



Medfield Energy
Committee
Proposed Warrant Articles

Proposed Warrant Article #1 Community Choice Aggregation (“CCA”)

To see if the town will authorize the Board of Selectmen to initiate the process of seeking to aggregate electrical load through a Community Choice Aggregation Program (CCA) and contract for Medfield residents as authorized by M.G.L. 164, Section 134, and through CCA, decrease greenhouse emissions for the town’s residents by pursuing a percentage of Class I designated renewable energy that is greater than that required by the Massachusetts Renewable Portfolio Standard (RPS) or do or act anything in relation thereto.

Proposed Warrant Article #2

Medfield Net Zero Goal

To see if the town will adopt the following resolution:

Greenhouse gas content of our atmosphere has increased alarmingly as a result of human activities with negative impact on our climate as evidenced by rising temperatures, rising sea level and ocean acidity, increased flooding with more intense and frequent storms, droughts, forest fires, other unpredictable weather patterns and increased health risks.

Therefore, the Town of Medfield supports a goal of eliminating or offsetting all greenhouse gas emissions originating in the Town by the year 2050 or earlier (known hereafter as the Net Zero 2050 goal); and encourages the Board of Selectmen, all Town Boards and Committees, and residents and businesses to take action in the furtherance of Medfield's Climate Goal by developing a Net Zero Action Plan by March 2022 that outlines specific strategies and sets measurable, attainable and realistic interim targets aligned with State and Federal goals, roadmaps and incentives; or do or act anything in relation thereto.

Medfield Net Zero Goal

This Warrant Article will...

Affirm the State Net Zero 2050 goal for Medfield and charge the Town to create a living, evolving plan to be a roadmap for how the Town and its residents and businesses, all stakeholders, can responsibly, affordably, equitably reduce greenhouse gas emissions that contribute to climate change, leading to net zero emissions by 2050 or sooner.

Why?

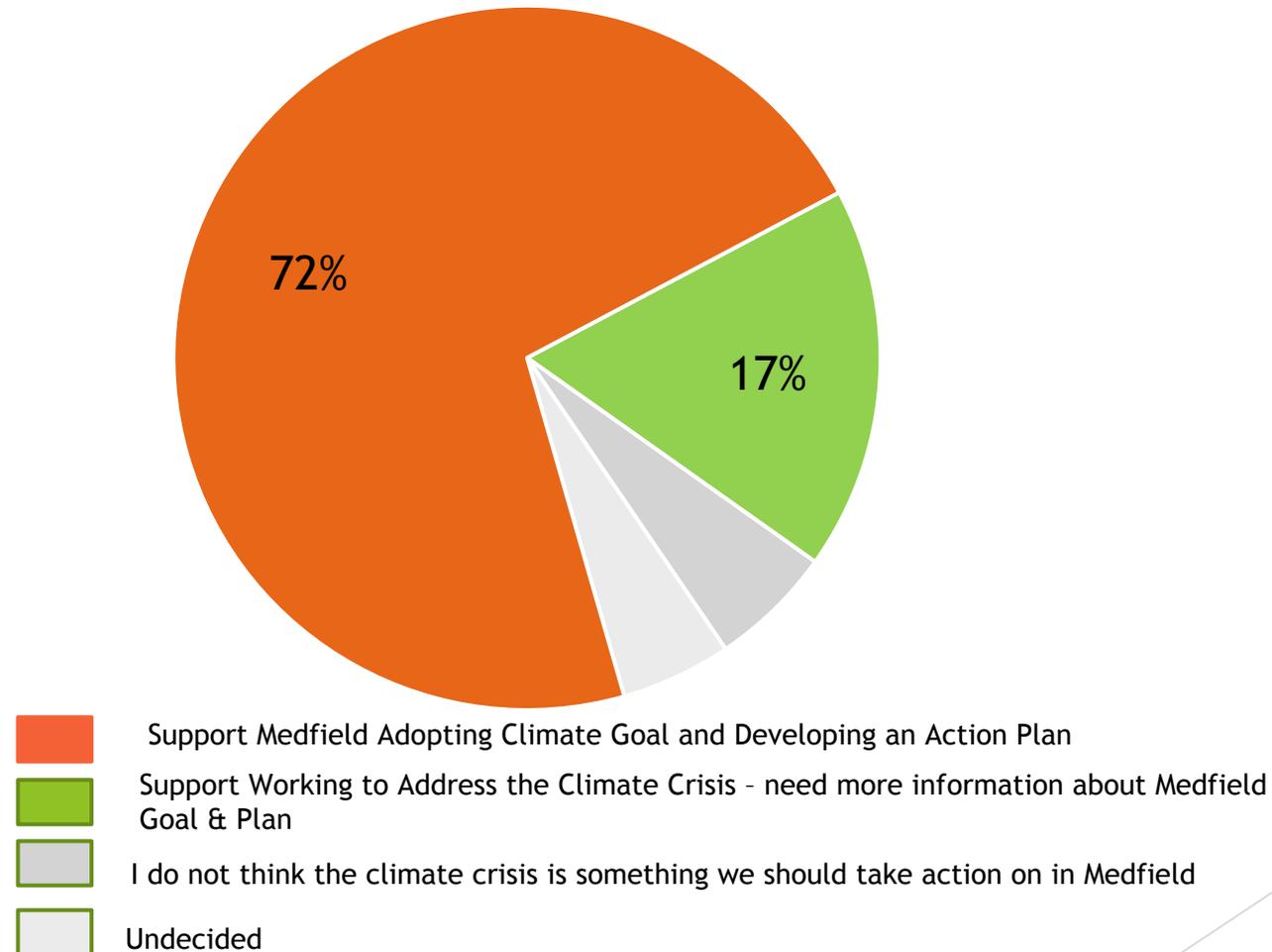
- We need to do our part to stop climate change!
97% of actively publishing climate scientists agree that climate change is happening and that it is due to greenhouse gas emissions.
- Our Medfield plan must address our local sources of greenhouse gas emissions

We are not alone and we are not trailblazers

Acton, Arlington, Bedford, Boston, Brookline, Cambridge, Concord, Framingham, Lexington, Melrose, Medford, Natick, Newton, Wayland and Wellesley

Medfield Net Zero Goal

MEA (Medfield Environmental Action) Fall 2020 Survey
with 504 responses



Medfield Net Zero Goal

What are “greenhouse gas emissions”?

Carbon Dioxide and other gaseous carbon and nitrogen **compounds** such as methane, hydrofluorcarbons and nitrous oxide produced by carbon combustion (coal, gas, oil) and other human induced activities. **Concentrations of these compounds are increasing in our atmosphere** and have **higher solar heat absorption factors** than our atmosphere had prior to the industrial age.

What is “Net Zero” (also referred to as Carbon Neutral)

Achieving a state where the amount of carbon dioxide and other greenhouse gas emissions into the atmosphere are reduced (e.g. improved efficiency of engines that consume carbon based fuels with ultimate replacement by electric alternatives, generation of electrical energy from solar, wind and hydro sources, use of ground and air source heat pumps for heating/cooling, improved building insulation) **and/or offset by carbon capture** and sequestration (ex. afforestation) **resulting in a net zero contribution to climate change.**

Medfield Net Zero Goal

What is a Net Zero (Action) Plan?

“A Net Zero Plan is a long term roadmap of steps a city or town will take to reach Net Zero. It gives a timeline with short and long term goals, and priority actions. The plan should be created based on visioning and input from the community and all stakeholders. Most communities aim to be Net Zero by 2050, aligned with State goals.

A Net Zero Plan for a community generally addresses emissions from four categories:

- Electricity
- Buildings
- Transportation
- Waste

What actions should you consider including in a Net Zero plan?

First, figure out how you can reduce emissions based on your Greenhouse Gas Inventory. Then, you can see where your communities climate change-causing pollution comes from, and make choices about where and how to prioritize your cuts within those four major sectors”

(source, Massachusetts Climate Action Network)

Medfield Net Zero Goal

What is a Greenhouse Gas Inventory?

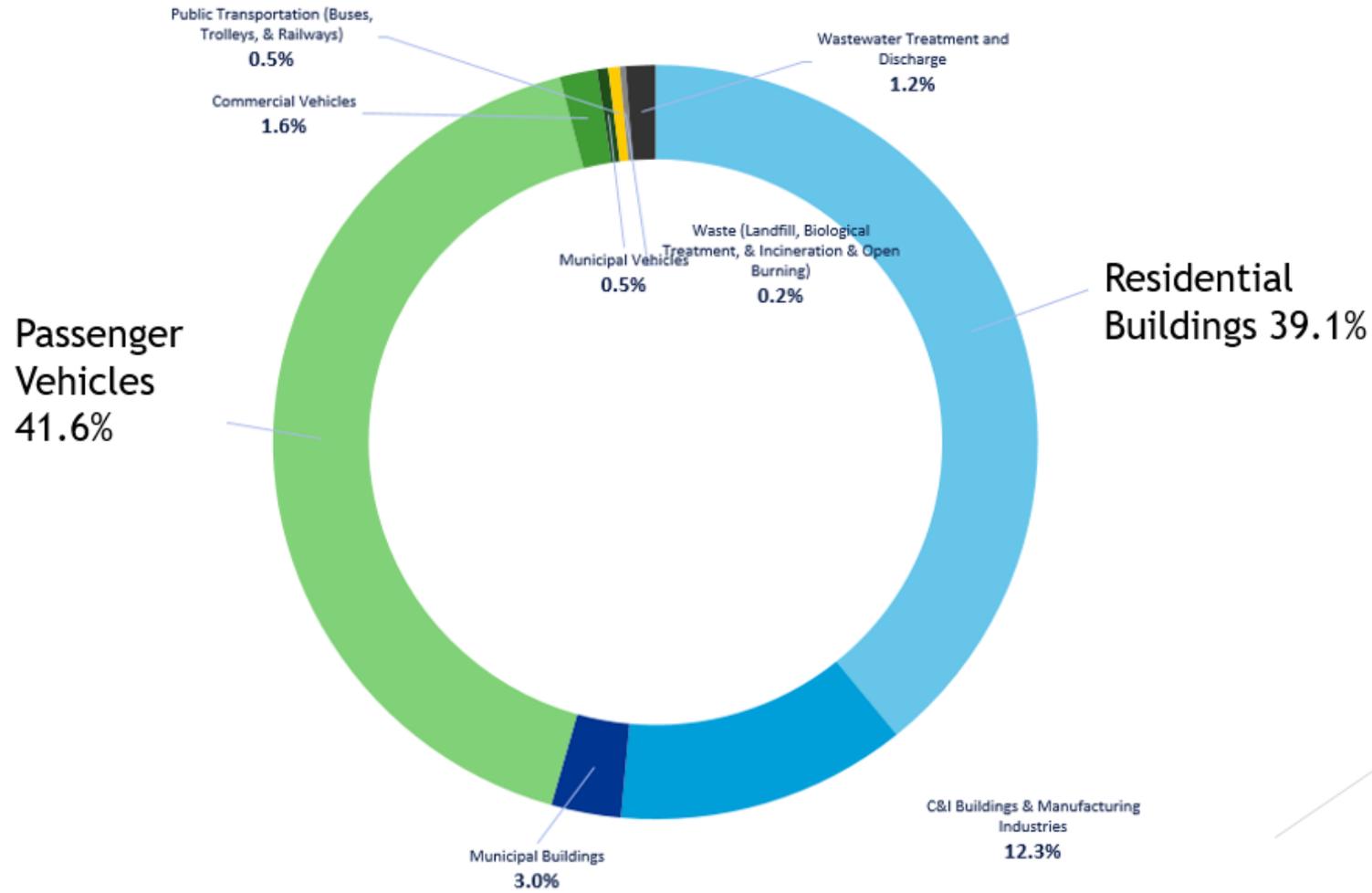
Sources of greenhouse gas emissions such as personal transportation (cars, suvs), home heating fuel oil, home heating gas, home electrical consumption (greenhouse gas power sources), municipal and commercial HVAC, **with estimated quantity of emissions and percentage of total emissions within a municipality.** Reference EPA's and MAPC (Metropolitan Area Planning Council) carbon footprint calculators:

https://search.epa.gov/epasearch/?querytext=Calculate+Carbon+Footprint&areaname=&areacontacts=&areasearchurl=&typeofsearch=epa&result_template=2col.ftl#/

<https://mapc.org/resource-library/community-ghg-inventory-resources/>

Medfield Emissions Inventory

Percent of Total Community-Wide Emissions by Subsector



Medfield Net Zero Goal

What support would we have to help create a plan?

Resources

- **other communities** who are or who have created such plans already.
- **participation in MassEnergize**, a group of local communities who share information on who/what/how greenhouse gas reductions can/are being achieved (<https://www.massenergize.org/>).
- **Massachusetts Climate Action Network (“MCAN”)**, a non-profit agency that is assisting local communities in their efforts
<https://www.massclimateaction.org/>
- **Massachusetts Clean Energy Center, (“MassCEC”)**, a state agency dedicated to the expanded use and success of clean energy technologies in the State along with the companies that represent them
<https://www.masscec.com/>
- **Heat Smart Alliance**, a volunteer group that promotes adoption of low-emissions heating, cooling and related technologies
<https://heatsmartalliance.org/>

Medfield Net Zero Goal

Resources (Continued)

➤ From the State

Massachusetts 2050 Decarbonization Roadmap

<https://www.mass.gov/info-details/ma-decarbonization-roadmap>

Massachusetts 2030 Clean Energy and Climate Plan

<https://www.mass.gov/info-details/massachusetts-clean-energy-and-climate-plan-for-2030>

Massachusetts Climate Bill S.9

<https://malegislature.gov/Bills/192/S9>

Massachusetts State incentives/rebates

<https://www.mass.gov/guides/massachusetts-energy-rebates-incentives>

➤ From the Town

Medfield Energy Committee (MEC)

A Town Committee of volunteers, **many with technical expertise**, in existence since 2008 that has and continues to address town energy issues

Medfield Net Zero Goal

Public Outreach, a strategic Plan component

Medfield Environmental Action (MEA) Committee Forums and the like speaking to the

- State of technology
- Opportunities: electric vehicles, solar panels, heat pumps, insulation
- Incentive offerings for the above
- Plan status, updates, success to date

Representative MEA Forums recorded last summer

- Medfield Decarbonizers
<https://www.youtube.com/watch?v=dg0N200Krw0&feature=youtu>
- Zero Carbon Home
<https://www.youtube.com/watch?v=KM08c8aSq8Q&feature=youtu>

Medfield Net Zero Goal

Why does Medfield need a goal, isn't the State already doing this?

The State, as noted, is developing roadmaps to promote Net Zero recognizing a greenhouse gas **inventory well beyond that generated by Medfield's** passenger/municipal vehicles, residential homes and small business/municipal buildings which collectively generate over 95% of our emissions.

A plan for Medfield's greenhouse gas elimination needs to focus on its own sources.

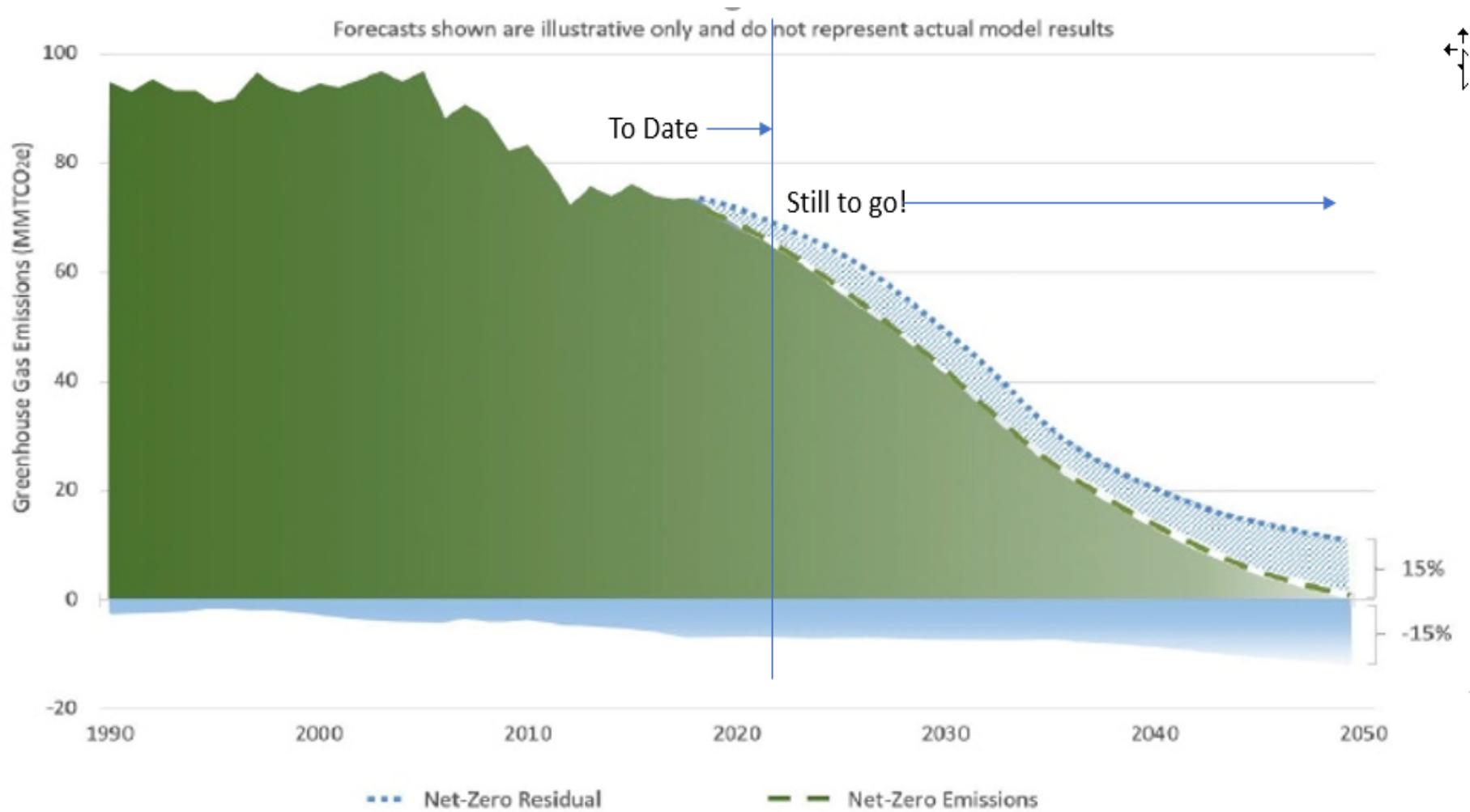
We need to do our part !...as others are doing their part to combat climate change.

Medfield Net Zero Goal

The State has reduced greenhouse gas emissions by 25% from 1990 baseline levels since 2008. Shouldn't this be simple to build upon?

- The 2008 Massachusetts Global Warming Solutions Act established a **25% reduction in greenhouse gas emissions below the State's 1990 baseline by 2020**. This was achieved largely through the State's power generation sector of our economy.
- The success so far has gone largely **unnoticed by the general public because it hasn't required change in habits by the public**.
- **Further significant progress will depend more on our citizenry, and, Medfielders have begun:**
over 150 solar installations in town, 57 heat pumps, 48 all electric vehicles

Medfield Net Zero Goal



Q & A

Community Choice Aggregation (“CCA”)

What is Community Choice Aggregation (CCA)?

CCA is a program that allows local governments to procure power on behalf of their residents from an alternative supplier while still receiving transmission and distribution service from their existing utility provider (Eversource in Medfield). Nearly half of Massachusetts cities and towns have engaged with CCA programs since this was authorized by the Mass. Utility Restructuring Act (1997). Massachusetts was first, but today, seven states have programs that serve more than five million customers nationwide.

Through a competitive bidding process for electricity supply, the town has an opportunity to get a better price and add renewable energy sources to our electricity. The warrant article allows the town to explore aggregation but does not obligate it to pursue aggregation if conditions are not favorable.

Community Choice Aggregation (“CCA”)

Why is CCA a good idea?

CCA is attractive for any community that wants more green power than is offered by default, more supply options, and/or lower electricity prices. By aggregating, a community gains leverage to negotiate better rates with competitive suppliers and to choose greener power sources. By choosing sources that are greener-than-default (more “Class I”), CCAs can help accelerate implementation of renewable power sources in the state and region.

What is Class I Renewable Energy?

“Class I” renewable energy is generated from renewable sources such as solar photovoltaics, wind, hydropower, geothermal and other sources that were built after 1997 and do not create carbon emissions that coal, oil and natural gas do. This Massachusetts Class I designated-renewable energy is generated in the ISO New England control area, as well as in the adjacent control areas (northern Maine, New York, Quebec, or the Canadian Maritime Provinces).

Community Choice Aggregation (“CCA”)

Why may this be a benefit to Medfield Residents?

This program can provide Medfielders more choice for electrical energy supply. Residents will have a well-vetted supplier without having to research individually. Many towns have been able to increase their green power content while offering rates comparable to or better than what is currently paid to Eversource. This is dependent on market conditions.

Residents may opt-out, reverting to the Eversource basic rate, at any time, without penalty.

The program is vetted by both the Department of Energy Resources and the Department of Public Utilities, there is price transparency and consumer protection built in.

Budget Billing or other payment programs will not be affected. Net metering credits from solar panels will continue to be calculated on the Eversource Basic Service rate.