

Energy Efficiency and Sustainable Design in Epping, New Hampshire

Contents

Introduction	1
Strategy	1
Progress	2
Applying Epping's Successes	3
Resources	3

Introduction

A small town of 6,169 residents, Epping is located in Rockingham County, in the seacoast area of New Hampshire. Thirty percent of the Town's population resides in the Town Center, an area that encompasses 2.7 square miles.



Epping Town Hall
Source: www.ci.epping.nh.us

Motivated by the [New Hampshire Carbon Coalition's](#) Climate Change resolution, Epping joined ICLEI—Local Governments for Sustainability USA (ICLEI) in 2007. The Town agreed to reduce their greenhouse gas emissions by 25 percent by the year 2025. In New Hampshire, buildings are a greater source of greenhouse gas emissions than the transportation sector due to the large stock of older buildings and high seasonal temperature fluctuations. The Town Planning Board examined its role and asked what effect they could have to aid this commitment. As a result, Epping decided to draft a new ordinance that would require all new buildings to implement energy efficiency, conservation and sustainable design principles in its construction, called Article 22– Energy Efficiency and Sustainable Design.

Strategy

The Epping Planning Board, led by Town Planner Clay Mitchell, conducted extensive research on existing green building ordinances to find out what other communities were doing and what was possible. They also consulted with Steve Winter (Steve Winter Associates), past chairman of the U.S. Green Building Council, in writing the new ordinance. Article 22 is designed similarly to LEED certification with points being awarded based on number and types of energy efficiencies and

encourages the use of on-site renewable energy. There is a graduated compliance system meaning that the square footage of the building dictates number of minimum points required and therefore, the larger the building, the more points are required. This was included to address the concerns of small business owners. Regardless of the size of the new building or development, each structure must meet requirements for energy production and/or sustainable design.



This case study is part of the Small Communities Toolkit produced by ICLEI-Local Governments for Sustainability and funded by the U.S. Environmental Protection Agency.

To reach out and involve community residents and business owners, Clay and the Epping Planning Board spent several months educating the community. Public meetings were held once a month for three months to explain the new ordinance. The first meeting focused on the importance of buildings, the second looked at distributed generation and the third described how the ordinance works. They used existing buildings as examples to point out that sustainable design and energy efficiency in buildings was already happening, possible, and that it saved money. The Board also met with anyone who was interested in learning more about the ordinance or who had questions about its impacts. A public relations

specialist was hired to help manage the media. As is often the case with controversial town issues, one negative viewpoint can taint the public opinion even if the issue is supported by many. The specialist created press releases and worked with the media to explain the issues, research and facts that were involved. As a result, the local paper covered the ordinance in a three part series. The Board also created a website to provide continual outreach and education to members of the community; it contained links to presentations, photographs of existing buildings who would be in compliance, and data on projected cost savings and greenhouse gas emissions reductions.

Progress

Challenges

As with many proposed ordinances and policies, Article 22 had its share of cynics. Some adversaries thought that this new building requirement would drive business out of town. As a response, the Planning Board indicated that if a new business owner is not willing to construct a building that is sustainable, we do not want them in our community. In addition, Epping had to deal with biased coverage in the local papers, consequently, a public relations specialist was brought in to help work with the media.

Successes and Achievements

Article 22 was placed on the Town Warrant in March 2007 and passed 700-606. The education and outreach campaign implemented by the Planning Board was instrumental in the success of the adoption of Article 22. Throughout the education campaign, the Planning Board anticipated what barriers and objections the public may have and addressed them with supporting data and examples, including illustrating that building sustainable results in lower operating costs. As a result of the new building ordinance, Epping has succeeded in attracting new businesses. For example, a business owner who manufactures

products out of recycled tile established a shop in Epping. TD BankNorth built a new branch in Epping that includes a 10 kWh solar array and other green building features and is now the “greenest” bank in New England; they are looking to implement these same practices at their other branch locations. Epping Town Hall is also leading by example and has completed a variety of



energy retrofits, including a 4 kWh combined heat and power system, the first one at a town hall in the United States! Epping also retrofitted the windows and insulation and installed a 1 kWh solar array.

Consequently, the electricity bill was reduced by 50 percent and the heating costs were also reduced 50 to 60 percent. The School Department also replaced their windows and has saved approximately 15 percent in energy savings, while the Library replaced their oil boiler with a modulating propane boiler, achieving significant energy savings. Epping is working to develop a green building and energy curriculum for high school students that will use the Town of Epping as a living laboratory.

Applying Epping's Successes

Epping's Planning Board began this process by looking at what they had the ability to do within the current laws and regulations of the Town. By seeing that the building sector was one of the largest contributors to greenhouse gas emissions, they decided to tackle the problem of inefficient building design in order to reduce the community's greenhouse gas emissions through the adoption of Article 22—Energy Efficiency and Sustainable Design.

Education and outreach were the key factors in the success of the adoption of the new building ordinance. By bringing on a public relations specialist, holding public meetings to explain the new ordinance, and creating a website, Epping was

able to address concerns and provide detailed information to the public.

Looking back, the Planning Board and Town Planner recommend involving more people in the drafting of the ordinance to include more viewpoints, which would have helped to address some of the concerns. They also suggest bringing in the schools and students during the process to utilize it as a teaching exercise and a real-world learning experience

To further help small communities, ICLEI has created a toolkit designed to provide the resources and tools needed to help small communities begin working on environmental agendas, climate action plans, and a sustainable future.

Resources

[The Epping Energy Story](#)

[Town of Epping, New Hampshire](#)

[ICLEI - Local Governments for Sustainability USA](#)

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