Newton Citizens Commission on Energy
City of Newton, Massachusetts

http://www.newtonma.gov/government/climate-and-sustainability/citizens-commission-on-energy

April 12, 2023

The Honorable Ruthanne S. Fuller
Mayor of The City of Newton Massachusetts
1000 Commonwealth Avenue
Newton, MA 02459

Dear Mayor Fuller:

Since 2019, Newton has made substantial progress in responding to climate change, the most significant being Newton Power Choice, BERDO, Specialized Stretch Code, and Ten Communities Pilot. Newton's residential sector is now the priority. Yet, currently, our rate of heat pump installations is **only 12%** of our Climate Action Plan (CAP) commitments. The 5-point plan, described below, provides a far faster roadmap to a zero emissions residential sector. In addition, it can better enable the City to communicate progress on the CAP to its residents, helping answer the age-old question *"Where do my tax dollars go?"*.

We seek your support and leadership in implementing the plan that follows.

NCCE RECOMMENDATIONS FOR THE RESIDENTIAL SECTOR

1. Enhance the Energy Coach's effectiveness through data-based targeted marketing

Examples of data-based targeting using data from the Tax Assessor's database include outreach to residents 1) who purchased their homes within the last three years (and who are most likely to make capital investments), 2) who have homes with central air conditioning (that are relatively easy to convert to all-house heat pumps), 3) who use fuel oil (which is most likely to be slated for replacement); and 4) who live on streets without gas infrastructure (and, thus, candidates for local community action).

Reliable data, especially the home attributes in these examples, are necessary for implementation, but are not available. A vendor that Newton currently has under contract, Synapse, could extend work being performed on the BERDO implementation to assist in improving the data management system and use of the Assessor's database. Rationalizing the City's Permit data to its Property Record Cards would be an outcome with enduring value (see Recommendation #4).

2. Adopt modern communication techniques that are the norm for today's consumers

At about 600,000 visitors annually, the library walkthrough traffic is a **much larger and broader potential audience** than the one typically engaged in climate issues. This opportunity should be leveraged by adopting the modern communications techniques that are the norm for today's consumers by installing high-impact interactive digital displays on the northern wall of the gallery hallway.

This display is very different from those currently inside City Hall, which display relatively static content, are easily overlooked, challenging to read, and shown to a small audience. A large-format, touch-screen

interactive display will allow residents to take immediate action (e.g., scheduling a Home Energy Assessment or a session with Energy Coach), thus positioning the City as a facilitator, not just a communicator. This partially fulfills your Interactive Newton Network (INN) Initiative. The recommendation includes designating an existing City employee as a "digital communications coordinator", accountable for the digital display content management process, and adding a content management system, to facilitate storing, formatting, and scheduling displays. The Energy Commission can pursue private resources for the hardware and software to minimize this recommendation's financial impact on the City.

3. Benchmark building energy performance for all privately-owned residential properties using the Energy Use Intensity (EUI) metric

In 2009, Mayor Cohen endorsed the idea of using EUI to benchmark residential energy performance. Newton's initiative had to be suspended because the utilities were unwilling to provide the billing data needed, and asking residents to provide bill data was neither feasible nor reasonable. Subsequently, Boston's BERDO, Cambridge's BEUDO, and Newton's under-development BERDO required reporting and public posting of EUI for commercial buildings, for which reporting costs are more easily imposed.

The Energy Commission **has now found a solution** to this problem in the form of a single-use, EUI calculator that can help homeowners report from the privacy of their homes. The EUI can be calculated at almost no cost to a property owner, government, or third party. This solution provides a *comprehensive* view (i.e., fossil fuels plus electricity) of energy use in one place.

We recommend that Newton require reporting of an EUI value for existing residential homes. We ask you to call on the City Council to pass legislation requiring EUI reporting from all owners. We ask you to publish the EUIs on the online version of the Tax Assessor's database. A known vendor could be brought under contract to provide the administration and publishing of EUI City-wide for non-BERDO private buildings.

The benefits of EUI adoption include:

a. Provides a comprehensive energy use status of properties, revealing opportunities for weatherization and equipment upgrades;

b. Helps Newton Energy Coaches target homes most in need of professional advice;

c. A reliable source of vital information for the buyers and sellers of houses (CAP action E.3.2);

d. Newton can track overall energy use progress (anonymously), forward-compatible with the City's promotion of heat pumps, which will make electric a more common heat source.

4. Clean the City's data on sustainability and streamline reporting systems to enable the creation of regularly-published sustainability dashboards

As noted in recommendations #1, #2, and #3, data fields such as *type of heating fuel*, *central air-conditioning*, *HERS ratings*, and *EUI* are necessary to designing targeted campaigns, identifying priorities, engaging residents with energy use of their homes, and tracking progress. These capabilities require a system that enables automated cross-system data transfer, uses consistent format and numerical metrics, and avoids manual data entry (which is inefficient, error-prone and inconsistent). **Our current data and systems cannot be relied on for this**. For example, a 2019 sampling of Newton homeowners showed that

2/3 of the oil-fired furnaces reported in the Assessor's database had in fact been replaced by gas. Other data, such as raw permit histories, are better maintained, but owing to their format are only retrievable by manual and thus expensive search methods.

The City should streamline its data collection and management related to sustainability efforts, especially energy consumption, and the City's progress implementing the 4 Our Future Program. Our vision is that progress would be a regularly updated and highly visible sustainability dashboard. This effort can also improve the efficiency of City operations. As already highlighted, existing contract relationships, e.g., with Synapse and with AppGeo, could be scope-expanded/extended for this purpose.

5. Create an Electric HVAC Inspector role

As the number of heat pump installations as increased in Newton, so has and will the number of citizen complaints. At least some of these problems could have been avoided with better homework before the contract's signing, and better verification of delivered quality after project completion.

We recommend that the City create an Electric HVAC Inspector role to assist Newton's residents' efforts to electrify their homes. This role would **review all permit applications** for electric heating systems, **inspect contractor workmanship** on-premises, and **issue certificates of compliance** for completed projects. This could be accomplished by retraining one of the current inspectors or serving as the basis for a hire in the near future. In addition, such a capability-enhancing effort could provide career-and-grade professional development opportunities for City personnel.

Should the functions of Electric HVAC Inspector be outside the purview of the Inspectional Services Department, it may make more sense to locate it in a different executive administrative unit.

IMPLEMENTING THIS PLAN

The NCCE recognizes the constraints in the City budget. Many of these recommendations require only redeployment or re-focusing existing resources. Some others can be funded through capital expenditures rather than operating monies. Also, the NCCE remains committed to providing hands-on assistance where appropriate and seeking outside financial and/or in-kind support for aspects of this plan.

We also recognize how well received your mayoral email updates are. We encourage you to use the updates to make measures of progress (e.g., solar and EV charging installations, number of weatherizations and heat pump installations in homes, Josh Morse's efforts to upgrade school and municipal buildings, insights from quarterly data trends, interesting case studies) widely known. Regular reminders about events that connect people (e.g., upcoming green events, testimonials about Energy Coaches) will also be very helpful.

We hope that the April 20th meeting concludes with a clear blueprint and a sharp shared vision for the next steps in upgrading the existing efforts on the residential sector. With these, the NCCE, the City Council and the grassroots community will be able to move forward, confident in your strong leadership and support for these recommendations.

Respectfully submitted,

Natalia S. Brown