kim, H.; Raybuck, K. (2011). *Effective Methods of Public Education, Marketing and Outreach*. ENVI 382B, Sustainability and Social Movements, Fall 2011. Binghamton University, SUNY. Retrieved from: <https://sites.google.com/a/binghamton.edu/sustainable-binghamton-university/energy-efficiency-final-group-research-projects-fall-2011/effective-methods-of-marketing>



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#### **WHAT IS WATERVLIET DOING NOW?**

Watervliet has already built a foundation of energy efficiency programs, which can be leveraged to implement an effective campaign. In May 2012, Watervliet began participating in a program that follows this model: The Hudson Valley 10% Challenge. The 10% Challenge is a community-based campaign to reduce fossil fuel use by 10%, obtain energy from renewable sources, and to involve 10% of the community as leaders and models. The Challenge works to boost community energy-saving and greening activities. It supports the Climate Smart Communities Program, and the energy programs of NYSERDA. The Challenge provides motivation to engage communities<sup>9</sup>.

To achieve an overall footprint reduction of 10% in a community, two steps are taken by residents<sup>10</sup>:

- 1) Measure existing energy use and overall carbon footprint
- 2) Implement actions that will reduce energy use and overall GHG emissions - upgrade lights and appliances to more efficient models, insulate the home, telecommute to reduce driving, etc.

The City's Going Green website provides a good starting place to continue promoting its green agenda. Watervliet has also used Twitter and YouTube to successfully promote the 10% Challenge and the Watervliet Organic Waste Program. These are widely used mediums to reach the public and provide a great foundation for launching a multifamily housing campaign.

#### **HOW TO MAKE IT WORK IN WATERVLIET**

Watervliet's existing 10% Challenge Program and other climate protection efforts provide a great foundation for an energy efficiency campaign for the multifamily housing sector. By targeting outreach and messaging specifically to the multifamily housing population, the City can achieve its goals in reducing energy use and greenhouse gas emissions in the residential sector. Here are a number of steps the City can take to encourage participation from the residents who live in multifamily housing:

1. **Conduct a Survey.** Survey multifamily building owners and/or tenants to find out how information or incentives could stimulate participation.
2. **Tailor the Message.** In order to get the most of this program, the City could create and deliver messaging about the program specifically to rental properties, in small, older complexes of 2-4 units. With a majority of residents living in buildings of 2-4 units that were built prior to 1970, especially pre-1939, the City could develop messaging that is focused on the types of energy efficiency projects that are particular to older homes such as adding insulation to crawlspaces, adding weather-stripping to doors and windows, adding storm windows and doors or replacing them all together with more efficient models. A full list of energy efficient retrofits and guidance for older homes can be found: <http://www.nachi.org/energy-efficiency-historic-buildings.htm>
3. **Promote Existing Incentives.** There are several programs that residents can take advantage of through the State or utilities. Many of them provide free baseline energy assessments, such as the EnergyWise multifamily program from National Grid and the EmPower Program from

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<sup>9</sup> Hudson Valley 10% Challenge: <http://hv10pctchallenge.net/how-it-works>

<sup>10</sup> This program is also for businesses and other community stakeholders, but the focus here is on residents.



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NYSERDA. Other programs can be leveraged to implement efficiency improvements in their homes, such as [UpGrade Upstate](#), [Energize New York](#), or NYSERDA's [Residential](#) and [Multifamily](#) programs.

4. **Use the 10% Challenge as a Framework.** Increase publicity of the 10% Challenge and focus on multifamily buildings. Highlight how energy efficiency leads to cost savings (reduced utility bills) and increased comfort (stable temperatures). Specific strategies include:
  - Use traditional and social media, such as newspaper articles, YouTube, Facebook, and the City's webpage to raise public awareness of the issue and opportunities for the cost and comfort benefits that home energy efficiency actions can bring.
  - Post a "how-to video" on YouTube of a home energy assessment being conducted in Watervliet, with testimonials from local participants.
  - Post an energy efficiency savings calculator on the City webpage, such as the U.S. Department of Energy [calculator](#), the [TogetherWeSave.com](#) calculator, or [My Energy Plan](#).
  - Use incentive-based programs, like [RecycleBank](#) and [Joule Bug](#), which rewards participants for taking "green" actions by giving them points that they can redeem for goods and services.
5. **Develop Partnerships.** Contact representatives of larger organizations (e.g., Senior Services of Watervliet, Elks Club, school organizations, major employers, homeowners associations, churches, the Watervliet Farmers Market) directly to present the value of energy efficiency projects to their members and create high-profile "wins." Obtain testimonials whenever possible, and include those in the public outreach and web presence efforts. For example, the Watervliet Arsenal has an Environmental Policy prominently displayed on its webpage, which aligns with the goals of energy efficiency.
6. **Find Out Who Can Do This Work.** Develop a public database of local contractors who can perform energy efficiency project to connect residents looking for energy efficiency services with local firms that provide those services.
7. **Lead By Example.** Promote municipal buildings that have received free energy assessments, as well as the results and projected savings, as a means of demonstrating leadership and raising public awareness. Use the solar panels on the Hudson Shores Park boathouse as a source of education, inspiration, and demonstration of the importance of clean, renewable, and efficient energy. For example, a plaque or sign explaining the benefits.
8. **Fund the Program.** Determine if City funding is available, or if outside funding or support (e.g., NYSERDA or National Grid) can be pursued to support publicity efforts, database creation, or local subsidies.
9. **Update Local Permitting and Ordinances.** Consider adopting an expedited permitting review process and/or reduced permit fees for renewable energy projects (solar panels, wind turbines, etc.), such as local options for property tax exemptions.
10. **Consider Local Financing Options.** Consider offering Property Assessed Clean Energy (PACE) financing, under which property owners can fund energy efficiency and retrofit projects through property tax assessments. This financing option addresses the large upfront costs of energy improvements, with savings that often outweigh the increased property assessments. Also, the loans are attached to the property instead of the individual.



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11. **Provide Exemptions for Green Buildings.** Investigate adopting a Real Property Tax Exemption for green buildings, which allows municipalities to exempt buildings that meet green building certification standards from a percentage of property tax (can range from 10-20 percent exemption, with declining percentages over time).
12. **Opt-in.** Ensure Watervliet remains “opted-in” on the Real Property Tax Exemption for solar, wind energy, and farm-waste energy systems, which allows for a 15-year exemption for these systems.

As previously mentioned, the above strategies should be used in conjunction with one another to create a successful, multi-faceted program that reaches all sectors of the City.

**DEVELOPING PARTNERSHIPS**

The City of Watervliet should identify and engage partners to promote the energy efficiency program. Potential partners include the NYSERDA [EDGE Program](#) and National Grid. These groups may assist with funding, free promotional materials, or other technical support.

In addition, the City should reach out to local organizations that represent large and diverse groups of people, including:

- Watervliet Housing Authority
- Senior Services of Watervliet
- Watervliet Arsenal
- Elks Club
- School organizations
- Major employers
- Homeowners associations
- Churches and faith-based organizations
- Watervliet Farmers Market

**CONCLUSION AND NEXT STEPS**

Watervliet’s focus on creating an energy efficiency campaign for multifamily housing is an important and relevant priority. Multifamily structures, especially those with 2-4 units, comprise the largest percentage of homes in the City. Its residents are primarily renting in the same location in older homes for longer than 1 year, so outreach and education can be tailored and specific to those residents. The City is also home to a diverse population (race and income), so a campaign should address language and financial barriers to participating in any program that it develops.

The City of Watervliet has the elements in place to increase energy efficiency in multifamily housing. Using the 10% Challenge as a foundation, the City can take a number of immediate steps to launch this campaign including:

- Expand education and outreach about the 10% Challenge through a variety of mediums



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- Research energy efficiency programs for low income residents and for structures that meet specific criteria (i.e., complexes of 2-4 units)
- Expand and publicize the City’s GoingGreen webpage
- Identify existing and potential new partners
- Investigate funding sources (internal and external) to support the campaign

Through the 10% Challenge and the City’s existing outreach methods (Twitter and YouTube), Watervliet has a strong foundation in which to launch a multifamily housing energy efficiency campaign.