



Princeton's Climate Action Plan
ANJEC's 45th Environmental Congress
October 12, 2018

**Sophie Glovier, Chair, Princeton Environmental Commission, and
Molly Jones, Executive Director, Sustainable Princeton**



Sustainable Princeton
Change a habit, change the world



**Robert Wood Johnson
Foundation**



Princeton's Climate Action Plan

Goals of this Session

1. Answer your questions
2. Ensure everyone understands the concept of a Climate Action Plan (CAP)
3. Princeton's journey to a CAP
4. Role of the Princeton Enviro Comm
5. Case statements: We want to hear your ideas!



Sustainable Princeton

Change a habit, change the world

Princeton's Climate Action Plan

Sustainable Princeton team:

Molly Jones, Executive Director

Christine Symington, Program Director

Jenny Ludmer, Community Outreach Manager

Ellen Malavsky, Communications Consultant





Princeton's Climate Action Plan

Climate Action Plan vs. Sustainability Plan

Sustainability Plan: Comprehensive plan to achieve goals that foster environmental, community and financial sustainability

- Pollution
- Green jobs
- Access to fresh food

Climate Action Plan: Development of strategies focused on the two goals of reducing greenhouse gas emissions and making the community more resilient to the impacts of climate change



Sustainable Princeton

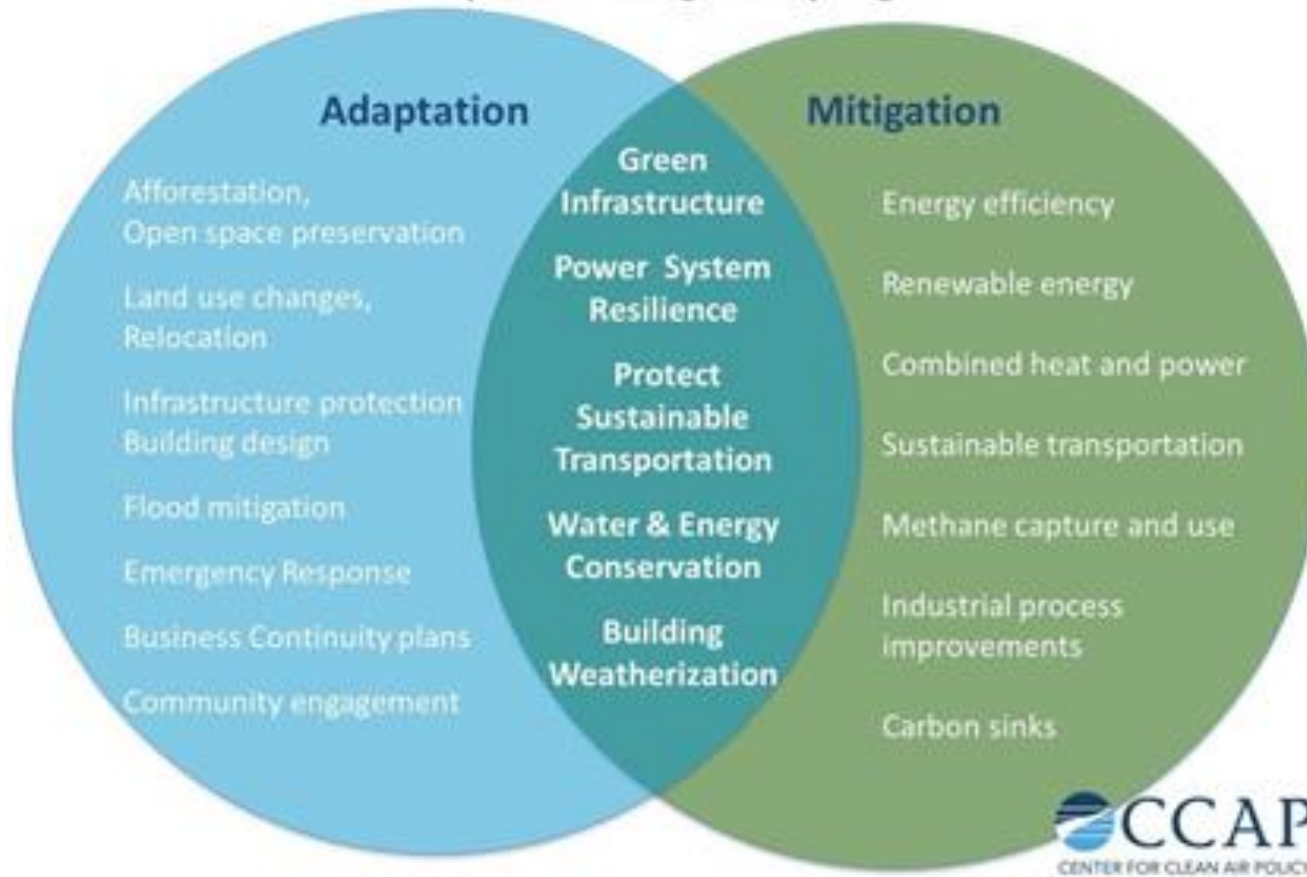
Change a habit, change the world



Princeton's Climate Action Plan

CONNECT THE DOTS

Adaptation + Mitigation Synergies



Sustainable Princeton

Change a habit, change the world



Princeton's Climate Action Plan

Visions - Ex. Philadelphia, PA - Greenworks

VISION 3 	All Philadelphians efficiently use clean energy that they can afford
<p>Using cleaner energy more efficiently will save money and reduce carbon pollution, which causes climate change.</p> <p>▼</p> <p>In 2014 Philadelphia buildings emitted 9.8 million metric tons of carbon pollution.</p>	
VISION 4 	All Philadelphians are prepared for climate change and reduce carbon pollution
<p>The usual weather conditions in Philadelphia are getting warmer, wetter, and more extreme, and climate science tells us these trends will continue.</p> <p>▼</p> <p>In 2014 53,138 sensitive Philadelphians lived in hotter than average neighborhoods.</p>	
VISION 5 	All Philadelphians benefit from parks, trees, storm-water management, and healthy waterways
<p>Green, natural spaces improve our mental and physical health, keep our air and water clean, and contribute to safer and stronger communities.</p>	
VISION 6 	All Philadelphians have access to safe, affordable, and low-carbon transportation
<p>Whether you get around on foot, by car, bike, or public transit, our robust transportation network is critical for Philadelphia's residents and businesses.</p>	



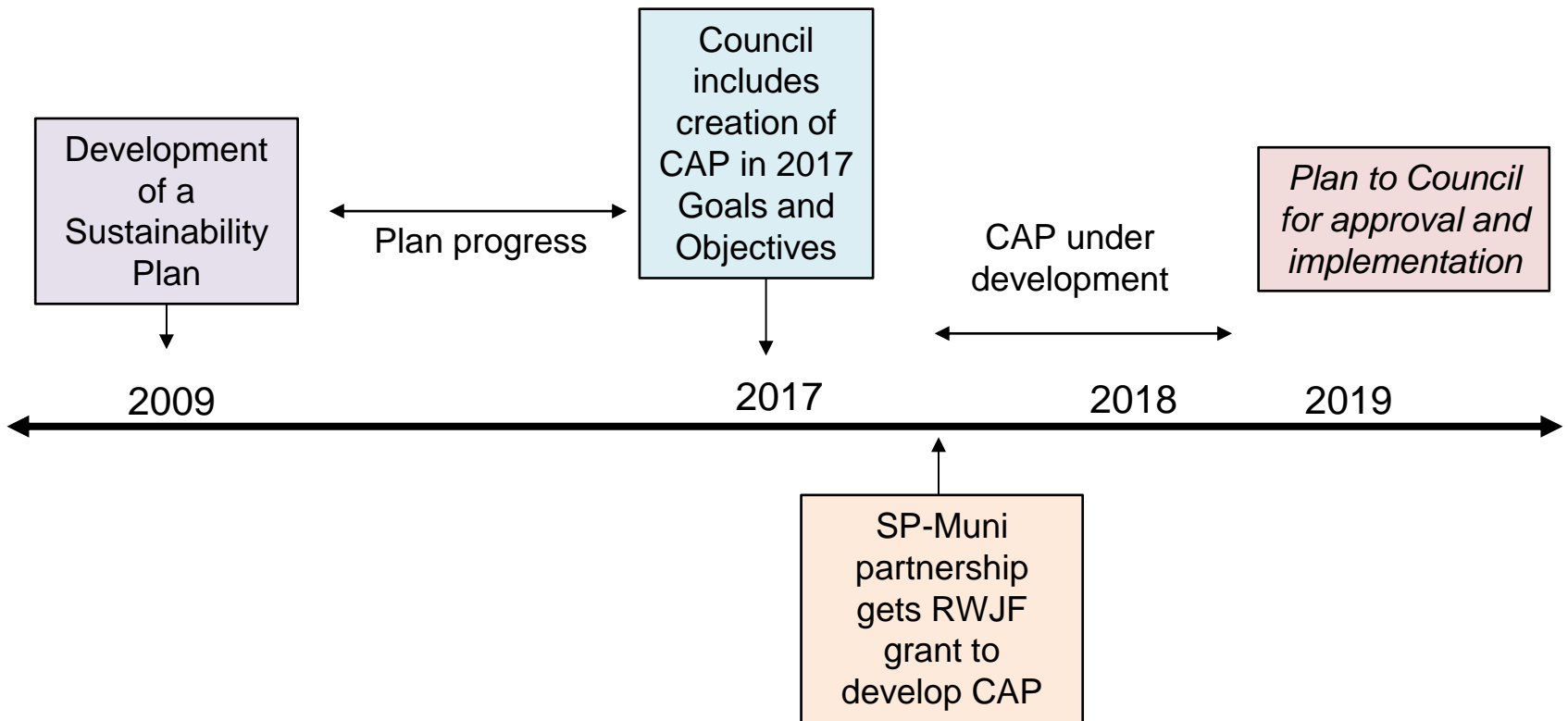
Sustainable Princeton

Change a habit, change the world



Princeton's Climate Action Plan

Princeton Council Kicks-off CAP

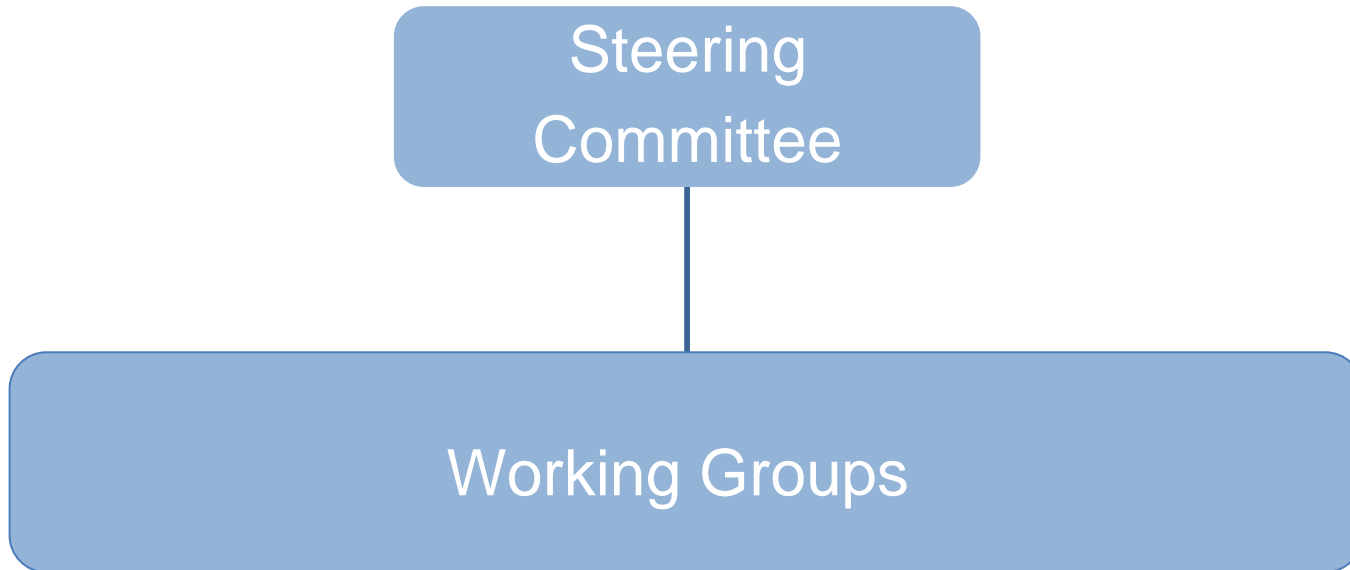


Sustainable Princeton
Change a habit, change the world



Princeton's Climate Action Plan

CAP Volunteer Structure



Sustainable Princeton
Change a habit, change the world

Steering Committee

Name	Organization	Title
Matt Wasserman	Sustainable Princeton	Board Chair
Sophie Glover	Princeton Environmental Commission	Chair
Shana Weber	P.U. Office of Sustainability	Director
Jeff Grosser	Municipality of Princeton	Asst. Administrator/Health Officer
Eddie Cohen	Princeton Public Schools	K-12 Science Curric. Coord.
David Cohen	Princeton Council	Councilman
Bernie Miller	Former Council Member	
Nicole Collins Bronzan	RWJF	Communications Strategist
Leighton Newlin	Witherspoon Jackson Neighborhood Assoc.	President
Kathy Klockenbrink	Princeton Business Community Rep.	Co-owner Jammin' Crêpes
Bruno Sarda	NRG Energy, Inc.	Sustainability Director
Eric Larson	ACEE/Princeton University	Sr. Research Engineer
Molly Jones	Sustainable Princeton	Executive Director
Christine Symington	Sustainable Princeton	Program Director

Purpose: Steer the Climate Action Plan Development process from start to finish. Provide guidance to the Task Forces and ensure delivery of a CAP for adoption by the Municipality that adheres to established guiding principals.



Princeton's Climate Action Plan

Areas of Working Group Focus

- Energy
- Land Use & Transportation
- Natural Environment
- Waste
- Resiliency



Side street in downtown Princeton



Sustainable Princeton

Change a habit, change the world



Princeton's Climate Action Plan

Co-Benefit Priorities

-  Promotes Equity
-  Fosters Economic Sustainability
-  Improves Local Environmental Quality
-  Enhances Public Health & Safety
-  Builds Resilience



Valley Road at Route 206



Sustainable Princeton

Change a habit, change the world



Princeton's Climate Action Plan

Climate Action Plan Major Milestones



#1

**Baseline
Inventory**



#2

**Adopt
Target**



#3

**Forecast
Emissions**



#4

**Strategy
Selection**



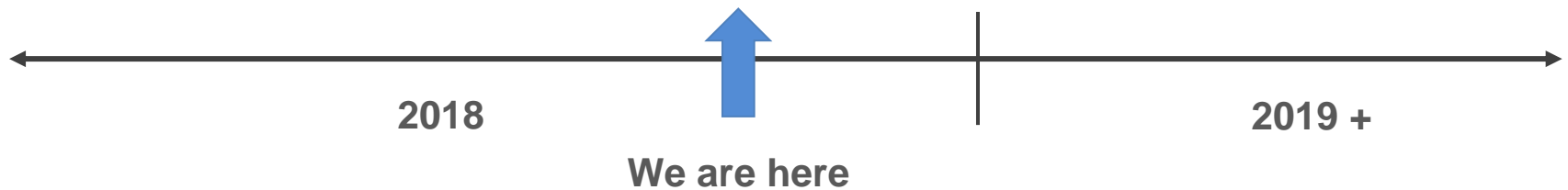
#5

**Funding &
Implementation**



#6

**Monitor &
Track Progress**



<http://www.coolcalifornia.org/local-government/toolkit>



Sustainable Princeton

Change a habit, change the world



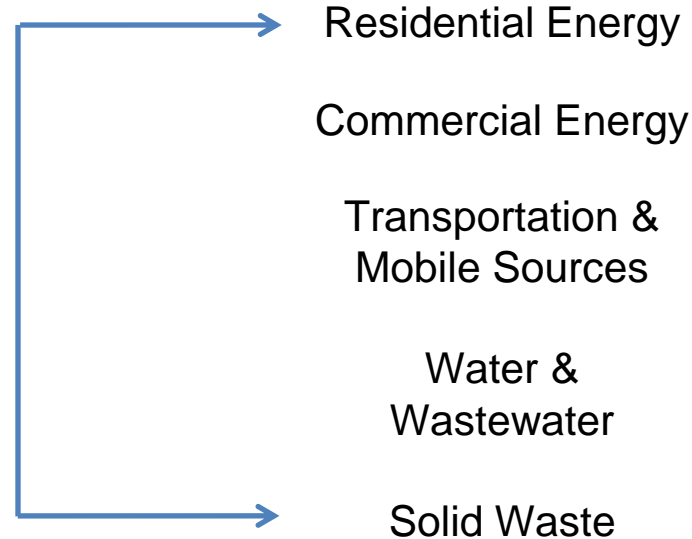
Princeton's Climate Action Plan

Princeton Community GHG Inventory: ICLEI Protocol



Princeton Community

Baseline Year 2010



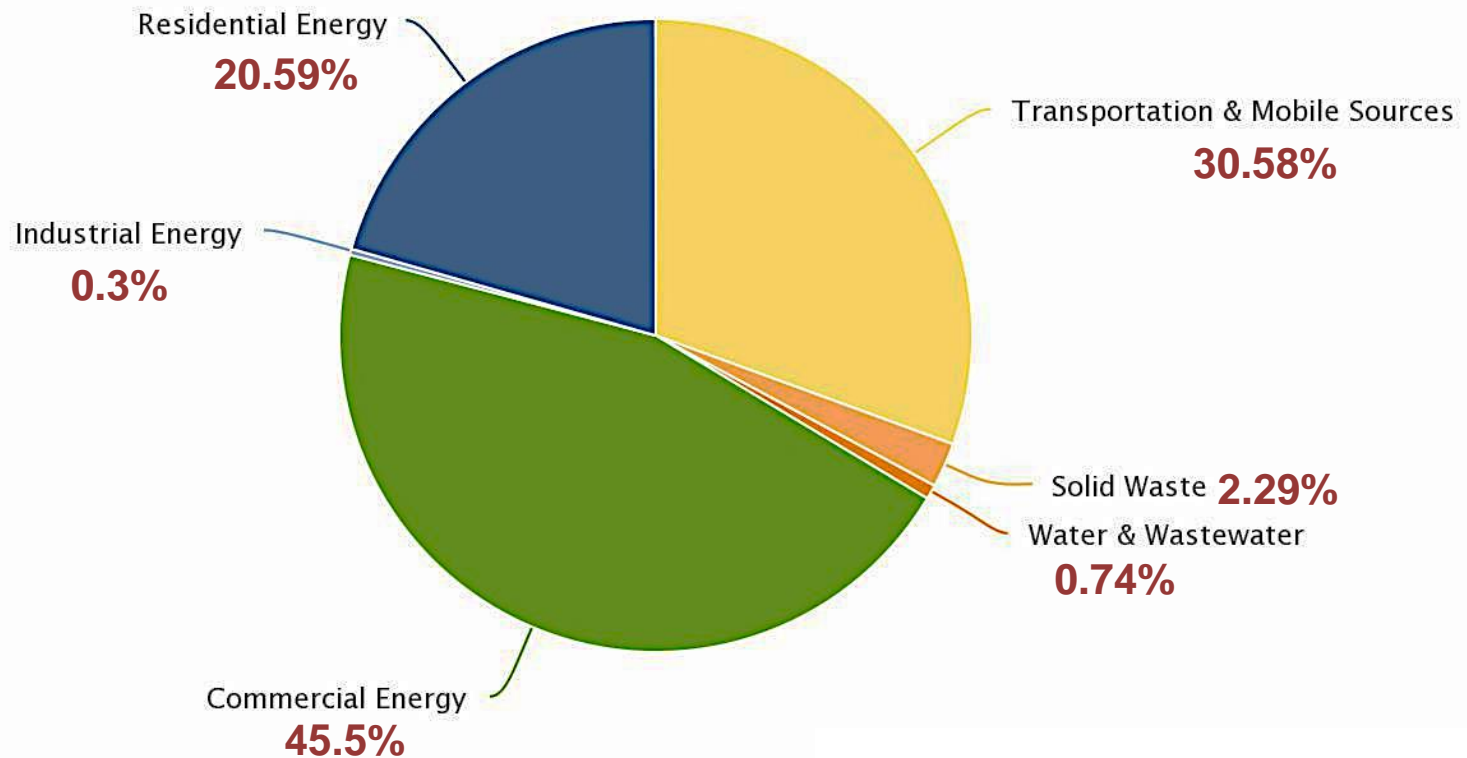
Sustainable Princeton

Change a habit, change the world



Princeton's Climate Action Plan

Princeton Community Production Inventory : 393,870 tons CO₂e



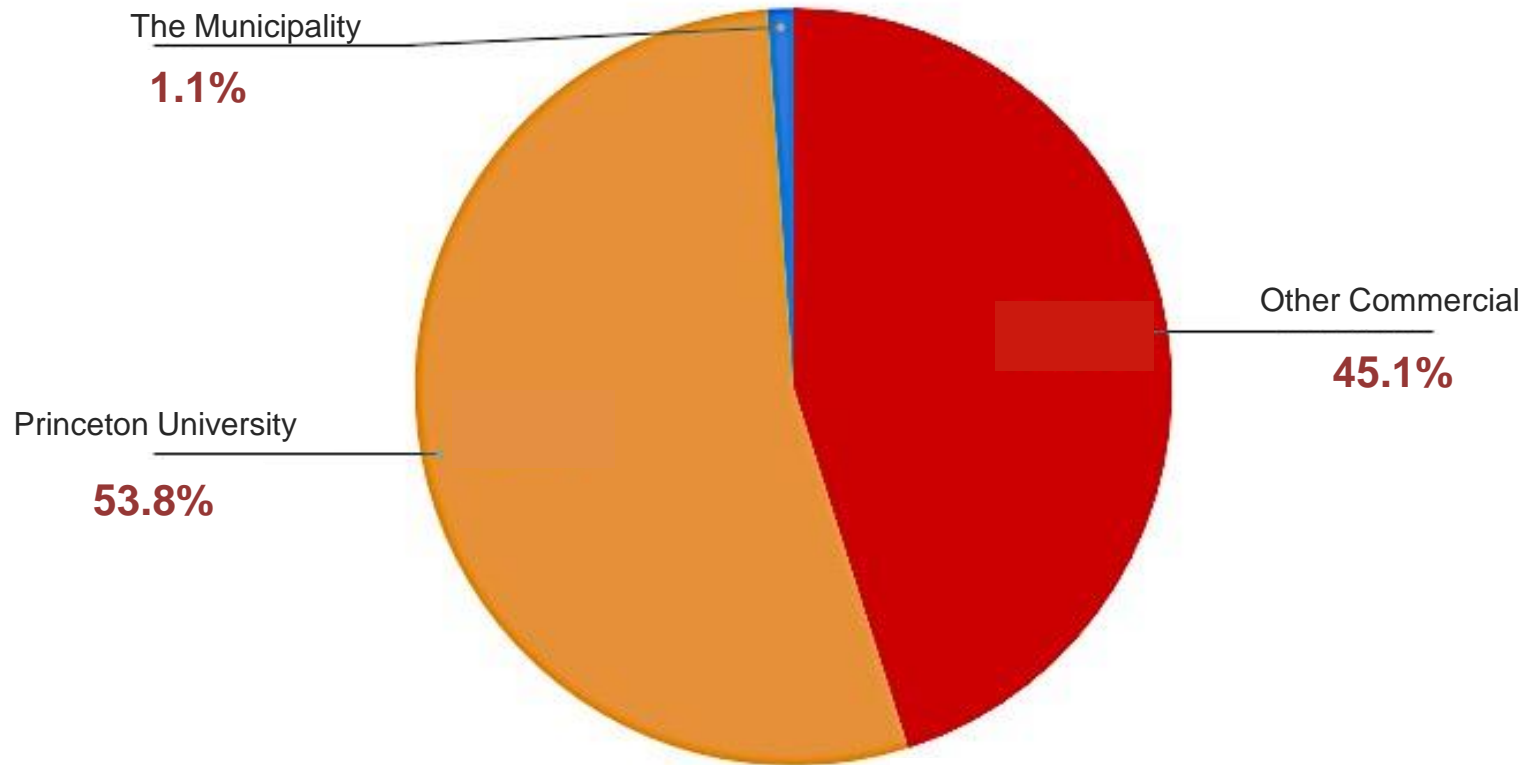
Sustainable Princeton

Change a habit, change the world



Princeton's Climate Action Plan

Commercial Energy In Detail



Commercial = Retail, Office Buildings,
Multifamily, Non-profits, Schools

Yr. 2015

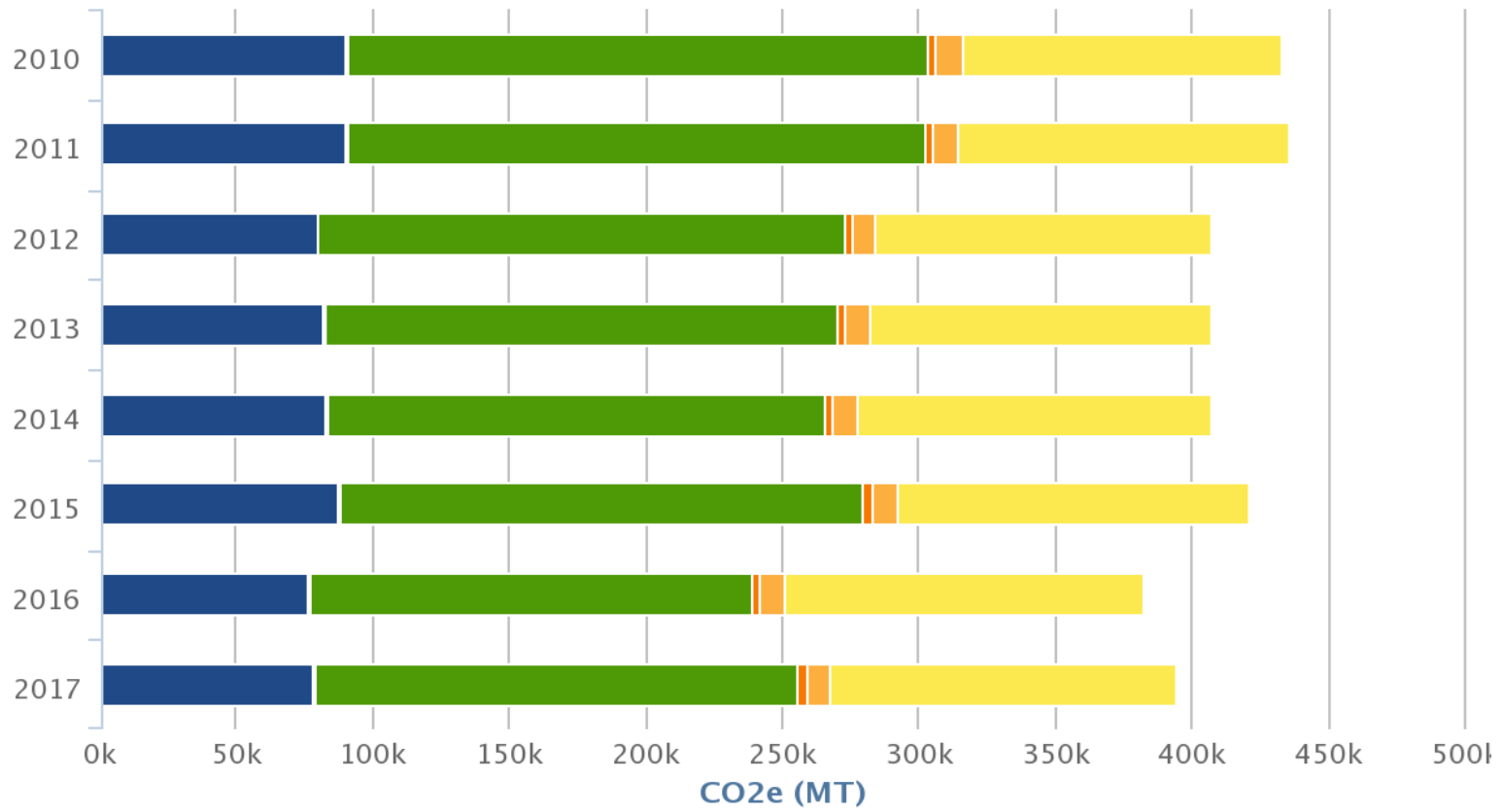


Sustainable Princeton
Change a habit, change the world

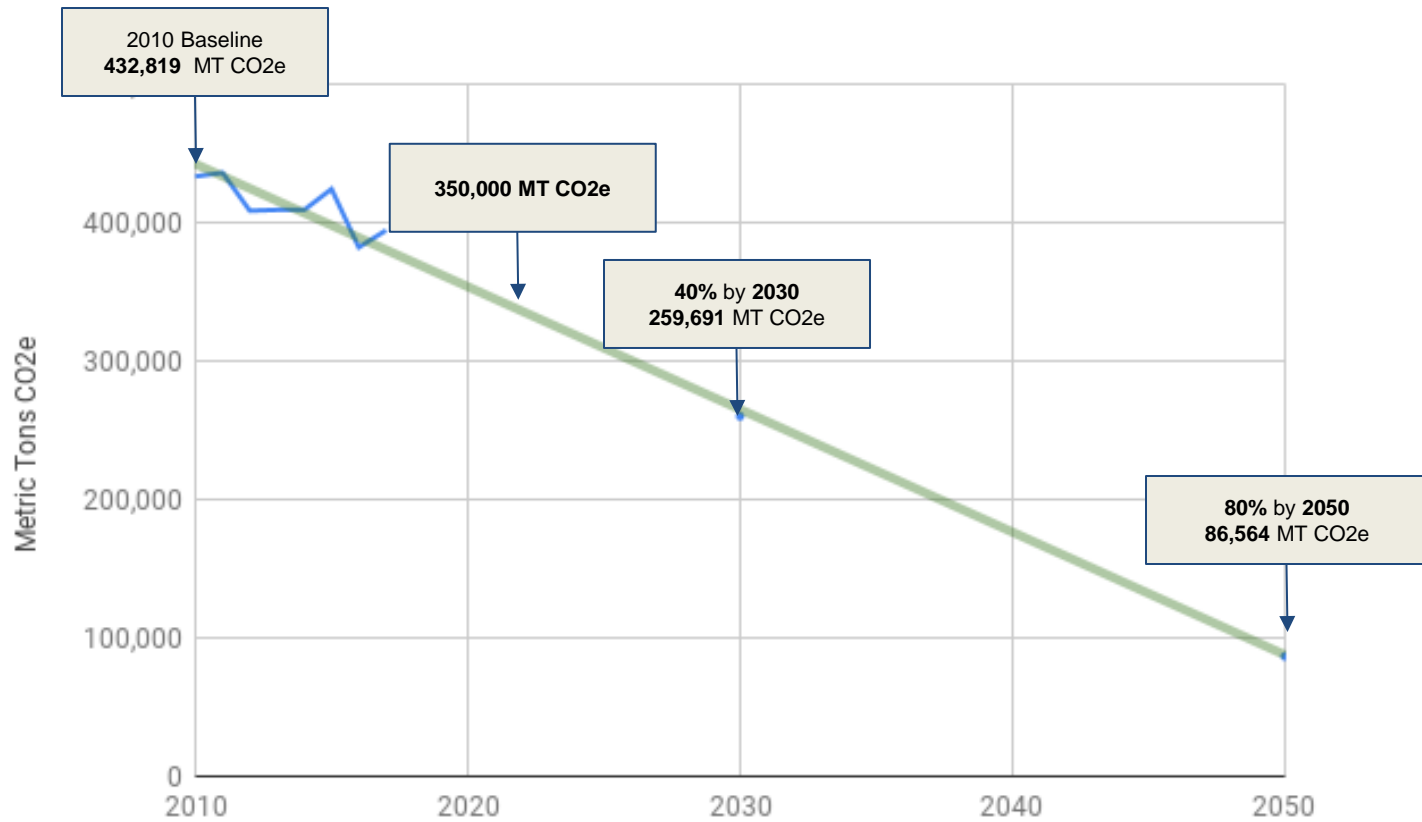


Princeton's Climate Action Plan

Princeton Community GHG Emissions 2010-2017



GHG Reduction Goal



Sustainable Princeton

Change a habit, change the world

Year	% GHG Reduction	MT CO2e
2010	Baseline	432,819
3 - 5 year goal	20%	350,000
2030	40%	259,691
2050	80%	86,564



Princeton's Climate Action Plan

Princeton CAP Development Structure



Targets & Metrics - Ex. Bedford, NY

Community Scale Renewable Energy

Renewable energy - energy generated by natural resources - contributes little or no greenhouse gasses (GHG) to the atmosphere, reduces unhealthy by-products of burning fossil fuels and helps us reduce the need to import energy fuels from overseas. Renewable energy sources include: solar, wind, hydroelectric, and geothermal.

If the Town of Bedford purchased 100% renewable energy from conventional sources, such as those currently available through your utility, the cost would amount to over \$215,000 annually. The Town of Bedford, working with the Bedford 2020 Coalition and its partners, should commence a study to identify all available renewable energy assets in the community as well as opportunity sites where RE projects might best be implemented to bring this cost down. In addition, the study would include potential finance options. The results of this study could allow us to move toward increasing renewable energy production locally, bring down the incremental cost of using renewable energy, and ultimately move to 100% renewable energy use in town-owned buildings by 2020.

Total Cost: \$215,532 annually
(\$0.10 per kWh additional cost)

Payback: Not available

Co-Benefits:    

Scope

100% RE Purchased

Annual Reductions

CO₂e: 803 Tonnes in total Community Emissions and 15% reduction in TOB total Emissions and 75% of 20% by 2020 goal)

Energy: N/A

NOx: 2,145 lbs

SOx: 9,044 lbs

CO: 2,246 lbs

VOCs: 252 lbs

PM10: 1,981 lbs



Sustainable Princeton

Change a habit, change the world



Sustainable Princeton

Change a habit, change the world

Climate Action Plan Engagement to Date

Government: 54

- Council
- PEC
- Municipal Green Team



Schools: 106

- PPS leaders
- PDS leaders
- PASH leaders
- JW 7th grade students

Business Leaders: 11

- Apprise
- Jammin' Crepes
- NRG Energy
- PMA
- PRCC



702

Individuals
reached



Public Events: 303

- Great Ideas
- Let's Talk Climate
- Tomorrow's Crisis ...
- Science, Democracy, ...

Nonprofits: 21

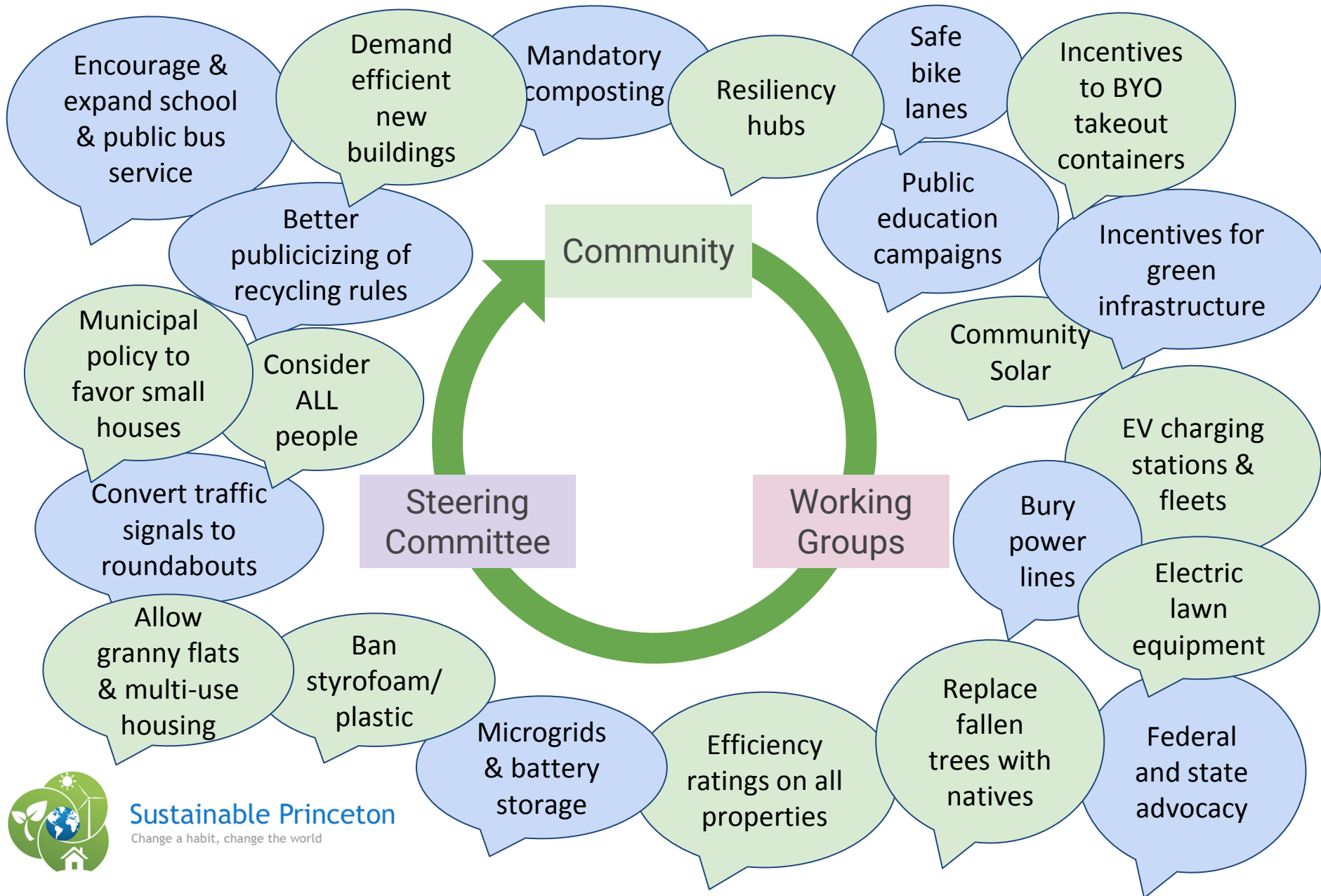
- PU Office of Sustainability
- PU Andlinger Center
- Watershed Institute
- D & R Greenway
- FOPOS
- Princeton Public Library
- Rotary Club
- PCV and PCH



Groups: 206

- Princeton Tiger Challenge
- Princeton Progressive Action
- Princeton Marching Forward
- C-Change Conversations
- Indivisible Princeton
- Witherspoon Jackson NA
- PU Citizen Scientists
- Constitution Hall NA

What We've Learned From the Princeton Community





Princeton's Climate Action Plan

Sophie Glovier, Chair, Princeton Environmental Commission





Princeton's Climate Action Plan

Princeton Environmental Commission

About Us:

The Princeton Environmental Commission (PEC) is comprised of volunteer Princeton residents who are appointed by the Council with the Chair being appointed by the Mayor. The commission advises the Mayor, Township Administration, The Town Council, and local officials, including the Planning Board and the Zoning Board regarding environmental issues and actions that may affect the natural resources and inhabitants of the community.

The PEC was established to advocate for the protection, development and use of natural resources, including water resources, located within Princeton. The PEC reviews studies, funds research and makes recommendations concerning open space preservation, water resources and storm water management, air pollution control, sustainable building design and practices, alternative transportation, recycling, composting, solid waste management, noise control, soil and landscape protection, environmental appearance, aquatic resources and protection of flora and fauna.



Princeton's Climate Action Plan

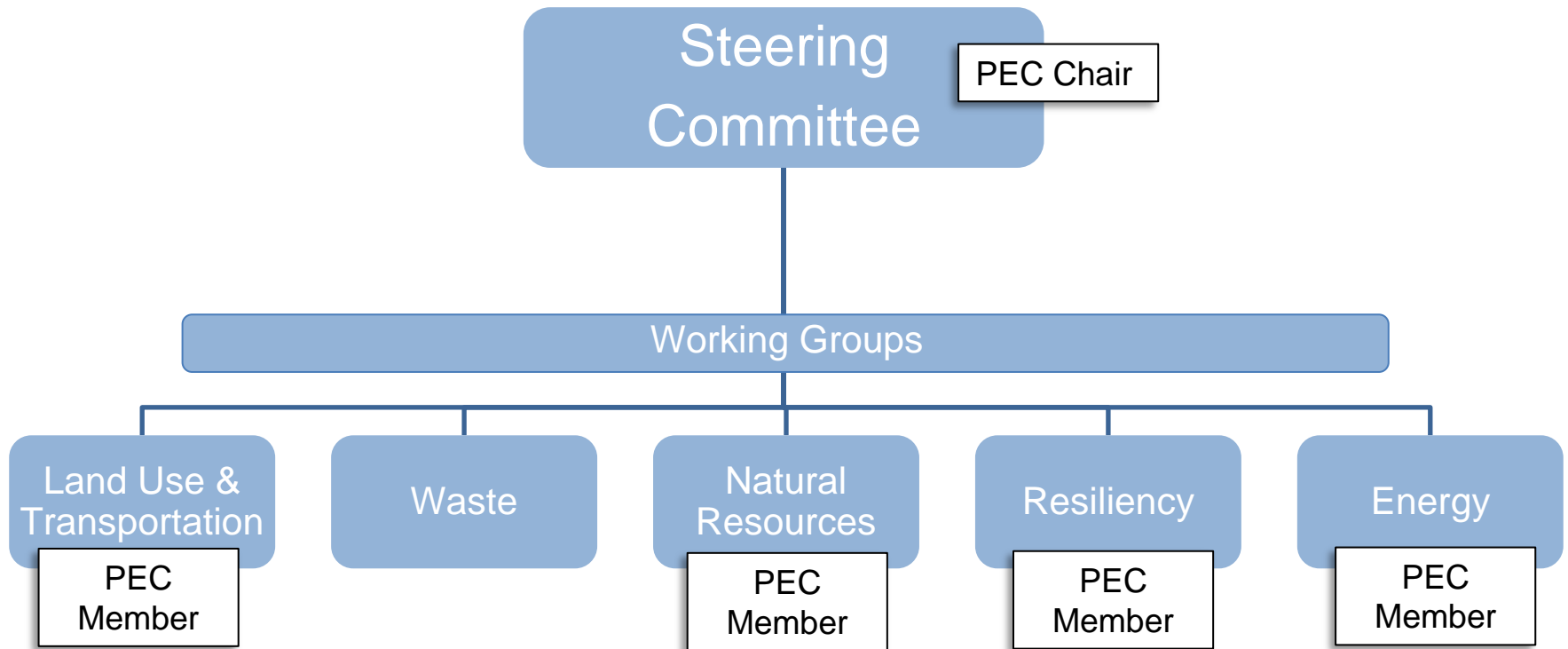
Climate Action Plan Roles for the Environmental Commission

- PEC members engaged on each subcommittee of CAP
- Development of a Green Building & Environmental Sustainability Master Plan Element
- Make opportunistic progress in advance of CAP completion
- Educate Council and the community
- Advise the Mayor and Council on proposals submitted for endorsement
- Connect CAP goals to a variety of issues affecting the town



Princeton's Climate Action Plan

PEC member involvement on the CAP





Princeton's Climate Action Plan

Green Building & Environmental Sustainability Element

- In August 2008, the Municipal Land Use Law was amended to include the GBESE in the list of permitted Master Plan Elements. It describes the Element as the following:
- *“A green buildings and environmental sustainability plan element, which shall provide for, encourage, and promote the efficient use of natural resources and the installation and usage of renewable energy systems; consider the impact of buildings on the local, regional and global environment; allow ecosystems to function naturally; conserve and reuse water; treat storm water on-site; and optimize climatic conditions through site orientation and design.”*



Princeton's Climate Action Plan

Green Building & Environmental Sustainability Element

- Important piece of town's commitment to move towards sustainability and adopt a climate action plan
- Core topics include:
 - Green Building & Design
 - Climate Change/Greenhouse Gas Emissions
 - Energy
 - Land Use & Mobility
 - Water
 - Food Systems
 - Waste
- Important to distinguish between a GBESE and the sustainability plan



Princeton's Climate Action Plan

In advance of Climate Action Plan, Make Opportunistic Progress

Stormwater Management

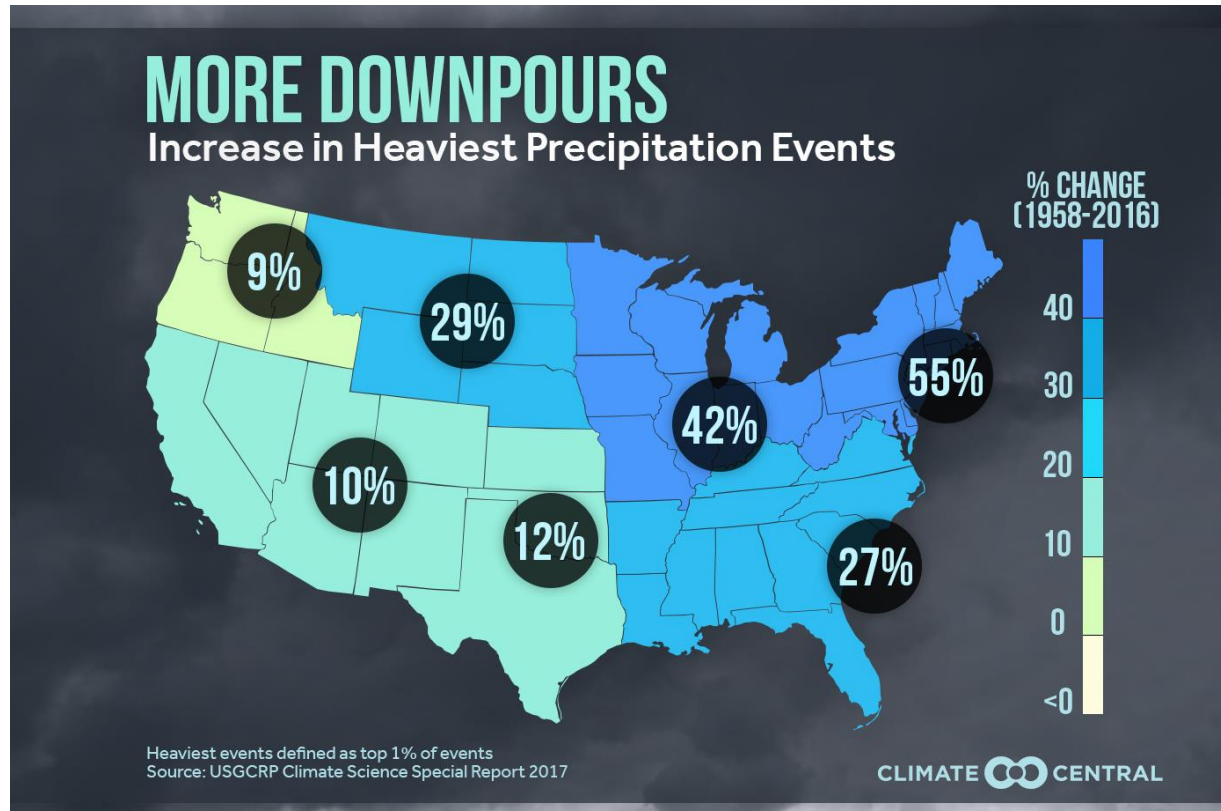


Route One after Hurricane Irene, August 2011 (7" +)



Princeton's Climate Action Plan

Extreme rainfall events on the rise

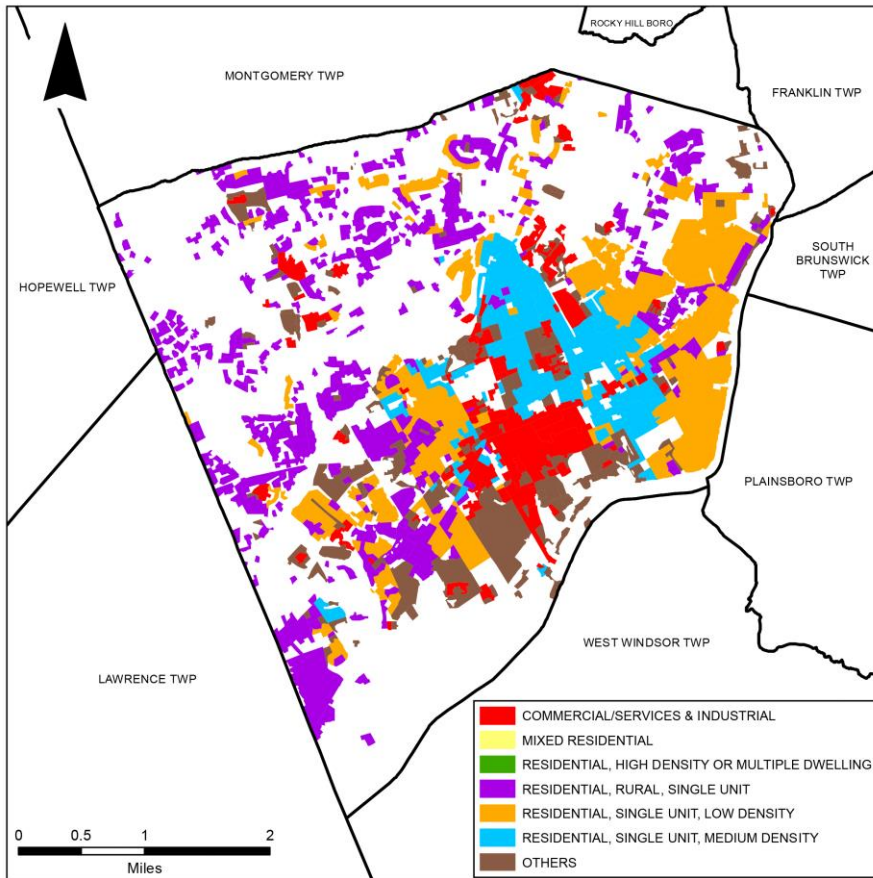




Princeton's Climate Action Plan

Land Use Changes

Urban Land Use Types for Princeton (1995)



Impervious Coverage:

1995: 1521.18 acres

2002: 1598.58 acres

2007: 1634.16 acres

2012: 1644.08 acres



Data Sources: NJ Dept. of Environmental Protection - Land use/Land cover 1995 & 2014.
This secondary map product has not been verified or authorized by the source agency. Map created by the GIS Center of the Stony Brook-Millstone Watershed Association 1/2017. Project: Princeton_LULC95_Urban.mxd



Princeton's Climate Action Plan

Education of Council and the community

- Partner with non profits
- Individual education sessions
 - With Council members
 - With community stakeholders
- Community Education
 - Partner, partner, partner
- Staff Education

princeton PRINCETON PUBLIC LIBRARY PRESENTS AT THE SANDS LIBRARY BUILDING
65 Witherspoon St., Princeton, NJ, 08542 | 609.924.9529 | princetonlibrary.org

STORMWATER MANAGEMENT

FOR PRINCETON HOMEOWNERS



Huber Thoft Kreiseder

Princeton residents are invited to join landscape architect Carolle Huber, architect Kirsten Thoft, and Stony Brook-Millstone Watershed Association storm water specialist Kory Kreiseder to learn how to best incorporate storm water management on their property. *Community Room*

Co-sponsored by the library, the Princeton Environmental Commission, Stony Brook-Millstone Watershed and the Princeton Environmental Film Festival.

Wednesday, Oct. 18, 7 p.m.

Optimizes expected during programming at Princeton Public Library & do not necessarily reflect the views of the library, its staff, trustees or supporters

FRIENDS Princeton Public Library

More programs made possible through gifts from the Friends of the Library

Princeton Public Library is an Equal Opportunity Institution. Princeton Public Library is an Equal Opportunity Institution.

PRINTED ON 100% RECYCLED PAPER



Princeton's Climate Action Plan

Advise the Mayor on proposals submitted for endorsement

- Vet proposals requesting the endorsement of the town for consistency with town approach to climate action
- Recommend Council support key issues
 - Support ANJEC efforts
- Track and report progress as required
 - Mayor's Monarch pledge, National Wildlife Federation



Princeton's Climate Action Plan

Connect CAP thinking to other issues in our town

- Affordable Housing
- Municipal Projects
- Site Plan Reviews
- Partnership with key stakeholders
 - How do our climate action goals connect with theirs?



Now we want to hear your thoughts!

Sophie Glovier, Chair, Princeton Environmental Commission
Sophie.glovier@gmail.com

Molly Jones, Executive Director, Sustainable Princeton
molly@sustainableprinceton.org



Sustainable Princeton

Change a habit, change the world



**Robert Wood Johnson
Foundation**