



CLIMATE ACTION PLAN

Working Toward a Climate Smart Dover

Presented by:
Katie Palmer-House, Co-Chair Climate Smart Dover Task Force
& First Environment, Inc.

August 29, 2018



Town of Dover
August 2018

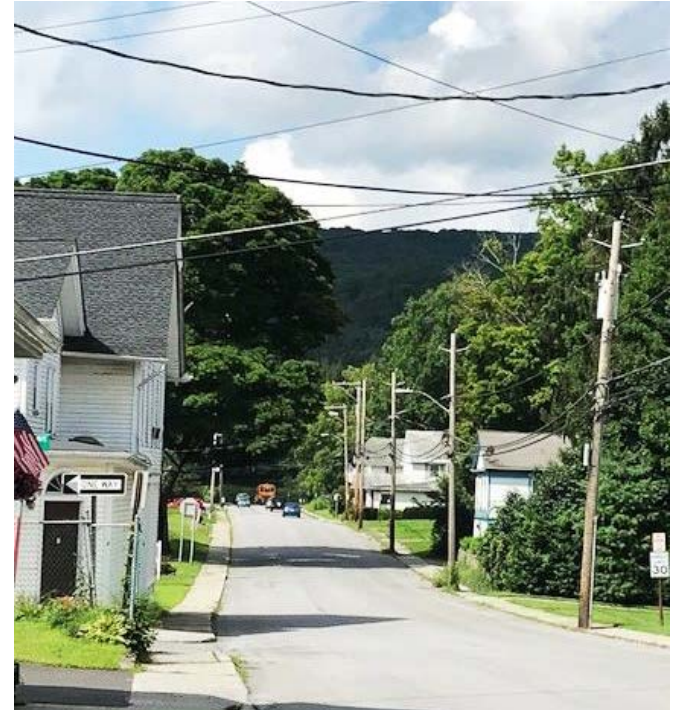


Climate Smart Dover Task Force

Constituents: All Town residents

2017-2018 Task Force Members:

- Evan van Hook, Co-Chair
- Katie Palmer-House, Co-Chair
- Stancy DuHamel
- Supervisor Linda S. French
- Debra Kaufman
- Gregory Mendenhall
- Councilwoman Jan Meunier
- Janet Pickering
- Tamar Roman



Climate Smart Communities (CSC) Efforts

NYS DEC Climate Smart Communities initiative

- 240 communities registered statewide, 18 in Dutchess County committed to:
 - Reduce GHG emissions
 - Increase energy efficiency through cost-saving upgrades
 - Encourage green economy and enhance resiliency to climate change

Climate actions to date:

July 2016	Dover takes CSC pledge
Oct. 2016	Task Force Coordinators appointed
Dec. 2016	CSC grant awarded for \$40,445
2020	<ul style="list-style-type: none">• Target goal to become Bronze-level CSC-certified• Need 120 points (33 currently with 40+ in development)

Climate Smart Communities Grant

- CSC “Priority” Actions
 - Govt. Operations GHG Emissions Inventory
 - Target Reduction Plan
 - Govt. Operations Climate Action Plan
- Other Potential CSC Projects:
 - Completing natural resource inventory
 - Resiliency planning (decrease vulnerabilities)
 - Review Town policies using Climate Smart Checklist
 - Watershed assessment





DELIVERABLES

Government Operations GHG Inventory
Climate Action Plan

-GHG Target Reductions & Implementation

Government Operations GHG Inventory

Basic Terms

- Scope 1: Emissions from sources that are owned or controlled by Town (stationary and mobile combustion and fugitive sources)
- Scope 2: Emissions from the generation of purchased or acquired electricity, steam, heating, or cooling consumed by the Town
- Base Year Inventory: 2017

GHG Inventory Report

- Inventory standards followed
- Data collection and emission quantification methods
- Assumptions material to inventory results

2017 GHG Emissions by Scope (tCO₂e)

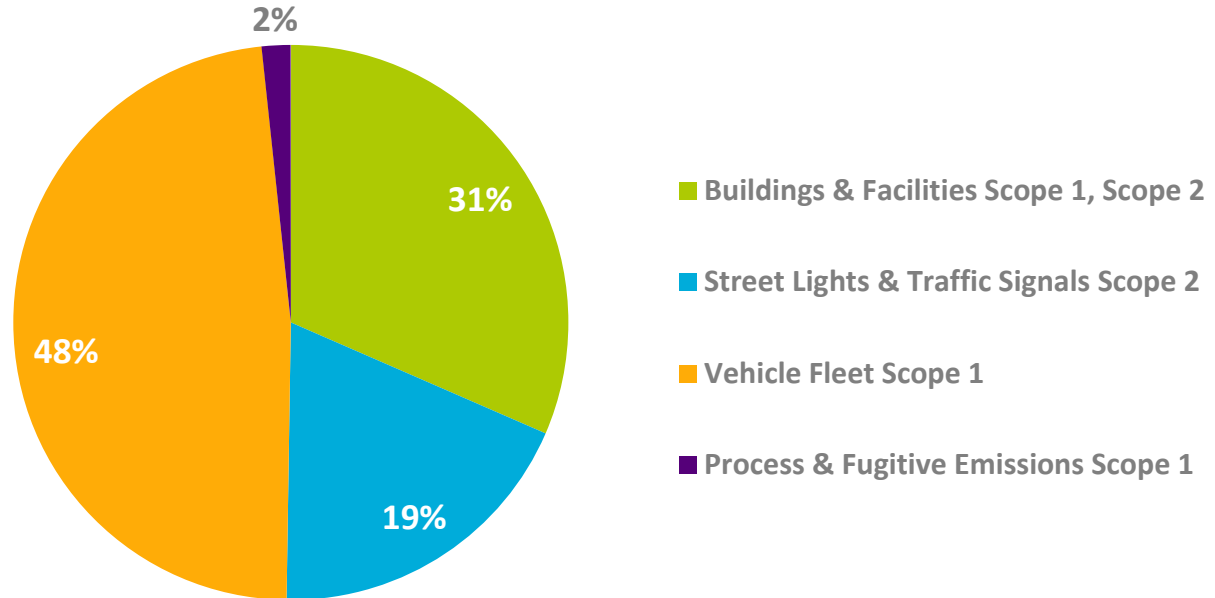
GHG Emissions	tCO ₂ e
Scope 1	253
Scope 2	<u>116</u>
Total	370

- Relatively small carbon footprint
- Average home energy in Town emits about 15.5 tonnes/year*

* U.S. EPA household carbon footprint calculator for zip code 12522

Major Sources of GHG Emissions

GHG Emissions (tCO₂e)



Climate Action Plan (CAP)

The GHG emissions inventory is the foundation of the CAP

- Outlines measures and policies to mitigate climate change and reduce GHG emissions
- Identifies goals and emissions reduction targets, based on local priorities
- Provides guiding framework for achieving goals and targets
- Follows CSC guidance and templates, as applicable

GHG Reduction Goals

- Developed 10 year emissions growth forecasts using Business-as-Usual (BAU) demographic, economic and transportation network information. Forecasts form the baseline for 1, 5, and 10-year GHG target reduction actions.

Target	Target Year	Reduction Goal from 2017 Base Year GHG Inventory (%)	Reduction Goal from 2017 Base Year GHG Inventory (tCO2e)
Year 1	2019	3%	11.1
Year 5	2023	10%	37
Year 10	2028	20%	74

Completed and Ongoing Actions

Year	Pledge Element: Climate Action	Description	Points	Cumulative Points
2017	PE1: CSC Task Force	Create a community Climate Smart Community task force climate mitigation and adaptation	20	20
2017	PE1: CSC Coordinator	Appoint a Climate Smart Community coordinator	10	30
2018	PE1: National/Regional Climate Program	Join a national or regional climate campaign or program (ICLEI)	3	33
2018	PE2: Government Operations GHG Inventory	Develop a government operations GHG emissions inventory	16*	49
2018	PE2: Government Operations Climate Action Plan	Develop a government operations climate action plan	14*	63
2018	PE3: Fleet Inventory	Develop a government operations GHG inventory for vehicles	4*	67
2019	PE6: Natural Resources Inventory	Develop a natural resource inventory	8*	75
2019	PE7: Climate Smart Resiliency Planning	Review existing community plans/projects to identify climate adaptation strategies and policies/projects that may decrease vulnerability	6*	81
2019	PE6: Comprehensive Plan with Sustainability Elements	Develop and adopt a comprehensive plan with sustainability elements	10^	91

Planned Climate Actions (Goal 120 pts)

Year	Pledge Element: Climate Action	Description	Points	Cumulative Points
2019/20	PE3: Government Building Energy Audit	Conduct energy audits of local government buildings	8	98
2019/20	PE3: Water-efficient fixtures	Install water-efficient fixtures	2	100
2019/20	PE3: Purchasing policy	Adopt an environmentally preferable purchasing policy	2	102
2019/20	PE4: Renewable Energy Feasibility Study	Conduct feasibility studies for renewable energy installations	4	106
2019/20	PE5: Waste Reduction Education Campaign	Create an educational campaign to encourage recycling, composting and waste reduction	2	108
2019/20	PE5: Recycling Bins in Government Buildings	Provide recycling bins next to all trash receptacles in local government buildings	3	111
2019/20	PE7: Watershed Assessment	Create or update a watershed assessment to identify flooding and water quality priorities.	4	115
2019/20	PE8: Buy Local/Buy Green Campaign	Create a “buy local/buy green” campaign	2	117
2019/20	PE9: Climate-related Public Events	Host climate-related educational seminars, workshops, conferences, or fairs	3	120
2019/20	PE9: Local Climate Action Website	Maintain a website on local climate protection efforts	3	123
2019/20	PE9: Social Media	Use social media to inform the community about the progress of local government's efforts	3	126
2019/20	PE10: Partnerships with Other Entities	Cooperate with neighboring communities and partner agencies	3	129
2022	Performance: Reduce GHGs from Government Facilities	Reduce GHG emissions from government owned facilities 10%+ (2022 goal)	15	144
2022	Performance: Reduce GHGs from Government Vehicles	Reduce GHG emissions from government owned vehicles 10%+ (Hybrid vehicle/s)	15	159

Actions to Meet Year 1 Goal (3%)

Reduction Measure	Expected GHG Emission Reduction (tCO2e/year)	Possible CSC Points	Estimated Cost / Annual Savings	Comment
Power Purchase Agreement (PPA) - Solar Energy	16	2-4	<u>Cost:</u> \$1,800 <u>Savings:</u> \$0	<ul style="list-style-type: none"> • Simple implementation • Low-medium cost • Significant GHG emission reduction
TOTAL Since Year 1:	16 (4.3%)	(> 3%)		

Expected to exceed Year 1 (2018/19) goal

Actions to Meet Year 5 Goal (10%)

Additional Reduction Measures	Expected GHG Emission Reduction (tCO2e/year)	Possible CSC Points	Estimated Cost / Annual Savings	Comment
LED Lights Replacement - Ballfield	8	1-4	<u>Cost:</u> \$12,400 <u>Savings:</u> \$4,200/yr	<ul style="list-style-type: none"> • Medium complexity implementation • Medium cost • Medium GHG emission reduction
Town Hall Lighting Sensors	2	1-5	<u>Cost:</u> \$6,000 <u>Savings:</u> \$1,000/yr	<ul style="list-style-type: none"> • Simple implementation • Low cost • Minor GHG emission reduction
Town Hall Retrofit - Energy Efficiency	6	1-5	<u>Cost:</u> \$12,000 <u>Savings:</u> \$3,250/yr	<ul style="list-style-type: none"> • Medium complexity • Medium cost • Medium GHG emission reduction
TOTAL Since Year 1:	32 (8.6%)	(<10%)		

Expected to fall slightly short of Year 5 (2022/23) goal

Actions to Meet Year 10 Goal (20%)

Additional Reduction Measures	Expected GHG Emission Reduction (tCO2e/year)	Possible CSC Points	Estimated Cost / Annual Savings	Comment
LED Streetlight Replacement	43	5-10	<u>Cost: \$88,700</u> <u>Savings: \$35,000/yr</u>	<ul style="list-style-type: none"> • Complex implementation • High cost • Significant GHG emission reduction
TOTAL Since Year 1:	75 (20.3%)	(>20%)		

- Expected to exceed Year 10 (2027/28) goal
- Recommend start implementation in 2022 to help meet 5 and 10 Year goals

Conclusions

- Sufficient climate actions identified to meet CSC Bronze certification points (120) by 2020
- Sufficient GHG reductions identified to meet Year 1 (3%), 5 (10%) and 10 (20%) year goals
- First Environment will prepare CAP(including GHG inventory report and reduction plan) for Town Board & Task Force for review and feedback





QUESTIONS?