



Ruthanne Fuller
Mayor

PUBLIC BUILDINGS DEPARTMENT

Joshua R. Morse, Commissioner
Telephone (617) 796-1600
FAX (617) 796-1601
TTY: (617) 796-1089
52 ELLIOT STREET
NEWTON HIGHLANDS, MA 02461-1605

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The Massachusetts Specialized Opt-In Energy Code, MSOEC, is essentially a pathway towards meeting our climate goals through converting, or at least enabling the future conversion of, buildings to all-electric heating. The building energy efficiency requirements of the MSOEC mirror the requirements of the latest energy stretch code, so the impacts are minimal. The MSOEC requires that for major renovations or new construction projects that you either convert to a fully electric building, with exceptions for back-up generators and onsite vehicle refueling systems or ensure that you size and install an electrical system that will support the future conversion to a fully electric building.

All major school and municipal building projects have fully complied with the MSOEC since 2018. We have been designing and constructing fully electric facilities with high efficiency heat pump technology for many years now. The Newton Early Childhood Program, NECP, and Oak Hill addition projects are fully electric. We converted the Auburndale Community Library to be full electric. The Lincoln-Eliot, Newton Center for Active Living, NewCAL, Countryside, Franklin, and Horace Mann addition projects are all being designed to be fully electric.

The cost to design and construct our projects to be fully-electric is now less than what it would cost to design and construct a new natural-gas-fired condensing hot water distribution system with rooftop dx-cooled air handling units. When this is coupled with using the principles of passive house design to create a tight and efficient building envelope, the utility costs are less for a fully electric building than one that uses natural gas. The maintenance, repair, and future replacement costs are no more expensive in a fully electric building.

The industry is changing. Costs for the fully electric equipment are coming down as they become increasingly mainstream all over the world. The fossil-fuel industry is also changing. Geopolitical pressures, wars, declining inventories, government regulations to protect the planet, and so many other factors are creating tremendous uncertainty in the fossil-fuel markets. Projecting inflation decades out for a finite resource is nearly impossible. The conversion to fully electric buildings is an essential step for our planet, and for the future of our bank accounts. Fossil-fuel heating equipment will begin to be phased out as the demand drops. Repair parts for fossil-fuel equipment will become harder to find. As demand drops the fossil-fuel industry will start to fracture. The refinement and distribution systems for the various fossil fuels will break down. All of these will result in rapid spikes in fossil fuel prices. Meanwhile, electric generation will continue to become more renewable. The increasing electric demand has, and will continue to, result in investments in expanded electrical generation and distribution infrastructure. This will result in electricity becoming a more stable, financially predictable, energy source.

The MSOEC basically says either convert your building to fully electric now as part of your major construction project, or at a minimum make sure you lay the groundwork to ensure you can convert down the road. This is a case where the code is really looking out for the best interests of everyone.

Lastly, every building code, stretch code, or energy code revision that has come out has been well behind where my department is. The only reason we even reference the current code from an energy and efficiency perspective is so that we can show how much better we are doing than what the code requires. Energy and efficiency codes should be achievable bars. However, the bar is something you should reach up for, not simply step over.

Regards,

Josh Morse