

To: Michelle Turner, Efficiency Maine Trust (mtturner@efficiencymaine.com)
From: David von Seggern
Date: December 11, 2023
Subject: Response to RFI (issued 9/12/2023) to inform EMT's Triennial Plan VI

Cover Letter:

I am David von Seggern, homeowner in Westbrook, Maine since July 2023 and previously an apartment renter in Portland, Maine for two years. I am a retired earth scientist, Ph. D., emeritus at the Nevada Seismological Laboratory of the University of Nevada, Reno. My career was wholly in the field of seismology, consisting of three parts: 1) detection and characterization of underground nuclear explosions, 2) research in exploration for oil and gas deposits, and 3) seismic network manager for the Yucca Mountain seismic network. Since retiring I have conducted many independent studies of energy and have prepared presentations on this topic to members of the Osher Lifelong Learning Institute in Nevada and Maine and to the public at large. My work on energy here in Maine has been almost totally on behalf of the Maine Chapter of the Sierra Club, but I am submitting comments here on behalf of myself only.

Comments in Response to the RFI

General Comment on Natural Gas

Triennial Plan V (hereafter called *PlanV*; similarly *PlanVI*) contains 67 instances of “natural gas”. EMT receives funds from both electricity and natural gas ratepayers and so has some fiduciary responsibility for natural-gas ratepayers. Further, the statute (Efficiency Maine Trust Act) directs EMT to lower costs for natural-gas ratepayers.

Within the three years since the last Triennial Plan update, [considerable evidence](#) has arisen showing that fossil fuels, especially natural gas, have significant emission leaks all the way from the wellheads to the final combustion uses. The fugitive leaks of natural gas are especially significant due to the multiplier effect ([=56 for 20-year effect, IPCC6](#)) on atmospheric warming from methane molecules versus carbon-dioxide molecules. Methane may account for as much as [30% of global warming](#) according to the International Energy Agency. This has led to the [introduction of satellites](#) whose sole purpose is to detect methane emissions around the globe.

Therefore EMT must take a hard look at its natural-gas incentives. Incentivizing any further natural-gas infrastructure only delays the inevitable changeover to electrical heating and cooking appliances and is likely to be a long-term disservice to owners of gas heating and cooking appliances.

Moreover, natural gas combustion results in direct CO₂ emissions on top of leaks in the infrastructure. These emissions may be reduced per unit of usable energy relative to other fossil-fuel-fired heating devices, but they are still significant causes of global warming. Even the Sierra Club once considered natural gas to be a “transition fuel” because it was cleaner than other

fossil-fuels — they have since recanted on that. Combustion of natural gas can no longer be justified.

I therefore urge EMT to curtail their natural-gas incentives in *PlanVI* to the extent possible under existing statutes. If those statutes do not provide sufficient flexibility to effectively reduce these incentives, then EMT should be formulating legislation that will permit EMT to do that.

1. Program Recommendations

A. Weatherization

I urge that EMT, within its statutory limits, offer weatherization rebates to eligible ratepayers regardless of space-heating equipment but not offer rebates for upgrading fossil-fuel-fired equipment. Upgrade rebates should be limited to electrification conversions (e.g., swapping out a propane burner for a heat pump or swapping out a gas water heater for an electric heat-pump heater). Although *PlanV* reported (p. 6) that there was a drop in carbon emissions across Maine due to swapping out oil-heating equipment with gas-heating equipment, that would now be considered an unwise step on the way to electrified heating systems which will achieve an even greater drop in carbon emissions.

EMT *Residential Incentives* do not include any rebate for energy audits, window replacements, or exterior door replacements. These should be part of an expanded weatherization program. The federal tax credits are good, but most low-income homeowners do not have the ability to use the tax credit. *PlanVI* should include state incentives for these categories.

Renters who pay a power or gas bill which includes costs for heating are likely to have the least chance of benefitting from the EMT weatherization programs. There is no incentive for the owner of the rental home or apartment to weatherize or upgrade fossil-fuel heating systems to heat-pump systems if the renters are paying utility bills. These renters are not getting any benefit back for what they, at the same rates as homeowners, are paying into the EMT funds. *PlanVI* must provide some progress on this issue. An education program could pave the way, where both landlords and renters are informed of the benefits of weatherization. Then landlords could raise rents while renters received lower heating bills as the offset. This approach would also work for when landlords are paying heating costs, as with heating-oil deliveries.

B. Upgrades

EMT has sufficient cover to avoid incentives for intermediary steps to full electrification, specifically upgrades from one fossil-fuel device to another fossil-fuel device. Such upgrades are not a long-term solution to climate exigencies and leave owners or renters to face future electrification costs. Following this reasoning, it seems clear that in *PlanVI*:

- The role of EMT with fossil-fuel heating equipment simply needs to be limited to weatherization or to upgrades to heat pumps.
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- The role of EMT with fossil-fuel water heating equipment simply needs to be limited to upgrades to heat-pump water heaters.
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- The role of EMT with natural-gas cooking appliances simply needs to be limited to upgrades to electrical cooking appliances.

C. Heat Pump Analysis

Improvements are being made continually in the efficiency of heat pumps. Therefore in *PlanVI* EMT must revisit the analysis that informed the testimony captured in *Appendix I: Heat Pump Analysis and Considerations for PlanV*. Another facet of that analysis is fossil-fuel prices, and their variability is one more reason to revisit the analysis. The same reasoning applies to *Appendix J: Heat Pump Water Heater Analysis and Considerations for PlanV*.

2. Innovation

No comment.

3. Public Information and Outreach

No comment.

4. Evaluation, Measurement, and Verification

No comment.

5. Workforce

No comment.

6. Equity

No comment.

7. Demand Management

I myself have heat pumps. The [CMP webpage](#) for deciding if one wants a seasonal heat-pump rate is typical in that it is too confusing and complicated for the average person to deal with. It would require me to research my whole prior year's electricity bills. And realize that this accounting can't be done until the heat pumps have operated a full year

— otherwise biased figures would be entered. There is, I believe, a similar webpage for EV charging.

I ask why there is even a need to give heat-pump ratepayers a special rate? They have already achieved savings by switching to heat pumps.

I urge EMT in *PlanVI* to help simplify the demand management for ratepayers. Actually, a good case can be made for CMP to just charge variable time-dependent rates for electricity and let the ratepayers adjust to optimize their savings if they want to. Let's do away with complicated sign-ups for special programs and just give everyone the opportunity to adjust their electricity demand toward favorable rates. The variable rates should be set by the demand versus supply curves that we often see in utility reports. By better aligning these curves, the power system can avoid having to build infrastructure to accommodate high peak demands. This alone will help keep T&D costs down, as well as realize many other benefits such as less land use for power generation and less land use for additional power-line corridors.

8. Electric Vehicle Initiatives

EMT *Residential Incentives* do not include any rebate for EV chargers. The federal tax credit is good, but most low-income homeowners do not have the ability to use the tax credit. *PlanVI* should change this.

In *PlanVI* EMT should institute a pilot program to work with landlords of large multifamily apartments on installing EV chargers. As they often do now for extra amenities such as covered parking, landlords could pass the costs of installing and operating EV chargers onto renters as extra monthly rental fees. It is almost certain that overall costs to the rental resident would be less than the costs they would incur by charging at commercial EV chargers.

9. Efficiency Maine Green Bank

No comment.

10. Beneficial Electrification

Electrification of home energy devices and of transportation vehicles has many benefits beyond the reduced energy cost. In *PlanVI* EMT needs to call attention to these other benefits in its public outreach because they complement the simple savings on utility bills and simple savings achieved through rebates.