



**100%**  
**RENEWABLE**  
**ENERGY**

**LET'S MAKE IT HAPPEN!**

APRIL 2019

# Sustainable Hanover – Energy Subcommittee

## 2<sup>nd</sup> Annual Ready for 100 Forum

### April 24, 2019

## Background

In May of 2017 Hanover residents showed up at Town Meeting in record numbers to make history. They voted overwhelmingly to transition to 100% renewable energy—for electricity by 2030 and for heating and transportation by 2050. In so doing, they became the first municipality in our country to choose a sustainable future by popular vote. Following the vote, Sustainable Hanover—a town committee established in 2009—created the Sustainable Hanover Energy Subcommittee to lead, support, and engage the community in efforts to achieve these goals.

## Guiding Principles

The Energy Subcommittee created the following tenets to guide its efforts:

- We envision Hanover as a resilient and healthy community powered by affordable and clean renewable energy.*
- The production and distribution of electricity, heating and cooling of buildings, and modes of transportation are efficient and pollution-free.*
- Thoughtful development leads to walkable neighborhoods, flexible and adaptable buildings and lifestyles less dependent upon the automobile.*
- Clean energy related business opportunities and living-wage jobs help our families and community thrive.*
- How we achieve this vision is as important as the vision itself. We value relationships and are committed to an accessible, inclusive, and equitable process for both getting to and maintaining our vision.*
- We welcome, in fact depend upon, ideas, leadership, and participation from entities throughout the town.*
- Hanover inspires and assists other communities to make similar transitions in order to stabilize the climate.*

## Strategy for Increasing Green Electricity

A primary goal of our first year was to understand the various options available to produce and access green electricity. In Year 2, with help from consultants, we have identified a portfolio of four options which together will cover all sectors of our community. The sectors are residents (R), small businesses and non-profits (B/NP), the Town (T), large organizations (LO), and Dartmouth College (DC). The portfolio will change over time as more effective opportunities emerge.

### **1. Private rooftop or ground-mounted solar (R,B/NP,T,LO,DC)**

In 2018 Hanover voters passed a solar zoning ordinance allowing more options for residents to install private solar systems. Through small neighborhood meetings and the “Ask Me” tables at the forum, the Subcommittee has developed “word of mouth” opportunities for residents who are interested in solar to speak with those who have installed. As of March 2019 Hanover’s total installed solar capacity is 1,587 kW, up from 894 kW last year. This represents 141 solar installations of which 125 are residential, 13 are on the Dartmouth campus, 2 are town owned, and one is the solar tracker at Richmond Middle School.

### **2. Community solar (R,B/NP)**

The Subcommittee has two teams working on options for community solar. Having received a Tuck team’s solar feasibility study on 4 town properties and a follow-up analysis on financing and ownership models, we support Article 16 on the 2019 Town Meeting warrant. This article permits the town to enter into a power purchase agreement for solar installation on town property when it is cost effective to do so. We also have a team that is studying ways to develop community solar on privately owned land. This team will be reaching out to Hanover residents who have interest in a role as host, subscriber and/or investor in a community solar project.

### **3. Retail renewable energy through a cooperative buying group (R,B/NP)**

A Subcommittee team is working with consultant 3Degrees to develop a user-friendly, affordable option for residents, small businesses and non-profits to buy certified green electricity.. Residents have asked for this option since the popular Green

Power Challenge was discontinued in 2017 because its electricity supplier changed ownership and policies. This is an important option for members of the community who cannot install their own solar system.

#### **4. Large Scale Purchase Power Agreements (T,LO,DC)**

The Town and Dartmouth College are working together develop a Power Purchase Agreement for a supply of green electricity for our community's largest electricity users. Our goal is to lock in competitive electricity rates for a multi-year period to support construction of renewable energy generation in the ISO New England region.

In reviewing green electricity options, the Subcommittee adhered to the following guidelines:

- Focus on the big picture*
- Consider economic, environmental and social co-benefits*
- Source renewables from green-e certified projects*
- Give priority to new rather than existing projects*
- Favor local (i.e., within Hanover or neighboring towns) and regional projects (within ISO-New England)*
- Expect the Town to lead by demonstrating its commitment to renewable energy with local and visible projects*
- Provide opportunities to educate and increase awareness*
- Increase resiliency within the community*
- Source national projects in high carbon locations when local and regional projects are not viable options*
- Consider replicability, demonstrating that renewables are for all communities*
- Share our knowledge within the community, New Hampshire, region, and nation*

### **Strategy to Increase Energy Efficiency**

Energy efficiency is key to achieving our 100% renewable energy goals. The complex topic of efficiency involves, but is not limited to, such things as standards and policy, design, building materials, retrofitting, weatherization, appliances, lighting, personal habits, heating/cooling options, and transportation/vehicle options. Our efforts this year has focused on efficient lighting opportunities for small businesses, non-profits and residents.

We are partnering with Liberty Utilities in a pilot project called the Simplified Lighting Incentive (SLI) program which began in February. SLI is designed for small businesses, non-profit and municipal accounts to improve their lighting efficiency to lower electricity bills, reduce maintenance and provide better quality lighting. SLI provides incentives, interest-free on-bill financing and a streamlined application process for program participants. Key to its successful launch is Liberty program consultant Andrew Hatch, who is provided a town office for his work here several days a week.

We are also encouraging residents to switch to LED bulbs as an easy "low hanging fruit" way to lower energy use and cost. In partnership with Howe Library, we are offering a LED light kit with an assortment of commonly used LED bulbs. Residents will be able to borrow the kit to learn about LED lighting and see how they can work in their home setting. Looking ahead, we are planning a Weatherize campaign with Vital Communities for residents to improve home comfort and lower heating and cooling costs.

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## Frequently Asked Questions

**What were the goals committed to in the vote?** Our mandate was passed at Hanover town meeting on May 9, 2017: "To see if the Town will vote to join the "Ready for 100 Action" campaign, thereby committing to a goal of 100% reliance on renewable sources of electricity by 2030 and renewable sources of fuel for heating and transportation by 2050. Joining the "Ready for 100 Action" campaign implies that the Town of Hanover will lead the community in initiatives designed to help local institutions, businesses and residents transition to 100% renewable sources of electricity and fuel oil. The Town has begun by investing in energy efficiency and renewable electricity generation for Town facilities and will follow by transitioning to vehicles and heating systems fueled by renewable sources."

**Who is required to meet the goals of 100% renewable electricity by 2030 and transportation and heating/cooling by 2050?** No one is *required* to meet these goals. However, the Energy Subcommittee is committed to work towards these goals with all entities within Hanover's geographic boundaries--our town governance, schools, businesses, organizations, residences, and Dartmouth College.

**What energy sources qualify as "renewable"?** We are using the U.S. Environmental Protection Agency's definition of renewable energy -- a set of energy resources that restore themselves over short periods of time and do not diminish (solar, wind, geothermal, low impact hydro, some forms of biomass)

(<https://epa.gov/greenpower/green-power-partnership-eligible-resources>).

**Does the renewable energy need to be generated locally here in Hanover?** No. We anticipate achieving these goals through a portfolio of renewable energy sources with generation here in Hanover being an important component. Generation of energy elsewhere, such as offshore wind on the New England seacoast and certified renewable energy credits, will be part of the mix.

**How does land use planning fit into these goals?** The Energy Subcommittee wishes to preserve our beautiful community and use resources, including our land, judiciously. We encourage others to do likewise as we work toward these goals together.

**Is resiliency -- that is the ability of our energy systems to bounce back from storms and other disruptions -- part of achieving our goal?** The Energy Subcommittee and Town are using resilience as one criteria for evaluating and selecting potential energy projects. We support other entities to do so as well.

**How much will this cost?** The Energy Subcommittee and Town are using fiscal prudence and affordability as criteria for evaluating and selecting potential energy projects. Cost estimates will be influenced by a large number of players, outside forces, and rapidly changing technology. Collectively, these forces have dramatically reduced the cost of clean energy over the last decade. Energy transformation is a prudent investment, not only to protect our environment and economy from climate disruption, but also for health reasons. According to The Solutions Project, a transition to clean energy in NH would yield an average annual savings of \$6,732 per person in energy, health, and climate costs. It would also create new clean energy jobs for our community and our economy (<http://thesolutionsproject.org/why-clean-energy/#/map/states/location/NH>).

**Is Hanover trying to be a model community?** Yes! But we are not alone. As of March 2019, over 110 municipalities throughout the country have adopted these goals. Hanover was the first town in New Hampshire to do so and the first in the country to do so by popular vote. Four other New Hampshire municipalities -- Plainfield, Cornish, Concord, and Keene -- have made similar commitments and even more are expressing interest. We are already benefiting from sharing our experiences with and learning from other municipalities both nationally and regionally. We are finding commonalities as well as differences in our respective journeys and are both inspiring and being inspired by others.

For more information, visit our website at [hanovernh.org/sustainable-hanover-committee](http://hanovernh.org/sustainable-hanover-committee).

To sign up for news through the Town Newsletter, go to [hanovernh.org/subscribe](http://hanovernh.org/subscribe).