

## **Report on the 2015 NYS Conference on the Environment**

I attended the 2015 NYS Conference on the Environment in Ithaca on October 16-17. This annual conference is sponsored by the New York State Association of Environmental Councils (NYSAEC) and the New York State Association of Conservation Commissions (NYSACC). The Mount Kisco Conservation Advisory Council is a member of NYSACC. The conference included presentations on energy and climate change and on protecting natural resources. This report describes in some detail the presentations on two new programs which appear to have tremendous potential for reducing greenhouse gas emissions: (1) the **Community Shared Renewables program**, which is also called **Community Distributed Generation**, was recently approved by the NYS Public Service Commission and is aimed at extending New York's current net metering policy guidelines to expand access to renewable energy, and (2) the **HeatSmart Tompkins program** which has been started in Tompkins County to accelerate the transition of home heating away from fossil fuels by deploying super-efficient air- and ground-source heat pumps combined with improving building efficiency through better insulation and air sealing. The presentation on the Community Shared Renewables program was given by Melissa Kemp, Director of Commercial and Utility Development, Renovus Solar, and Policy Chair, NYS Energies Industries Association. The presentation on the HeatSmart Tompkins program was given by Matt Johnston, Program Director, Solar Tompkins.

### ***Community Shared Renewables***

Efforts are underway in Tompkins County to take advantage of this program to expand solar energy. Prior to 2015, solar was only available to families who owned their own home and the home was a good location for solar. Many people therefore have been unable to install solar panels to take advantage of net metering. About two-thirds of the homes in the northeast are not suitable for rooftop solar because of roof design or tree cover so homeowners of these homes can now participate as well as other groups of people who have not been eligible. This new program provides opportunities for renters, homeowners with homes not suitable for solar, low-income residents, schools, and businesses to join together to set up shared renewable energy projects. This allows far more people to take advantage of net metering, which means that renewable energy can be sold back to the utility which reduces electric bills. This program allows a wider spectrum of residents to purchase or lease a share of a community solar facility and receive credits on their electric bill for the electricity generated.

The new policy has some limiting structural aspects: (1) a 10 member or subscriber minimum does not permit small microcommunity projects, (2) any members that would need more than 25 kW are collectively limited to 40% of any given facility, and (3) members are not permitted to have on-site solar and also buy from a community facility.

## ***HeatSmart Tompkins***

This is a novel program of Solar Tompkins, a non-profit community-based organization that promotes the rapid adoption of renewable energy through community education and providing third party support that is trustworthy. The HeatSmart Tompkins program began in September 2015. The hope of those running the program is that it will be successful and serve as a template for similar programs throughout New York State and beyond. The program, which is limited in time and is aimed at jump-starting the rate that energy efficiency measures and heat pump installation are adopted, offers below-rate pricing and a simple process with vetted installers. The combination of insulation and air sealing combined with an air- or ground-source heat pump system can provide a comfortable indoor environment, immediate cost savings, and reduce greenhouse gas emissions that come from burning fossil fuels for heat and hot water. The HeatSmart Tompkins program is aimed at eliminating the obstacles to heat pump and energy efficiency adoption which are: (1) lack of familiarity with technologies, (2) upfront cost, and (3) customer inertia. There are several benefits from using a heat pump system. These benefits include low operating cost, no on-site combustion, long life expectancy (15+ years), able to meet 100% of heating needs, and low environmental impact.

Many people are familiar with heat pumps when they are used for cooling (refrigeration and air conditioning) but fewer people are familiar with heat pumps when used for heating. The most common type of heat pump is the air-source heat pump, which transfers heat between a house and the outside air. Electric water heating costs can be reduced by using a heat pump water heater. Ground-source (geothermal) or water-source heat pumps achieve higher efficiencies by transferring heat between the house and the ground or a nearby source of water.

Air-source heat pumps can be installed either as central units or split units. Central units are usually located outdoors. Split units typically provide heating and cooling to one room of a house, which reduces the demand on the existing heating system. These heat pumps have an efficiency of up to 200%+. Geothermal heat pumps can be effectively used almost anywhere, however, the specific geological, hydrological, and spatial characteristics of the land help determine the best type of ground loop for a site. These heat pumps have an efficiency of up to 300%. By comparison, fossil fuel heaters range in efficiency from 70-95%.

There are a number of state and federal programs listed below that can provide financial assistance. In the HeatSmart Tompkins program the installers do the paperwork for these financial assistance programs.

- **NYSERDA EmPower New York** – No cost assessment to determine if home would benefit from free energy upgrades such as air sealing to plug leaks and reduce drafts and insulation.
- **NYSERDA Home Performance with ENERGY STAR program** -- A 10% grant of up to \$3,000. Includes a NYSERDA low-interest loan applicable per single-family home projects.

- **NYSERDA Assisted Home Performance with ENERGY STAR program** -- Provides a discount covering 50% of the cost of eligible energy efficiency improvements up to \$5,000 per project for single-family homes.
- **Federal Residential Renewable Energy Tax Credit** -- A New York State homeowner may claim a credit of 30% of qualified expenditures for a ground-source heat pump geothermal system that serves a dwelling unit located in the United States.
- **NYSERDA NY State Loan Program** -- Offers a 10% discount and additional low-interest financing options to New York State homeowners to improve the energy efficiency of their homes.
- **New York State Property Tax Incentive** -- Qualifying energy-conservation improvements to homes, including heat pumps, are exempt from real property taxation in NY State to the extent that the addition would increase the value of the home.
- **Weatherization Assistance Program** -- A federal incentive administered by the U.S. Department of Energy which issues grants to states, territories, and some Indian tribes to improve the energy efficiency of low-income homes in their jurisdictions.
- **Personal Tax Credit** -- This federal credit applies to energy efficiency improvements in the building envelope of existing homes and for the purchase of high-efficiency heating, cooling and water-heating equipment.

Additional information on the HeatSmart Tompkins programs is available at <http://www.solartompkins.org>.

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