



Climate Action Planning Institute Task Force - Village of Tarrytown Presentation to Board of Trustees & Public

May 6, 2024

*Westchester CAPI is a project of the Hudson Valley Regional Council
and is funded by the DEC Climate Smart Communities Grant Program.*

Presentation Agenda

1. CAPI: Background and Overview
2. Purpose of Presentation
3. Vision Statement for Climate Action Plan
4. GHG Inventory Summary
5. Emissions Reduction Target for Tarrytown
6. Recommended Strategies
7. Questions and Feedback
8. Next Steps: Community Engagement Schedule

1. CAPI: Background

- On July 18, 2019, New York State (NYS) enacted the Climate Leadership and Community Protection Act (CLPCA).
- The CLPCA, also called the Climate Act, requires NYS to reduce Green House Gas (GHG) emissions from 1990 levels by 40% by 2030 (“40 by 30”) and by 85% by 2050 (“85 by 50”).
- The NYS Department of Environmental Conservation (DEC) created the Climate Smart Communities Program to help local governments take action to reduce GHG emissions.
- In 2019, our Village was selected as one of eight Westchester County municipalities to participate in the Climate Action Planning Institute (CAPI) which is sponsored by the DEC.
- The Hudson Valley Regional Council is coordinating with CAPI for Westchester County and with consultants from the International Council for Local Environmental Initiatives (ICLEI) – Local Governments for Sustainability.

1. CAPI: Background

- In September 2023, the Village completed the GHG Inventory Report for Tarrytown Municipal Operations.
- In November 2023, the following volunteer members were appointed to the CAPI Task Force: Dean Gallea, Chair; Peter Gaito; Josh Halickman; Jia Sun; Karen Bernstein.
- The purpose of the CAPI Task Force is to make recommendations to the Village and the Public to address climate change.
- The goal is to reduce the Village's GHG emissions by creating and implementing a Climate Action Plan (CAP).

1. What is CAPI?

The Climate Action Planning Institute assists with the following steps in helping municipalities develop a Climate Action Plan for Municipal Operations:

- ✓ Analyze operations through a GHG inventory for the baseline year (2019).
- ✓ Develop a “business as usual” (BAU) forecast showing how emissions will change over time without any mitigation efforts.
- ✓ Identify “low-hanging fruit” in our Village operations that could make significant improvements.
- ✓ Make revised forecasts of the effects to prioritize practical actions to achieve significant and cost-effective reductions.
- Present recommendations to the Village departments and receive feedback.
- Conduct outreach: present findings and recommendations to Village residents, explain how these might affect costs in the short- and long-term, and receive feedback.
- Produce a final Climate Action Plan (CAP) and manage staged implementation.

1. Why Develop a Climate Action Plan (CAP) for Municipal Operations?

- Take a leadership role in the community to help mitigate the effects of climate change, and in so doing, protect health, safety, and resources for our Village.
- Additional benefits to taking action:



Cost savings



Resource security

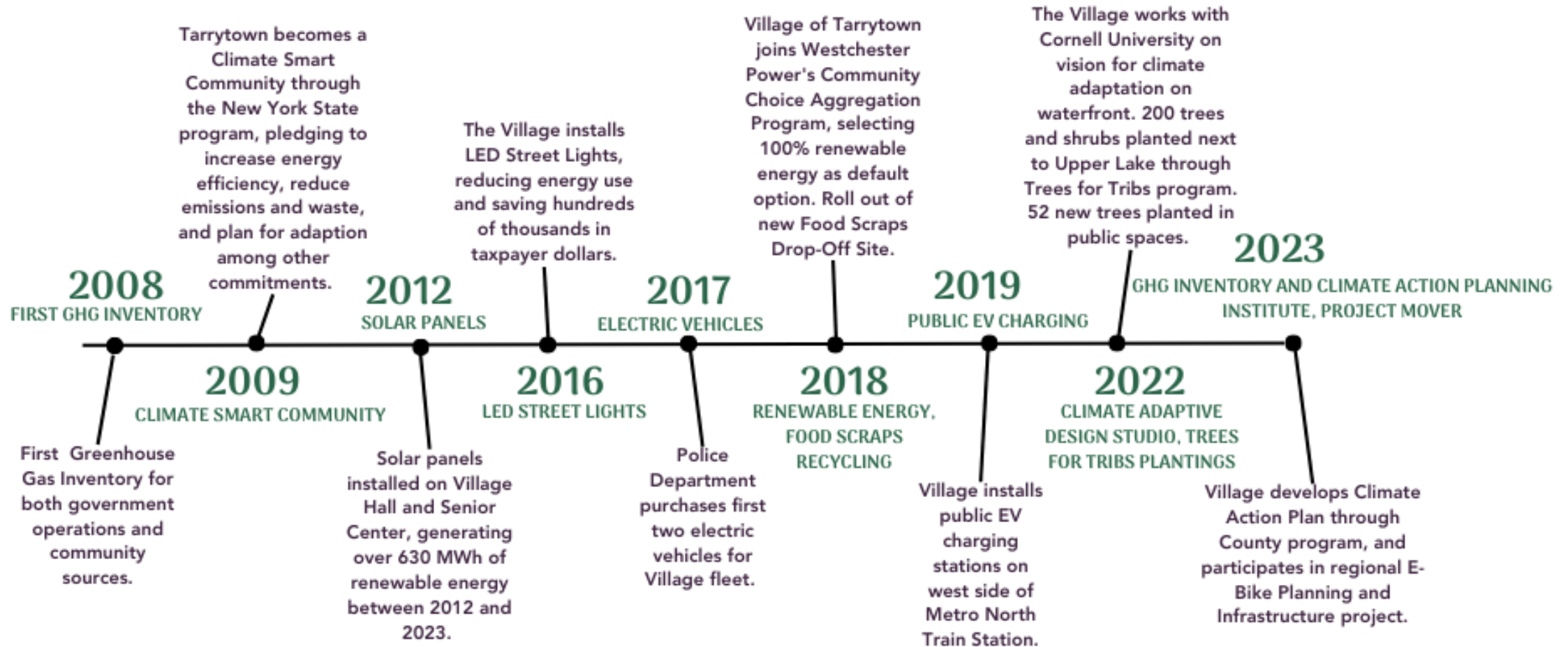


Public health



Social equity

1. The Village Has Already Taken Action to Mitigate Climate Change

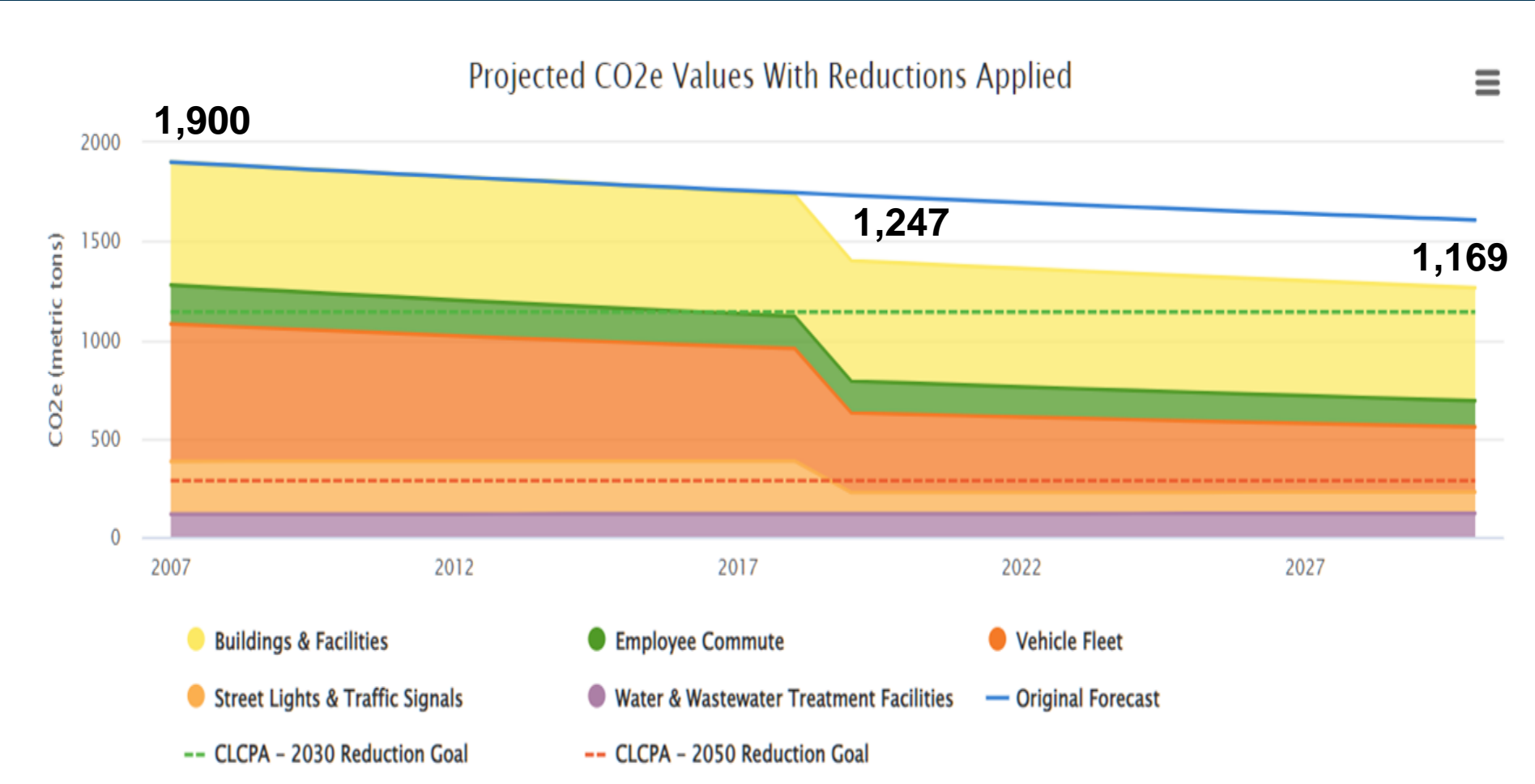


- This is an overview and not all-inclusive

1. How We Measure Greenhouse Gas (GHG) Emissions

- As you may know, there are several GHG's, such as carbon dioxide and methane.
- GHG's other than carbon dioxide can be converted to the equivalent detrimental effect of carbon dioxide.
- That measurement is the “carbon dioxide equivalent” (CO₂e) and is used to account for the detrimental effect of all types of GHG's in one number.
- For example, methane has a larger detrimental effect than carbon dioxide. 1 Metric Ton (MT) of methane has the equivalent detrimental effect of 29.8 MT of carbon dioxide.

1. Greenhouse Gas (GHG) Inventory and Business As Usual Projections



2. Purpose of Presentation

- This CAPI Task Force presentation to stakeholders is to seek input on three items in order to complete the Climate Action Plan for Municipal Operations.
 1. Draft Vision Statement
 2. Establish Emissions Reduction Target for Tarrytown Municipal Operations
 3. Climate Action Strategies and Prioritization

3. Vision Statement for Climate Action Plan (CAP)

- A Vision Statement is a **brief, inspirational statement** that creates a mental image of the ideal state that a community wants to achieve.
- The CAPI Task Force has drafted the following Vision Statement for the Village of Tarrytown and would like your feedback:

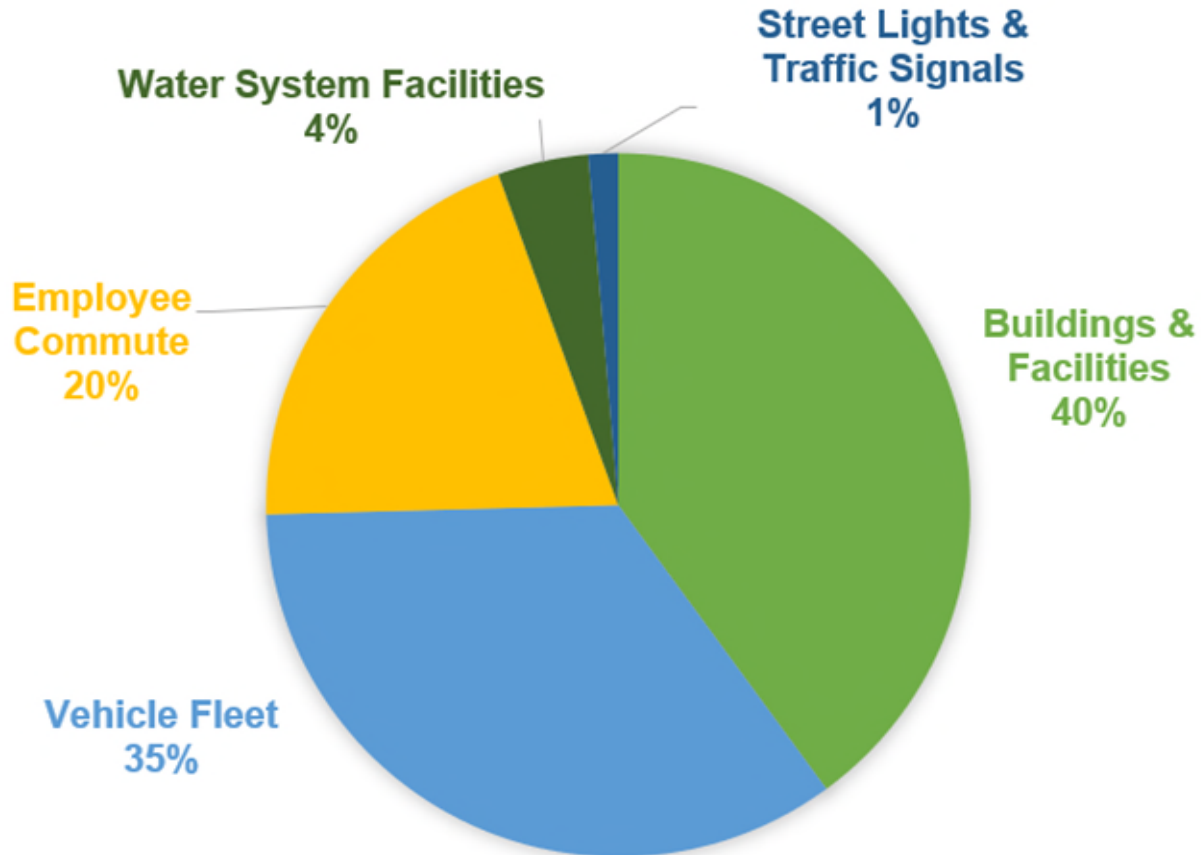
Reduce our Village carbon footprint and utility costs through the incorporation of energy-efficient, cost-saving mitigation measures in our buildings and in our operations, to improve the resiliency of our infrastructure in response to the impacts of climate change and improve the health and quality of life of our residents.

4. Greenhouse Gas Emissions (GHG) Inventory: Summary

- Baseline Year: 2019 (Chosen to utilize more accurate pre-COVID baseline).
- **Sectors included:**
 - Buildings and Facilities
 - Vehicle Fleet (including Senior Bus)
 - Employee Commute
 - Water System
 - Street Lighting
- Sectors not included: Solid Waste, Wastewater Treatment, Refrigerants
- Used 2007 GHG Inventory for comparison, which was also an ICLEI-based inventory. Tried to follow similar methodology for data collection, acknowledging differences between datasets in report.

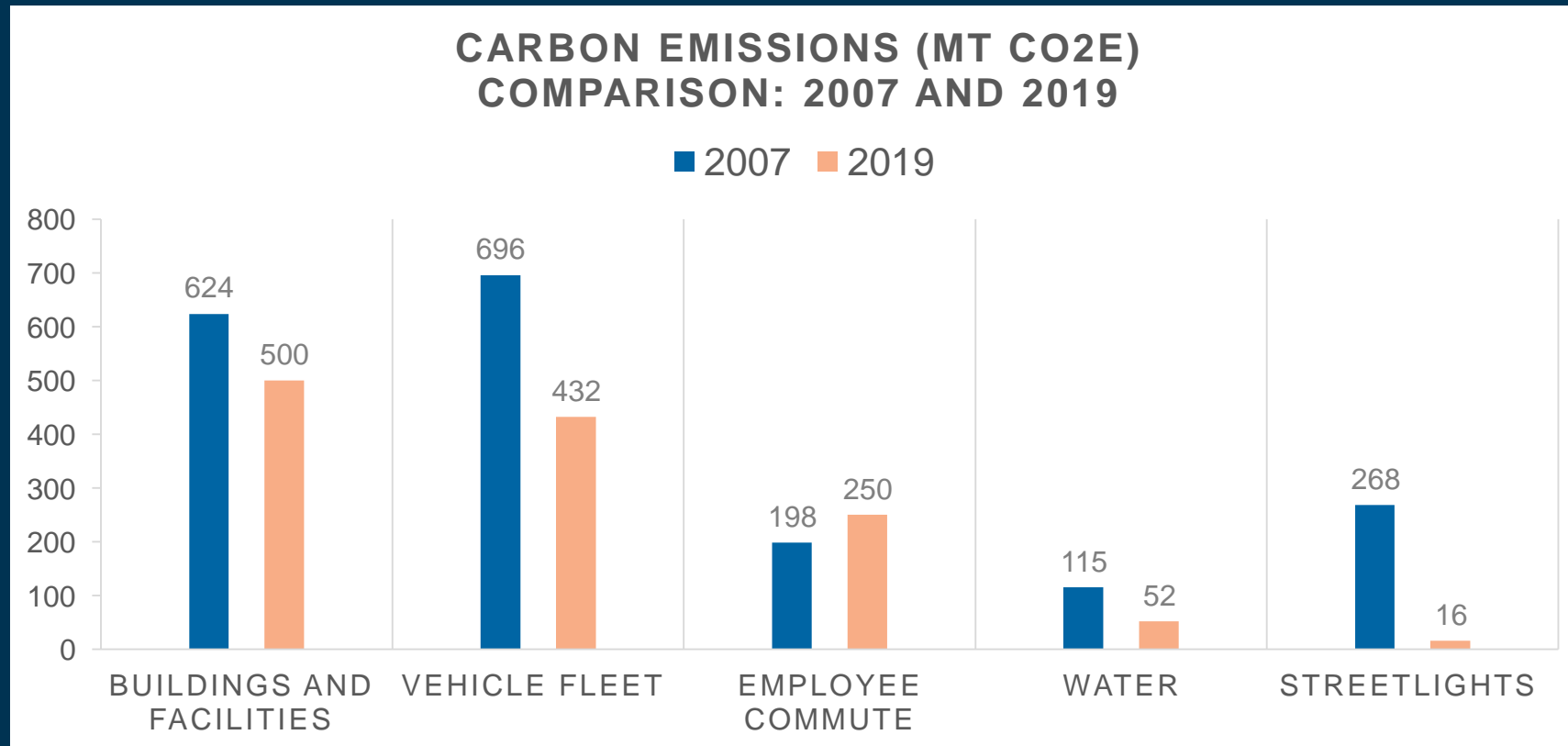
4. GHG Emissions By Sector (2019)

GOVERNMENT OPERATIONS EMISSIONS
BY SECTOR - 2019



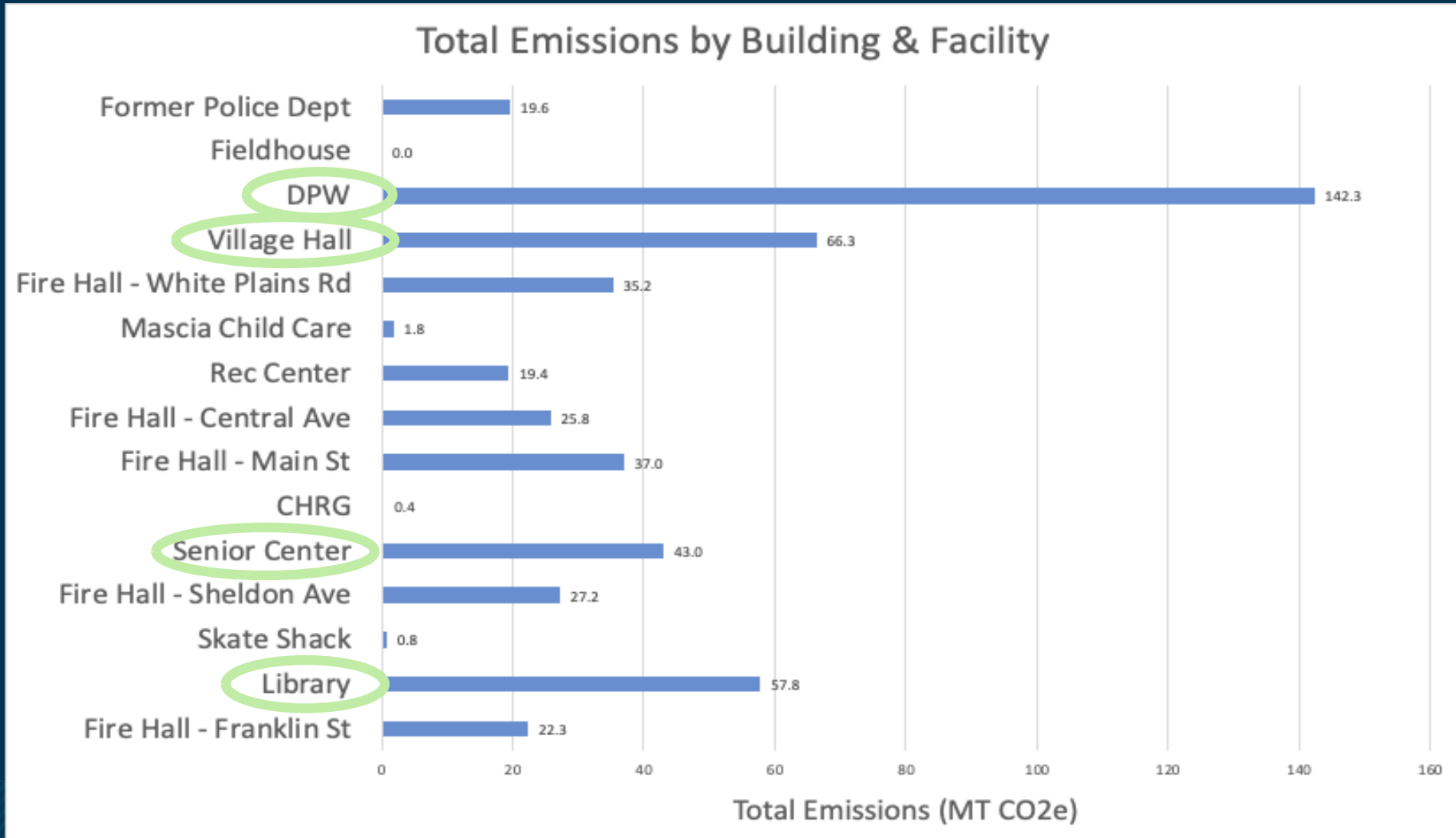
Buildings and Facilities	500 MT CO ₂ e
Vehicle Fleet	432 MT CO ₂ e
Employee Commute	250 MT CO ₂ e
Water System	52 MT CO ₂ e
Street Lights	16 MT CO ₂ e
Total	1,247 MT CO₂e

4. GHG Emissions By Sector (2007 vs. 2019)



- Total Emissions 2007: 1,900 MT CO2e
- Total Emissions 2019: 1,247 MT CO2e
- This represents a 34.37% reduction in overall emissions.

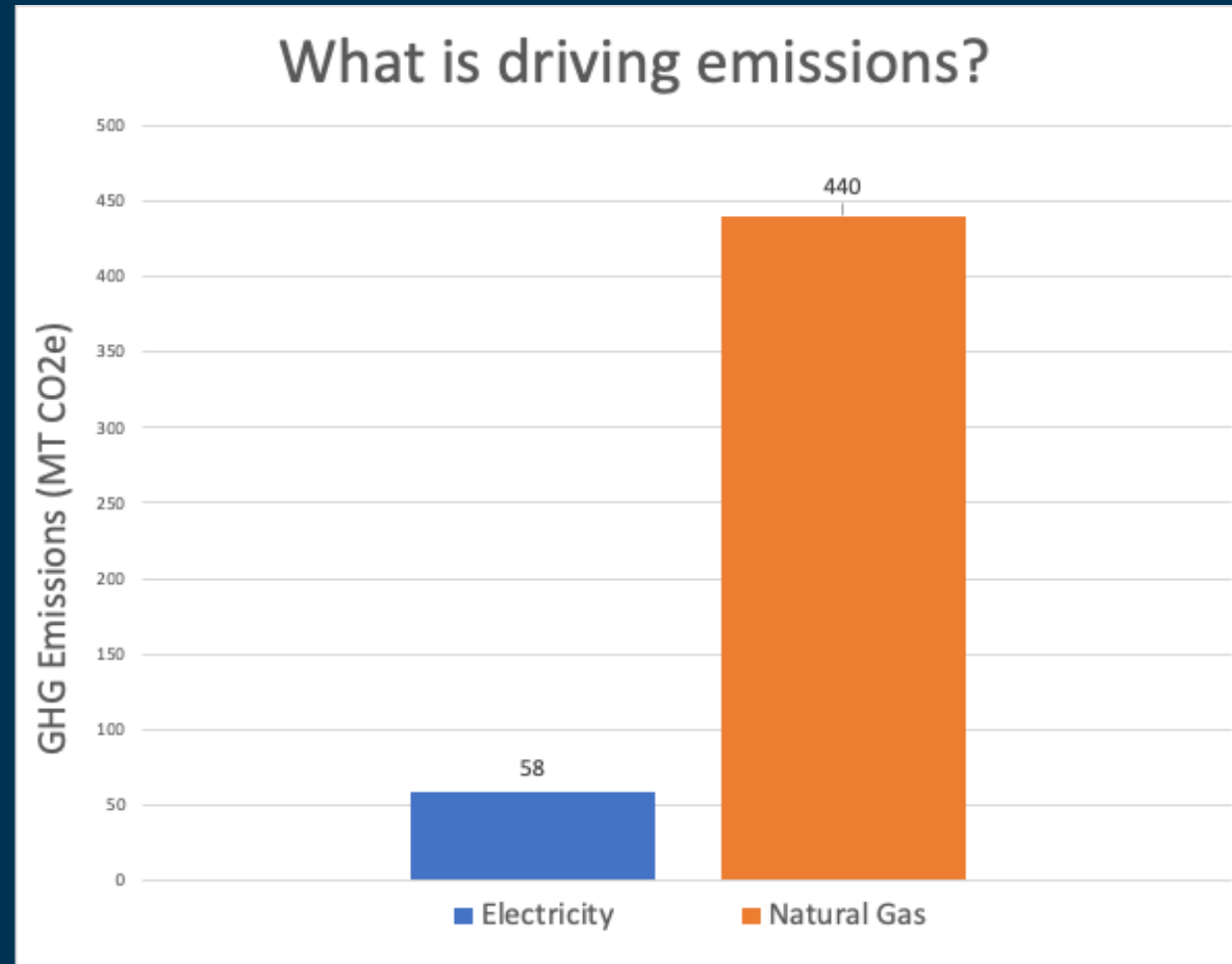
4. GHG Emissions by Sector - Buildings and Facilities



4. GHG Emissions by Sector - Buildings and Facilities

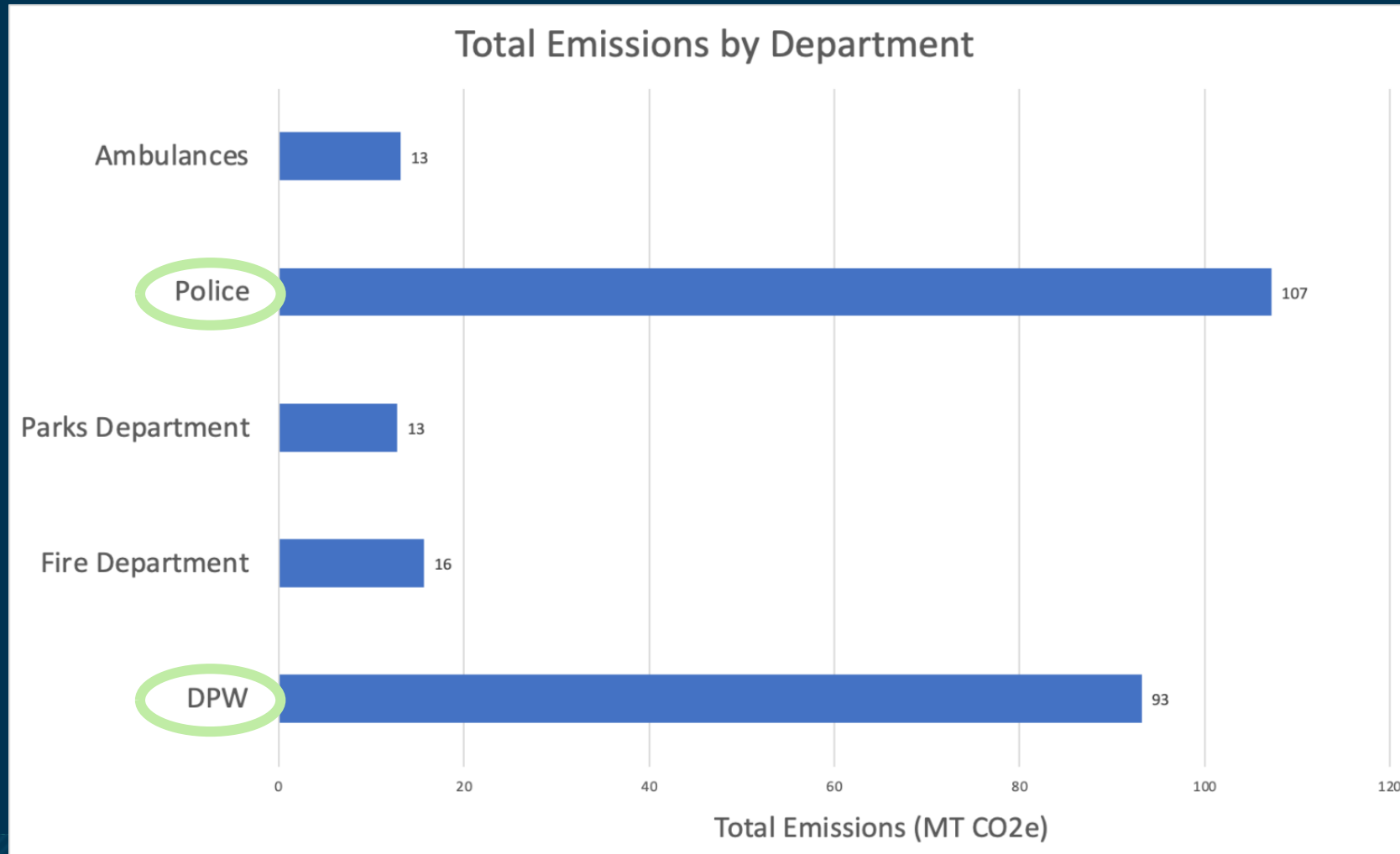


4. GHG Emissions by Sector - Buildings and Facilities



- Natural gas in this sector alone accounts for over 35% of emissions (total of 1,247 MT CO2e).

4. GHG Emissions by Sector - Vehicle Fleet Emissions (2019)



4. GHG Emissions by Sector - Employee Commute Emissions

- Employee Commute emissions increased from 198 MT CO₂e to 248 MT CO₂e between 2007 and 2019 even though the Village had 99 employees in 2007 versus 93 employees in 2019.
- The number of Light Trucks and SUVs used for commuting increased, but more significantly, annual vehicle miles traveled more than tripled, increasing from 164,964 miles traveled annually to 556,477.
- 36% of respondents demonstrated openness to considering alternative forms of transportation.

Employee transit mode the majority of the time:

87% 10% 2% 2%

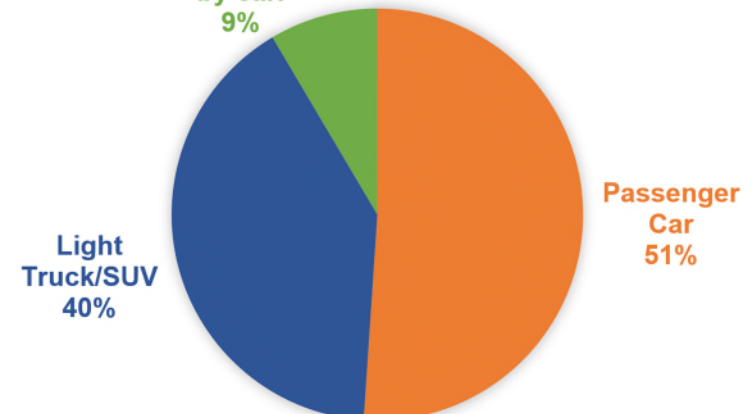


Employee transit mode at least once per month:

4% 2%



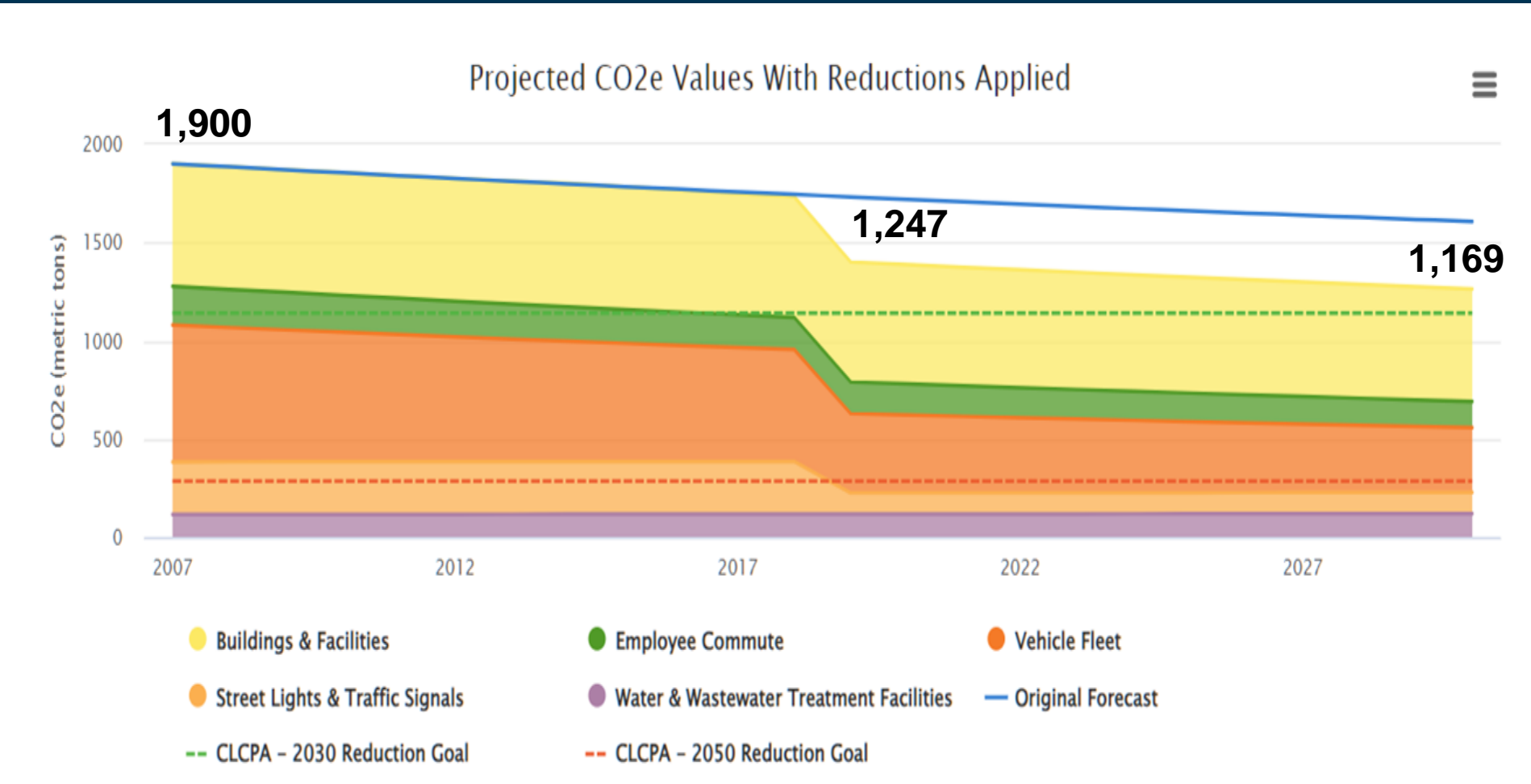
I do not regularly commute by car. 9%



5. Emissions Reduction Target for Tarrytown

- Our data indicates, from 2007 to 2019, a 34.37% GHG emissions reduction. Therefore, CAPI set the Village target from 2007 onward.
- **GOAL:** Reduce the Village government's Greenhouse Gas (GHG) emissions by 40% from 2007 levels by 2030, and by 85% from 2007 levels by 2050.
- This equals, in percentages:
 - A **5.63%** reduction from 2019 levels by 2030.
 - A **50.63%** reduction from 2019 levels by 2050.
- This equals in MT CO₂e:
 - A **107** MT CO₂e reduction from 2019 levels by 2030.
 - A **962** MT CO₂e reduction from 2019 levels by 2050.

5. Emissions Reduction Targets for Tarrytown



← 1,140 MT CO₂e by 2030

← 285 MT CO₂e by 2050

6. Recommended Strategies

Q: How do we reach our emissions reduction targets?

A: By prioritizing high-impact, practical strategies.

Considerations for Prioritization

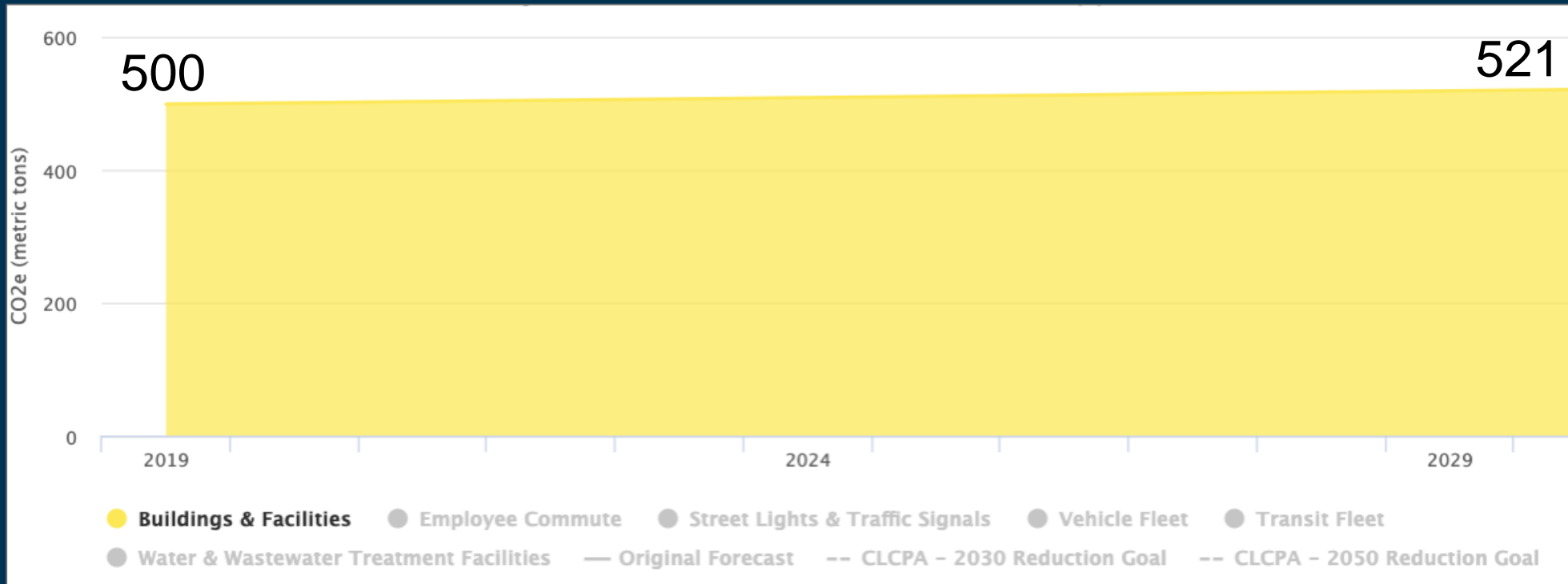
- GHG inventory results – target highest emitters.
- Implementation feasibility.
- Implementation timeline (short term vs. long term).
- GHG emissions reduction potential.
- Cost and funding availability.
- Co-benefits: public health, cost savings, resource security, social equality, workplace comfort or efficiency, quality of life improvements, etc.
- Municipal priorities.
- Related or overlapping plans.

6. Tarrytown Priority Matrix

- The CAPI Task Force established a matrix for prioritization of strategy recommendations.
- Link to online spreadsheet: [CLICK HERE](#)

Implementation Feasibility	Implementation Timeline	GHG Reduction Potential	Co-Benefits	Cost
<p>Initiative is both financially & logistically feasible.</p> <p>High (5 points): Initiative has examples of successful implementation that can be applied to implementing and/or there is a clearly detailed implementation plan in place.</p> <p>Medium (3 points): Some examples exist for general implementation framework but with some areas of uncertainty.</p> <p>Low (1 point): Vague or non-existent understanding of how strategy can be implemented.</p>	<p>Timeframe for implementation.</p> <p>High (5 points): Short-term; less than 1 year.</p> <p>Medium (3 points): 1-5 years.</p> <p>Low (1 point): Long-term; more than 5 years.</p>	<p>GHG emissions reduction potential.</p> <p>High (5 points): Direct, quantifiable reduction.</p> <p>Medium (3 points): Some GHG emissions reduction may occur but it cannot be quantified.</p> <p>Low (1 point): GHG reduction is very indirect, unlikely to occur, or unknown.</p>	<p>Initiative benefits other areas such as public health, cost savings, resource security, social equity, workplace comfort or efficiency, quality of life improvement, etc.</p> <p>High (5 points): Benefits 3 or more other focus areas.</p> <p>Medium (3 points): Benefits 1 or 2 other areas.</p> <p>Low (1 point): Does not benefit other areas.</p>	<p>The cost of the strategy.</p> <p>High (5 points): \$0-\$35k.</p> <p>Medium (3 points): \$35k-\$100k.</p> <p>Low (1 point): Over \$100k.</p>

6. Buildings and Facilities: Business As Usual

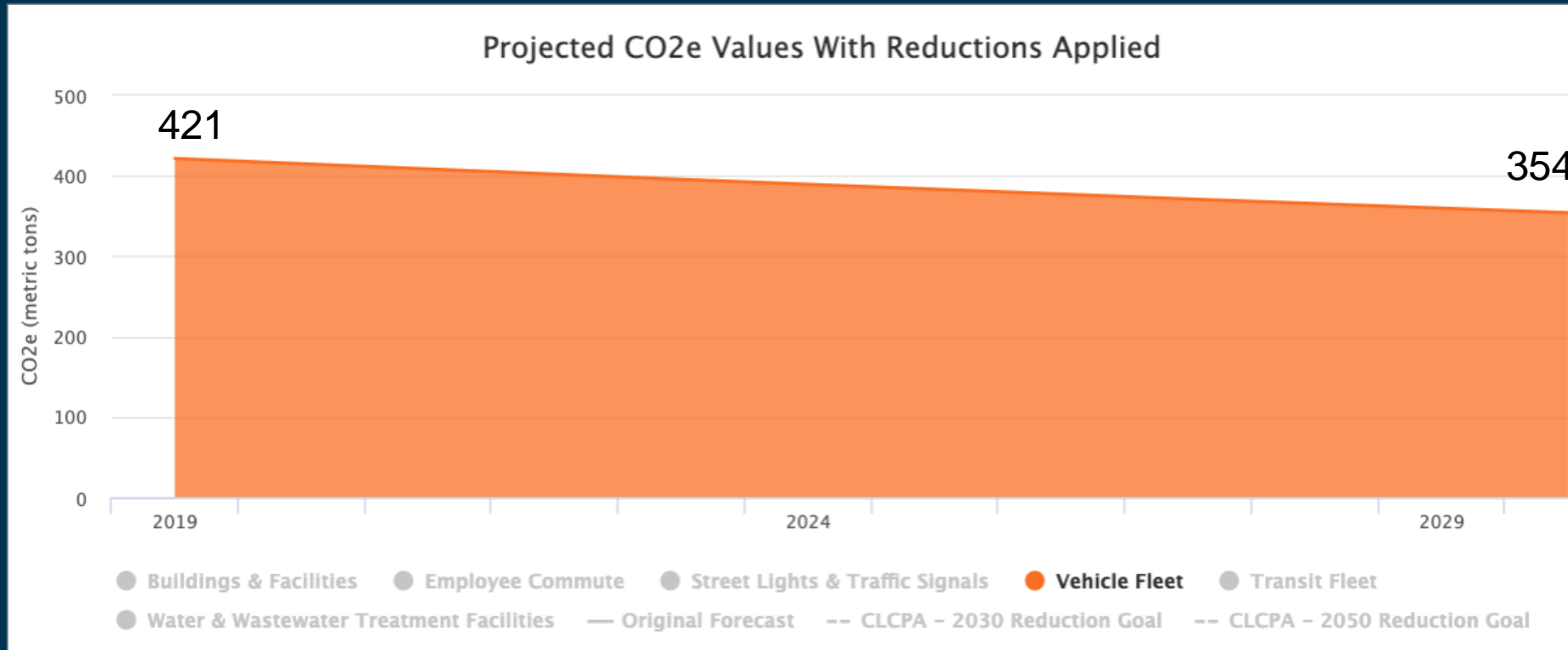


- Growth rates impacting this forecast include:
 - Westchester County population projection as a proxy for employee count.
 - Grid decarbonization - little to no change expected by 2030 considering that NYPA is already ahead of CLCPA's 2030 clean electricity goal.

6. Buildings and Facilities: Recommended Strategies:

	Implementation Feasibility (high=feasible; low=vague)	Implementation Timeline (high=short-term; low=long-term)	GHG Reduction Potential (high=direct & quantifiable; low=indirect or unknown)	Co-Benefits (high=3 or more; low=0)	Cost (high=low cost; low=high cost)
Project: Conduct energy audits of government facilities.	High	High	Medium	Medium	High
Project: Upgrade HVAC at pump station.	High	High	High	Medium	Medium
Project: Upgrade Building Management System at Village Hall.	High	Medium	High	Medium	Low
Project: Solar panels on Rec Center and Library.	Medium	High	Medium	Medium	Low
Policy: Green Building Standards for Village facilities including mandatory electrification when opportunity arises and is feasible.	Medium	High	Medium	Medium	High
Practice: Establish DPW protocols to reduce energy usage.	Medium	High	Medium	Medium	High

6. Vehicle Fleet: Business as Usual



- Growth rates impacting this forecast include:
 - No growth for diesel vehicles.
 - Federal vehicle efficiency standards.
 - Westchester County population projection as a proxy for employee count.

6. Vehicle Fleet: Recommended Strategies

	Implementation Feasibility (high=feasible; low=vague)	Implementation Timeline (high=short-term; low=long-term)	GHG Reduction Potential (high=direct & quantifiable; low=indirect or unknown)	Co-Benefits (high=3 or more; low=0)	Cost (high=low cost; low=high cost)
Policy: Anti-idling policy for municipal vehicles.	High	High	Medium	High	High
Policy: Fleet efficiency policy - prioritize hybrid and EV purchases when possible. Policy to include exemptions for tech deficiencies.	Medium	Medium	Medium	Medium	Medium
Project: Accurate fleet fuel tracking.	Medium	High	Low	Medium	High
Project: Install EV Charging Stations in Municipal Parking Lots	High	High	Medium	Medium	High

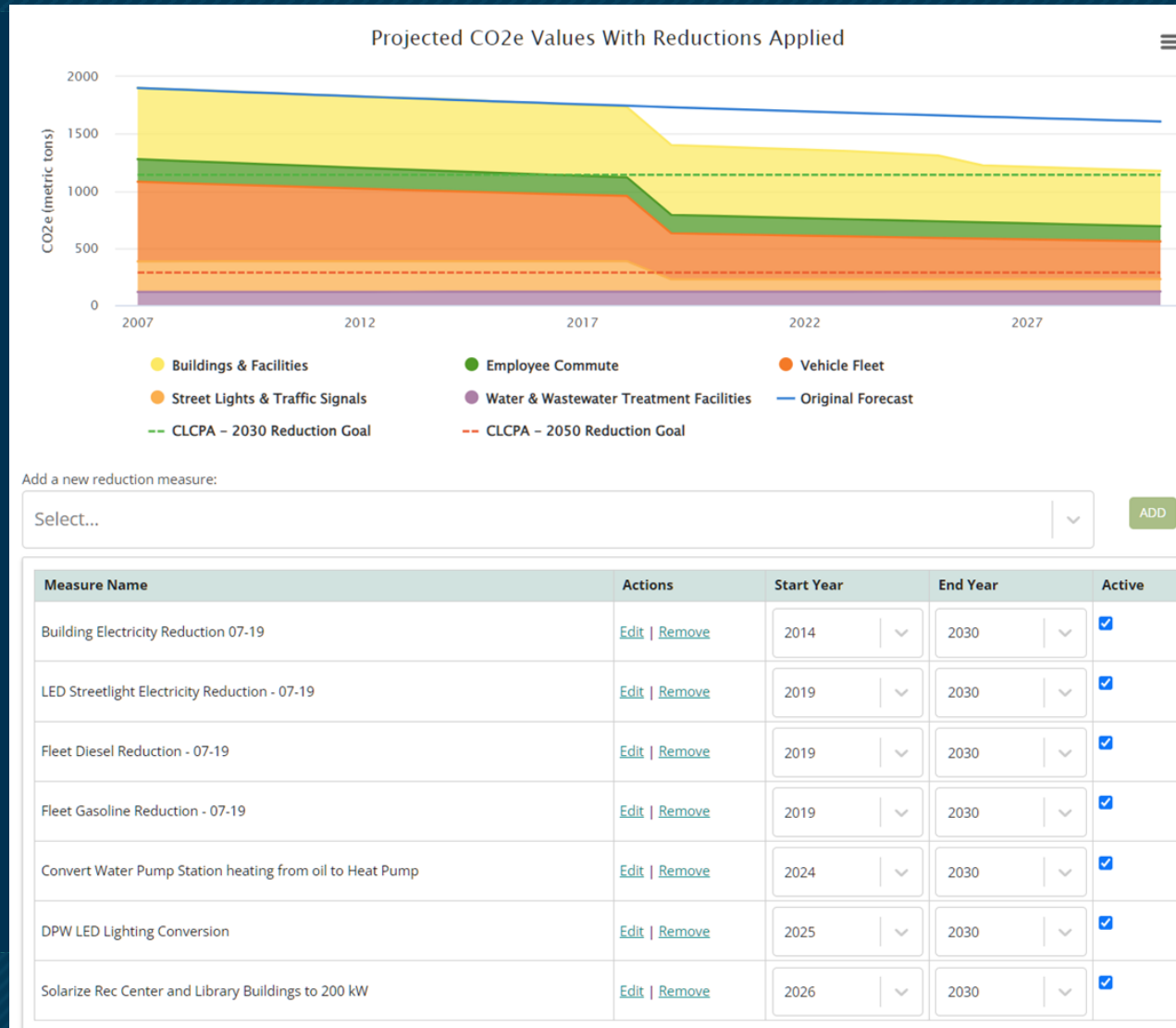
6. Employee Commute: Recommended Strategies

	Implementation Feasibility (high=feasible; low=vague)	Implementation Timeline (high=short-term; low=long-term)	GHG Reduction Potential (high=direct & quantifiable; low=indirect or unknown)	Co-Benefits (high=3 or more; low=0)	Cost (high=low cost; low=high cost)
Project/Policy: Incentivize car-pooling and public transportation.	Low	Low	High	Medium	High
Project/Policy: Provide reserved charging or free charging for employees with plug-in or electric vehicles.	Medium	Medium	Medium	Medium	High

7. Implementation Plan

FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Project: Energy Audits	Project: Energy Audit-based planning	Project: Senior Center – HVAC replacements	Project: Energy Audit-based planning	Project: Village Hall HVAC replacements	Project: Library HVAC replacements
Project: HVAC Pump Station	Policy: Green Buildings	Solar Panel Planning : Rec Center, Library, Fire Houses	GHG Inventory Update	CAP Update	
Management Practice: DPW protocols	Project: LED Lighting- DPW Garage, Village Hall, Rec Center				
Policy: Fleet Efficiency	Project: Vehicle Replacements DPW Truck x 2	Project: Vehicle Replacements Building Dept x 1 Police x 1	Project: Vehicle Replacements Building Dept x 1 Police x 1	Project: Vehicle Replacements	Project: Vehicle Replacements
Project: Vehicle Replacements Rec x 1 Police x 1	Policy: Anti-Idling	Project: Fuel Management System			
Project: Install EV Charging Stations in Municipal Lots	Project: Evaluate Employee Commute Incentives				

6. Projected GHG Emissions With Reductions Applied



← 1,140 MT CO2e by 2030

← 285 MT CO2e by 2050

ICLEI tool allows us to see GHG reduction of each strategy.

7. Questions and Feedback

- We appreciate your feedback. Please respond by Wednesday, May 21.
- These slides and the recorded presentation will be made publicly available.

8. Next Steps: Community Engagement Schedule

- May 6: CAPI Task Force Presentation to public at Board of Trustees meeting.
- May 24: Draft CAP to Task Force for review.
- June 7: Draft CAP submitted to Board for review and posted online for public review.
- June 28: Deadline for Board and public feedback.
- July 15: Board adoption of CAP.

Acknowledgements

- **Tarrytown Climate Action Planning Institute Task Force**
 - Dean Gallea, Co-Chair, Tarrytown Environmental Advisory Council
 - Karen Bernstein, Member
 - Peter Gaito, Member
 - Josh Halickman, Member
 - Jia Sun, Member
 - Alissa Fasman, Assistant Village Administrator
- **Hudson Valley Regional Council**, especially Mary Lambert
- ICLEI: Kale Roberts & Caroline Dickey
- **Westchester County Leadership**: County Executive George Latimer and Sustainability Director Peter McCartt
- The whole **CAPI** cohort



Thank You!