SUSTAINABLE SIMSBURY

March/April 2024

NEWSLETTER

Simsbury Next Steps Forward: A Focus on Solar Energy

In the February 2024 newsletter we examined problems in Simsbury's current energy usage. In this issue, we tackle one part of the solution to the problem: producing more renewable energy.

In 2018, the State of Connecticut set a goal of producing 40% of its electric power through renewables by 2030, rising to 100% by 2040 and of reducing greenhouse gas emissions to 80% below 2001 levels by 2050, according to the 2018 CT DEEP Comprehensive Energy Strategy.

Currently, Simsbury produces about 2.2% of its residential electrical power from solar and about 6.5% of its municipal electrical power from solar (including the town and schools). The town generates over 228,783 tons of greenhouse gasses (GHG), or 9.4 tons per person on energy alone.

How can we, as a thoughtful, responsible town, accelerate our transition from dirty fossil fuels to clean renewable sources and help to meet State goals?

Examining Best Practices

One of the easiest ways to see our path forward is to look at our neighbors across Connecticut who have blazed a path in producing renewable energy while at the same time lowering costs. For example, Newtown, CT (about the same size as Simsbury) produces 84% of its municipal electricity with solar; our next-door neighbor West Hartford produces about 50% and Glastonbury about 30%.

Calendar

Gear Up for Trail Safety Expo
March 3, 2-4 p.m., Simsbury Public Library
Check out the Simsbury Bicycle Pedestrian Advisory Committee and other tables.

Seeing Life: Bringing Back the Pollinators
March 12, 7 p.m., First Church of Christ Simsbury (Palmer Hall)
Presented by the Simsbury Pollinator Pathway (SPP) and Partners

Seeing Red: How to Identify and Remove Home Habitat Invasives
March 26, 7 p.m., First Church of Christ Simsbury (Palmer Hall)
Presented by SPP and Partners

Seeing Stars: Creating a Healthy Nighttime Habitat
April 9, 7 p.m., First Church of Christ Simsbury (Palmer Hall), Speaker: Margery Winters
Presented by SPP and Partners

Earth Day Celebration at Flamig Farm
April 27, 10 am to 4 pm
All-ages fun and learning, $5 admission, babies under one and adults 80+ are free

Sustainability Fair
May 4 at the Simsbury Public Library
A sustainability extravaganza hosted by Simsbury Public Library and the Simsbury Sustainability Committee!

- Trade Show: Solar and heat pump installers, efficiency contractors, architects
- Composting demonstration
- Farm-to-table displays
- Kid-friendly seed planting/ arts activities
- Repair Cafe
- Pollinators and Home Habitat Information

Simsbury's Next Steps Forward: A Focus on Solar Energy (Con't)

How have they done this?

Solarize Our Schools

Many towns and school districts in Connecticut have found that they can drastically cut greenhouse emissions and the cost of electricity at the same time by installing solar on school rooftops. Over 100 Connecticut schools have large solar arrays. Here are a few examples:

- Glastonbury estimates an annual savings of $100,000 by solarizing its schools and bus yard;
- Manchester is saving $100,000 each year with solar on schools;
- Ridgefield expects to save $4 million in energy costs over 20 years by solarizing its school buildings;
- West Hartford is expected to save over $250,000 over the life of its solar school project.

There is great potential on our schools' rooftops. Simsbury currently has one small pilot solar array on the high school. There is significant untapped potential for solar-along with reduced carbon emissions and costs-on all our schools.

Solarize Our Town Buildings, Police and Fire Stations

Many towns in Connecticut have promoted solar on town structures, including police stations and fire departments. For example, both the towns of Cheshire and Glastonbury have solar carports for their police stations. Newtown and Coventry have covered nearly all their public structures with solar panels, including their fire stations.

Simsbury introduced solar arrays on the hockey rink at Simsbury Farms (220 kW) and on the Public Works Building (84kW) in 2018. Sustainable CT estimates that the solar arrays at Simsbury Farms save the town $22,000 per year and that the solar arrays at Public Works save the town $12,000 per year. We should explore whether there is potential to solarize other town structures, while reducing cost and emissions.

Solarize Our Parking Lots

Parking lots are often large, and usually unattractive, spaces. Many towns have begun to install solar carports or solar canopies to produce renewable energy. For example Madison, CT has installed solar carports in the parking lots of its middle and high school, Hamden at an apartment complex, and West Hartford at an office building. The nonprofit People's Action for Clean Energy (PACE) estimates that Simsbury could build 74 solar canopies in town, enough to produce roughly half of the town's current electricity usage.

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Solarize Our Homes

In 2014, the Solarize Simsbury campaign made a significant impact by assisting many local homeowners to install solar arrays on their homes. Roughly half of the current 197 residential solar installations (with total capacity of 1.6 megawatts) came out of this campaign. A town like Newtown, CT (again, similar in size to Simsbury), that maintained its Solarize campaign for many years, now has 558 residential solar installations. We need to reinvigorate the Solarize Simsbury campaign and to make sure that any new building developments include renewable energy production.

One promising new opportunity for residents and businesses is the "PowerSmart" program which combines solar + storage. Participating residents and businesses can sell the energy stored in the battery back to the grid during high volume periods. A benefit of the program is that residents get a generous upfront rebate incentive, while also being paid by the electric provider (Eversource or UI) annually for the amount of electricity that is drawn from the battery.

Solarize Our Businesses

The Simsbury business community has made some impressive efforts in installing solar. The International Skating Center of Connecticut (ISCC) installed a 324 kW system in 2013; Ruark Properties, which manages the Simsmore Square complex, installed a 100 KW system in 2014; the Hoffman Auto Group installed solar arrays on three of its dealership- Hoffman Honda (131.kW), Hoffman Toyota (65 kW), and Hoffman Nissan (72 kW) in 2016; Mitchell Volvo installed a 116 kW system in 2016.
One of our community farms-Flamig-installed solar panels on their chicken coops and a solar water heater back in 2006. (See "Solar Business Stories" section for more information.) We have the opportunity to expand solar electricity production on our commercial business buildings Simsbury businesses can use C-PACE for a Solar Power Purchasing Agreement which, with no money down, allows businesses to buy energy produced on their own rooftop; or another option is to lease the rooftop to the Green Bank to install solar and provide the business with revenue.

Community Solar

Community Solar allows solar panels in one facility to be shared by multiple community subscribers who receive credit on their electric bills for their share of the solar power produced. For example, our neighbors in Bloomfield built a 1.62 megawatt array in a five-acre lot behind their Board of Education building in 2019. The energy created is divided by the town's Board of Education, low-income residents, and low-income subscribers; it provides a 10% reduction in energy cost. The Town of Milford worked with the local business community to install a 2.1 megawatt solar system in 2023 on the roof of a warehouse that will provide electricity to 300 local homes. Simsbury proposed a 1 MW community solar project in 2016 on the close town landfill, with an estimated $13,000 in annual savings for the town. The State rejected the proposal because of its size. Since then, the State has increased the parameters of approved community solar projects. We should revisit the community solar project for the closed landfill.

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CONCLUSION

What would it mean for Simsbury to do its part in the Connecticut State transition to renewable energy and create a sustainable future for our community? Currently, we produce about 2 MW of renewable energy locally. According to the 2019 Simsbury Energy Plan, Simsbury can produce over 50 MW of solar energy from municipal, commercial and residential rooftops, community solar and solar canopies on selected parking lots by 2039.

With good planning and sustained effort, our town-residents, businesses and elected officials- can reach, and even surpass, the goals set by our State government. We need to keep in mind the multiple benefits that come with the transition to clean, renewable energy.

- Reducing cost: CT currently pays the highest electricity rates in the lower 48. Going solar would help to reduce rates.
- Limiting carbon emissions: By reducing our dependence on fossil fuels, we help to limit climate change, and its impact on our farms and broader environment.
- Cleaning our air: The burning of fossil fuels pollutes our air, and increases asthma rates, respiratory problems, and lung cancer among other health problems.

Spotlight on Solar in Our Business Community

We interviewed Steve Mitchell, VP of the Mitchell Auto Group, who runs six car dealerships in the local area, three of which have solar arrays already and two more of which are having solar arrays installed currently.

"Mitchell Auto has installed solar on our businesses both for the savings on electric costs and, as a local business, for environmental responsibility. We installed solar panels on Mitchell Volvo in Simsbury in 2016; we installed solar panels on our Mitchell Subaru shop in Canton last summer; and have just now installed solar panels on our Mitchell Volkswagen shop in Simsbury right now. Our solar array at Mitchell Volvo is a 116 kW system, providing about 20% amount of our electricity usage. We have been able to reduce our electricity bill by about 30% at the Volvo dealership"

We interviewed Nevin Christensen, owner of Flamig Farm:

"In 2006, we installed a 11.4 KW solar array on our chicken coop and a solar water heater. The State of Connecticut helped to pay for about half of the cost of the solar array. The system is still running-18 years later. The solar array saves me about $600 per month on my electric bill. I would recommend that other local businesses look at the economics. Solar makes sense. I would add a battery too if I were getting a system now and get off the grid."

Spotlight on Solar in Our Business Community

We interviewed Tim Ruark, owner of Simsmore Square, who installed 528 solar panels in 2014.

"Solar panels allowed me to rent the outside of my building. I was responsible for the buildout (buying and installing the panels), but then the array became my tenant, creating value. There were three revenue sources due to my tenant.

First, the US government allowed me to accelerate my investment for tax purposes. This meant the cost of my buildout was reduced by nearly 35%.

Second, the State of CT pays me to generate electricity. This is a 15 year program that calculates how much I generate each quarter, then I get a check. In a way, the state is my tenant and I get paid as long as my array is operating. The value of this at installation was nearly half the cost of my buildout.

Third, I can use the electricity I generate. My array creates its own energy from the sun, and I get to use this energy before I need to pay someone else for electricity.

Taken together, these revenue sources made the investment in solar panels worthwhile."

How to Make Solar Work For YOU!

Online Resources:

CT Greenbank Residential Solar Opportunities
https://www.ctgreenbank.com/home-solutions/solar/
Describes residential solar costs and incentives.

Ecowatch Solar Incentive Guide
https://www.ecowatch.com/solar/incentives/ct/simsbury
Describes local, state and federal tax incentives for residential and commercial solar.

Solar + Storage (residential) and Solar + Storage (commercial)
https://energystoragect.com/energy-storage-for-your-home/
Explains additional incentives for including a battery that energy companies can tap into in peak demand periods.

Shared Community Solar
https://portal.ct.gov/DEEP/Energy/Shared-Clean-Energy-Facilities/Shared-Clean-Energy-Facilities
Explains the State's parameters and application process for community solar.

CT Green Bank Clean Energy for Commercial Property
https://www.ctgreenbank.com/c-pace/
Describes the low-cost funding and repayment plans for businesses who install solar