

FAQs (frequently asked questions) related to BERDO (6-27-2022)

Q. The State just released its proposed “net-zero” stretch code. In light of that, why do we need BERDO?

A. BERDO applies to existing buildings, while the Stretch Code applies to new construction and renovations. Also, it remains to be seen what final version of the proposed new stretch code will emerge. The Department of Energy Resources has received extensive comments indicating that its proposed “net-zero” stretch code is not genuinely net-zero and needs to go much further in the direction of net-zero.

Q. Are other nearby municipalities adopting BERDO?

A. Boston has an emissions standard in its ordinance and Cambridge is working on one. Watertown is in the early stages of considering its own BERDO. We are not aware of any similar activities in other municipalities.

Q. What about owners of multiple buildings in Newton? Can going above compliance with one building be credited toward another building?

A. Boston’s BERDO allows the owner of multiple buildings to group them as a “portfolio.” As with other aspects of Newton’s BERDO, Newton is soliciting input on this issue.

Q. My understanding is that complying with BERDO will involve getting off fossil fuels and moving to electrification. Is that the case?

A. Electrification is essential, but not as a first step. It always makes sense to take all available efficiency measures first, especially to ensure that a building is thoroughly air-sealed and insulated. Doing so will save money, increase comfort, and ensure that eventually installed electric appliances will not be oversized.

Q. Why is electrification essential for addressing climate change?

A. Electricity can be made cleaner by eliminating fossil fuels for generation and by using renewable resources such as wind and solar power. In contrast, heating and cooking fuels, such as gas, oil, and propane, cannot be made cleaner, so the only way to discontinue using fossil fuels in buildings is to electrify them and then use clean electricity. The same logic applies to using electricity instead of gasoline and diesel fuels in the transportation sector.

Q. Isn't most electricity in New England produced by fossil fuels?

A. Slightly more than half of New England's electricity is generated by fossil fuels, and the rest comes from non-fossil energy sources, such as nuclear, hydro, wind, and solar. However, even with this current mix of electricity sources, using an electrically powered air-source heat pump to provide heating (and cooling) results in less than half the greenhouse gas emissions compared with an efficient boiler powered by natural gas.

That holds even without considering the leaking gas distribution system, which releases methane into the atmosphere, a potent heat-trapping greenhouse gas. Using gas in our buildings involves distributing that gas through the leaking system.

In 2050, electric heating is projected to reduce greenhouse gas emissions by 98 percent compared with gas heating because of the efficiency of electric appliances and the expected increased content of renewable electricity in the grid.

Q. Is it true that heat pumps don't work in cold climates?

A. No. New cold-weather heat pumps do fine in even the northern New England climate.

Q. How will the electric grid deal with the increased load if more heating, cooling, hot water, etc., are electrified?

A. For our purposes, the "electric grid" consists of two systems. The first is the ISO-New England operated wholesale electricity market and its associated transmission system, which the Federal Energy Regulatory Commission (FERC)

regulates. The second is the local distribution system, owned and operated by Eversource and regulated by the Massachusetts Department of Public Utilities (DPU). For the foreseeable future, New England has sufficient generation and transmission capacity to meet whatever demands BERDO may create, and similarly so for the distribution system. However, there may be isolated situations in which the distribution system requires reinforcement to handle significant increases in electricity demand that results from switching from fossil fuels to electricity.

The New England wholesale electricity market has always maintained enough of a margin in its electric generation and transmission capacity that it can meet growth in peak electricity demand, which has historically occurred during the summer. Additionally, new electric heating and cooling equipment are much more (3 to 4 times more) efficient than the fossil fuel appliances we rely on now.

Moreover, Eversource points out that the peak demand on the grid has in fact decreased due to energy efficiency, which has created additional capacity in the system. Also, heat pumps are not likely to increase the summer peak because they will replace inefficient air conditioning with more efficient equipment.

The increase in electricity use will occur in winter because we will be heating with electricity instead of fossil fuels. Heating with electricity will ease the current competition for natural gas in the winter, which results from New England's natural gas heating load.

Similarly, the current distribution system is more than adequate to handle almost all increases in electricity demands resulting from BERDO. Just as the wholesale electricity market has always planned to ensure sufficient capacity to meet peak summer demands, Eversource has likewise designed the distribution system to meet peak summer demands. Of course, there may be a few isolated situations in which a building owner's switching to electricity from fossil fuels requires reinforcement of the distribution system. However, those are easily anticipated, and Eversource can modify the distribution system to accommodate the changes in the building's electricity requirements.

Q. Are we more vulnerable to power outages by relying more on electricity?

A. Even now, when the electric grid goes down in a storm, in most cases, gas-fired boilers don't operate, and even water supply is limited. That said, facilities like hospitals should have—and are required by federal law to have—backup and stand-by power to address emergencies. Back up and emergency power requirements will be addressed in a BERDO.