

Chelmsford CEAS Update to Select Board

CEAS

June 06, 2022 (2022.06.06)

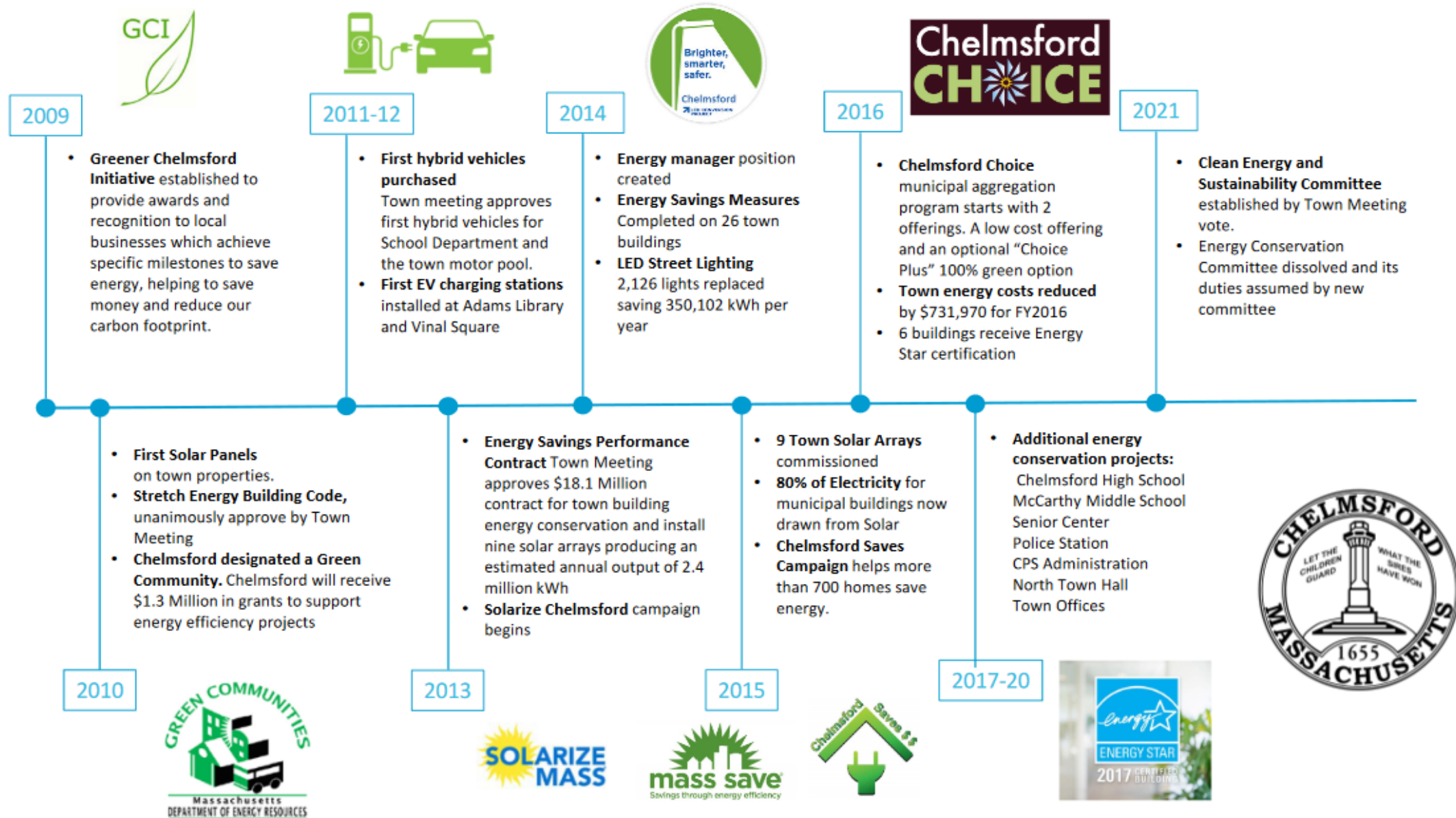
This is an outline of the presentation topics, key graphs as of 2022.06.02.

Additional formatting, highlighting, sequencing may change for the presentation on 2022.06.06 at the Select Board Meeting. Additional clarification graphs or slides maybe added to facilitate improved discussion and solicitation of feedback

Outline of Update

- History of Clean Energy and Sustainability related activities at Chelmsford
- An update on the urgency of Climate Change and the challenge ahead
 - Toolkits available and stakeholders
- CEAS Update
 - An executive Summary report – contents and timeline description
 - Green house Gas inventory (2017) Update
 - Activity update regarding playbooks from MAPC
 - Preview of playbook prescribed activities and potential short-term action needed at community level

Clean Energy and Sustainability: History



Climate Change – Urgency

- Increased levels of warning of potential temperatures and the possibility of missing targets
- Heightened activity in corporate, financial world with focus on ESG (Environmental, Social, Governance) and potential impact across the economic system
- Adaptation becoming a key theme as related to possibility of missing targets due to the enormity of the problem set
- Hope is still prevalent that humanity can achieve Net Zero by 2050

Stakeholders: Community, Business, Government

- Building a Culture of Sustainability
- Why, Who, When, How – a brief discussion on the challenges of bringing in multiple stakeholders to understanding, owning and acting in our combined interest

Green house Gas Emissions: Chelmsford

Table 1: Community-wide Emissions Summary by Sector & Scope

Sector	Total Emissions (MT CO ₂ e)	Scope 1 Emissions (MT CO ₂ e)	Scope 2 Emissions (MT CO ₂ e)	Scope 3 Emissions (MT CO ₂ e)
Stationary Energy	213,296	140,678	69,101	3,517
Transportation	138,735	138,733	2	0
Waste	4,094	0	0	4,094
All	356,126	279,411	69,103	7,611

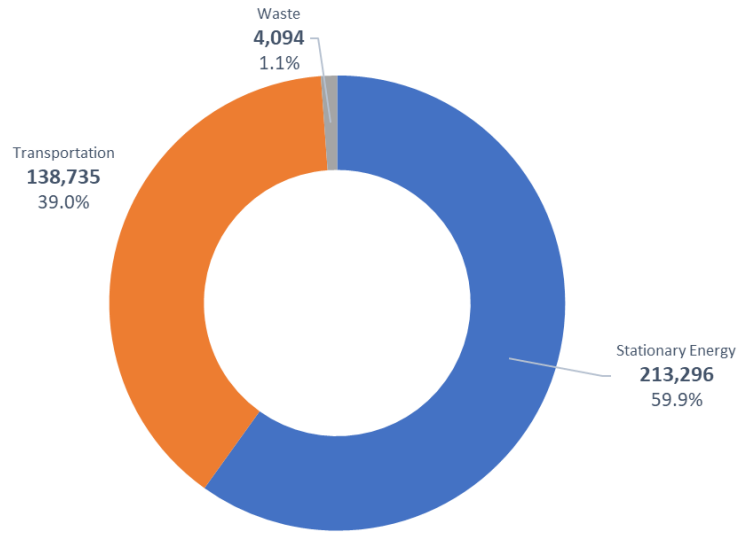
2017 Emission Summary for Chelmsford:

- Total Emissions: 356,126 MT CO₂e
- Per Capita: 10.17 MT CO₂e
- Per Capita Average (Massachusetts): 9.5 MT CO₂e

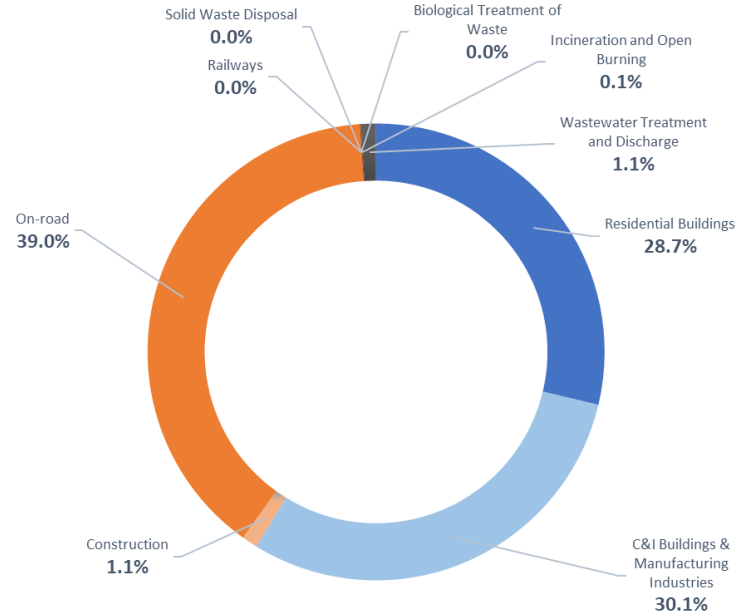
- Courtesy: David Righter, NMCOG

Green house Gas Emissions

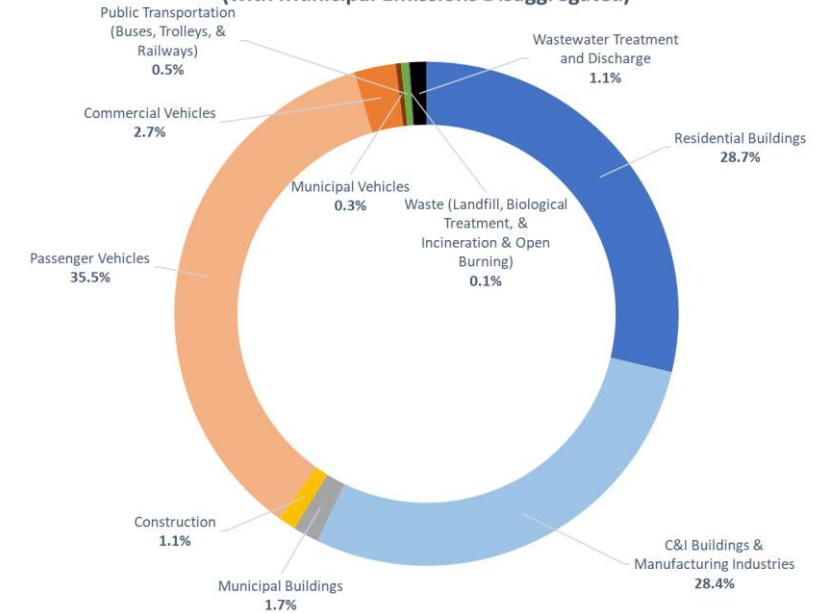
Community-wide Emissions (MT CO2e) by Sector



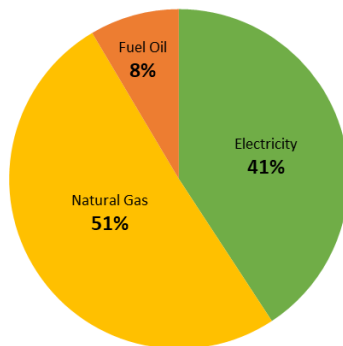
Percent of Total Community-wide Emissions by Subsector



Percent of Total Community-Wide Emissions by Subsector (with Municipal Emissions Disaggregated)



Percentage of Building Energy Emissions by Source Energy



Percent of Total Building Energy Emissions by Customer Type and Fuel



- Breakdown of GHG for Chelmsford by Sector/Type

MAPC Playbooks



Clean Energy Supply

Net Zero Playbook

WWW.MAPC.ORG/NET-ZERO
Metropolitan Area Planning Council



Clean Energy Supply Strategies

Net Zero Playbook

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Increase renewable energy generation, use, and access



Build smart and resilient energy infrastructure



Reduce the carbon impact of the energy system, from the grid to building scale

Climate-Smart Zoning and Permitting Strategies



Allow net zero enabling technologies by-right



Establish climate zoning overlays



Mandate energy efficiency and renewable energy as appropriate



Streamline and expedite permitting for net zero buildings

Net Zero Playbook

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Climate-Smart Zoning and Permitting

Net Zero Playbook

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MAPC Playbooks



ZERO to 101

Net Zero Buildings

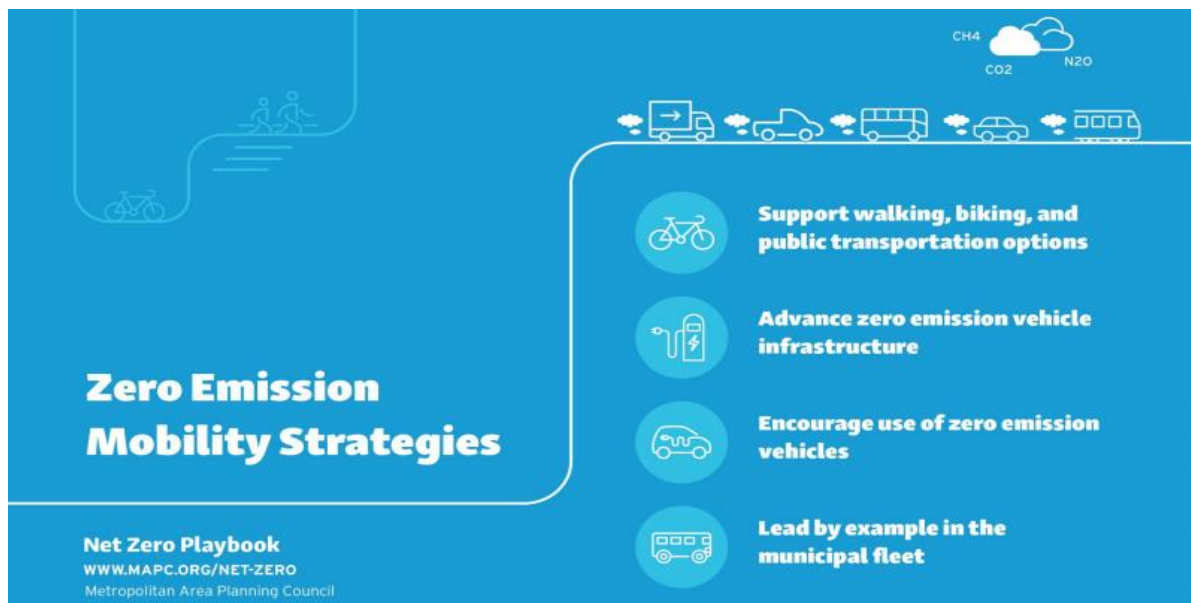
Net Zero Playbook
WWW.MAPC.ORG/NET-ZERO
Metropolitan Area Planning Council





Net Zero Building Strategies

-  **Reduce greenhouse gas emissions from buildings**
-  **Electrify new and existing buildings**
-  **Advocate for statewide net zero building policies**





Net Zero Playbook
WWW.MAPC.ORG/NET-ZERO
Metropolitan Area Planning Council



CH₄  **CO₂** **N₂O**



Zero Emission Mobility Strategies


-  **Support walking, biking, and public transportation options**
-  **Advance zero emission vehicle infrastructure**
-  **Encourage use of zero emission vehicles**
-  **Lead by example in the municipal fleet**

Net Zero Playbook
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ZERO to 101

Zero Emission Mobility



Net Zero Playbook
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Activities Timeline & Discussion with SB

- Release of Chelmsford CEAS Summary Report – End of July 2022
 - Modeled significantly after the summary reports from other similar communities
- Discussion/proposal to engage in a public input/discussion session
 - Starting with multiple town departments / boards and committee, community stakeholders
 - Presentation of key actions for each of the identified playbooks
 - Idea collection from community to accelerate awareness/engagement on NetZero actions
- CEAS will look at 2023-2025, 2025-2030 actions/goals frameworks later in 2022

- Seeking inputs/guidance and Discussion