



# Renewable Communities

Massachusetts cities and towns leading the way to 100% renewable energy

## Amherst: Zero Energy Town Buildings Bylaw

A zero energy or net zero building is one that produces enough renewable energy to meet its annual energy consumption.<sup>1</sup> In November 2017, Amherst town meeting approved a bylaw requiring all new municipal building projects to meet net zero energy standards.<sup>2</sup> A revised bylaw, named the Zero Energy Town Buildings Bylaw, was passed with the support of climate change activists and town officials the following May.<sup>3</sup>

The Zero Energy Town Buildings Bylaw will require all municipal building projects with an expected cost of over \$2 million to be powered and heated entirely with renewable energy. Town officials will have some flexibility in determining how to achieve this standard.<sup>4</sup>

Amherst's most recent municipal building project, the town's police department, was completed in 1990. Town officials have identified at least \$160 million in necessary municipal construction projects. The top priorities include a new fire department and public works building, renovation and expansion of the library, and replacements for the Wildwood and Fort River elementary schools.<sup>5</sup> The Zero Energy Town Buildings Bylaw will likely cover these building projects.

As town leaders consider how to implement the net zero requirement for new municipal buildings, they can look to several examples of sustainable building design in the community. The Kern Center at Hampshire College and the Hitchcock Center for the Environment have been certified as living buildings, the highest sustainability standard for buildings in the world.<sup>6</sup> At UMass Amherst, the university's Old Chapel has undergone significant

renovations to reduce its energy consumption, while new science facilities are slated to meet LEED standards.<sup>7</sup> Closer to town hall, the South Congregational Church in Amherst has pursued sustainability since 2006, when it pledged to achieve net zero energy usage. The congregation raised funds to repair and insulate their church, from the basement to the steeple, and installed solar panels on the roof. Together, these measures reduced the church's electricity bill to just 8 cents in the first year after solar panels were installed.<sup>8</sup>

1. *A Common Definition for Zero Energy Buildings*, The National Institute of Building Studies, September 2015, <<https://www.energy.gov/eere/buildings/downloads/common-definition-zero-energy-buildings>>.

2. "Editorial: Welcome decisions on energy, housing, pool in Amherst," *Daily Hampshire Gazette*, 16 November 2017, <<https://www.gazettenet.com/Editorial-Welcome-news-in-Amherst-as-Town-Meeting-adopts-zero-energy-bylaw-Presidential-Apartments-reaches-agreement-on-affordable-housing-and-public-swimming-returns-to-middle-school-pool-13748521>>.

3. "Amherst TM replaces zero-energy bylaw with new version," Scott Merzbach, *Daily Hampshire Gazette*, 15 May 2018, <<https://www.gazettenet.com/Zero-energy-bylaw-amended-in-Amherst-17527587>>.

4. *Ibid.*

5. "Amherst on cusp of major building boom," Scott Merzbach, *Daily Hampshire Gazette*, 12 February 2019, <<https://www.gazettenet.com/Capital-projects-taken-up-by-Town-Council-in-Amherst-23414410>>.

6. "Hampshire College Earns Living Building Certification for R.W. Kern Center," *Hampshire College*, 10 April 2018, <<https://www.hampshire.edu/news/2018/04/10/hampshire-college-earns-living-building-certification-for-rw-kern-center>>. "Our Living Building," Hitchcock Center, <<https://www.hitchcockcenter.org/our-living-building-project/>>.

7. "Green Buildings," University of Massachusetts Amherst, <<https://www.umass.edu/sustainability/buildings-infrastructure/green-buildings>>.

8. "Caroline Meyers on Greening Amherst South Congregational Church," Helen Song, *Williams College Center for Environmental Studies*, <<https://ces.williams.edu/log/caroline-meyers-on-greening-amherst-south-congregational-church/>>.