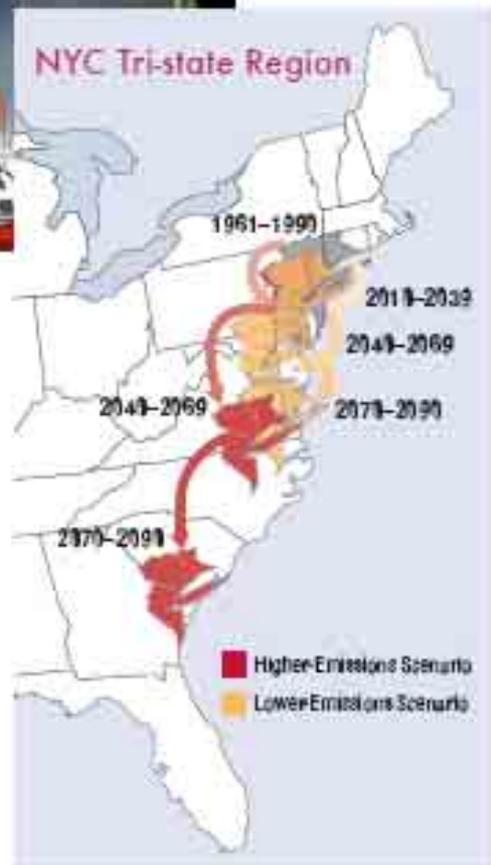


A Changing Climate Will Cost All New Yorkers



Already in New York since 1970:

- Spring comes, on average, a week or so earlier.
- Winter snow cover is decreasing.
- Rising sea levels are increasing the risk of flooding.
- Summers have more super-hot days.
- Diseases typical of warmer climates are appearing.
- Warmer average temperatures cause more intense precipitation.
- Food production capacity is changing due to warming trend.



www.dec.ny.gov/energy/44992.html

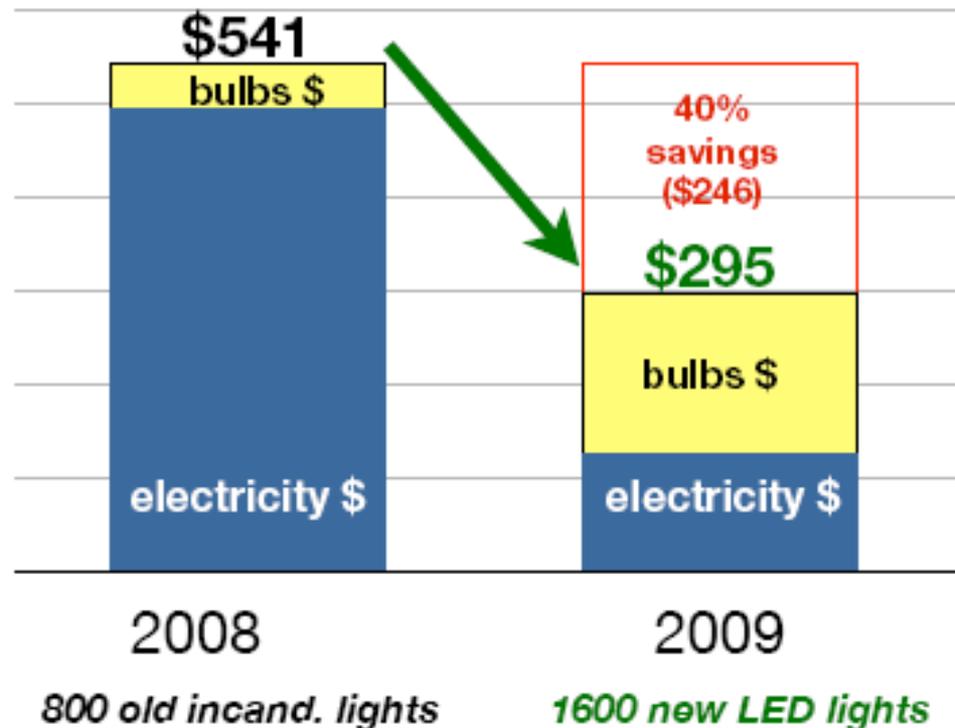
www.northeastclimateimpacts.org



Information = power



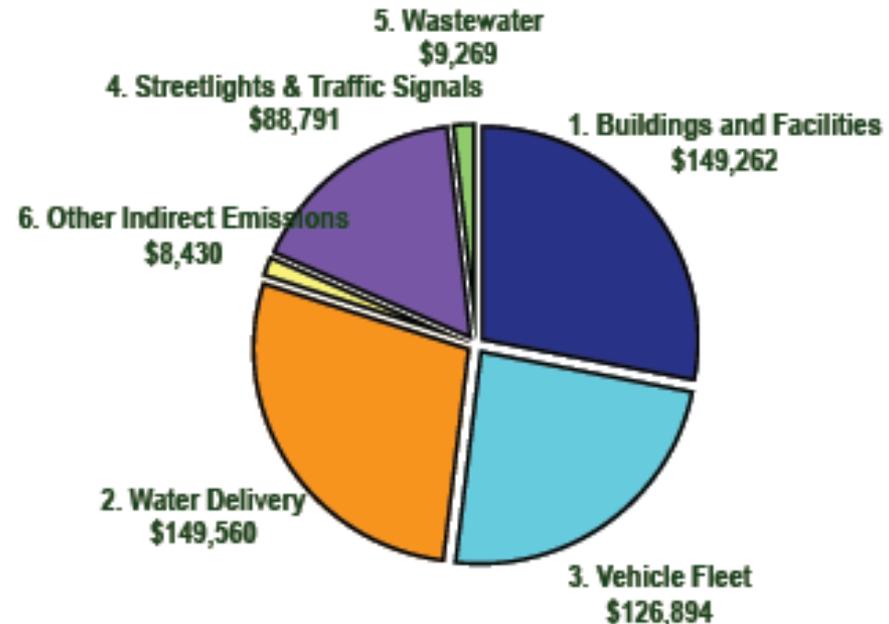
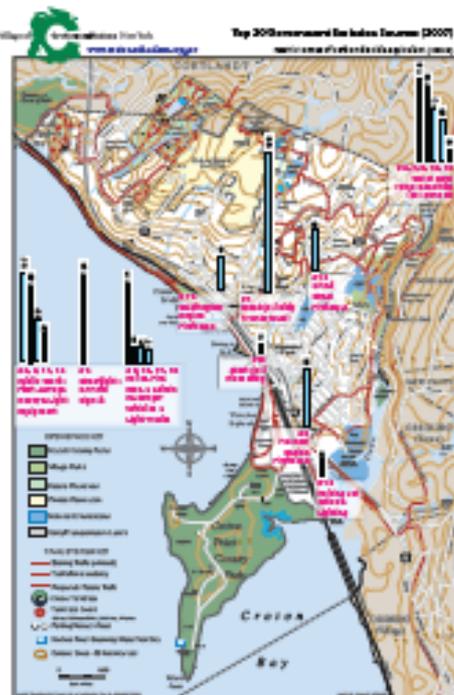
Lighting our Village's Holiday Tree



Village Gov. GHG Report



Greenhouse Gas Emissions and the Inventory



In 2007, Village government spent/used

- ➔ **\$532,000** in energy expenses
- ➔ 5.2 million kiloWatt-hours (kWh)
- ➔ 17.8 billion British thermal units (Btu)
- ➔ **1,774 metric tonnes** of emissions.

Or enough to run a house for 50 years



What else are we doing?

In 2009-2010, Croton-on-Hudson

- Recommitted to 25% **wind power**
- Joined ICLEI & Climate Registry
- Conducted & published our **emissions inventory**
- Adopted a **Bicycle-Pedestrian** Master Plan
- Took the **Climate Smart** Community pledge
- Launched volunteer advisory **Sustainability Team**
- Installed **solar electric** on Grand St Firehouse
- Signed **USCOM** Climate Protection Agreement
- Hosted sale of **200 compost bins**
- Broke ground for **Community Garden**
- Cut use of **fertilizers** on village fields
- Began **street lighting inventory**

...and much more



Quick Payback Energy Retrofits



Upgrades with 2-3 year payback

Water system

- We spend **\$150,000/yr now** to lift 4 million gallons.
- *Solution: audit whole system*

Street lighting

- We spend **\$90,000/yr now** to run 800 streetlights.
- *Solution: audit whole system*

Municipal Building utilities

- We spend **\$1.86/sq. ft now** for 29,000 sq. ft.
- *Solution: audit whole system*

Fire House (3) utilities

- We spend **\$2.11/sq. ft now** for 21,300 sq. ft.
- *Solution: audit whole system*



What's on the horizon?

Smart grid = energy internet



Install new advanced meters to the existing grid.

+



Add monitoring feedback via internet for consumers.

+



Expand renewables to fit into the new demand response network.

=



healthier
economy &
planet



What's on the horizon?

Home Energy Retrofits=savings



Blower door
energy audit

+



Insulation +
Infiltration
measures

=

Average Household in Northeast: Energy Expenses (%)

Convenience ~40%

Comfort ~60%

refrigerators

water heating

lighting & other
appliances

11%

12%

19%

space heating

34%

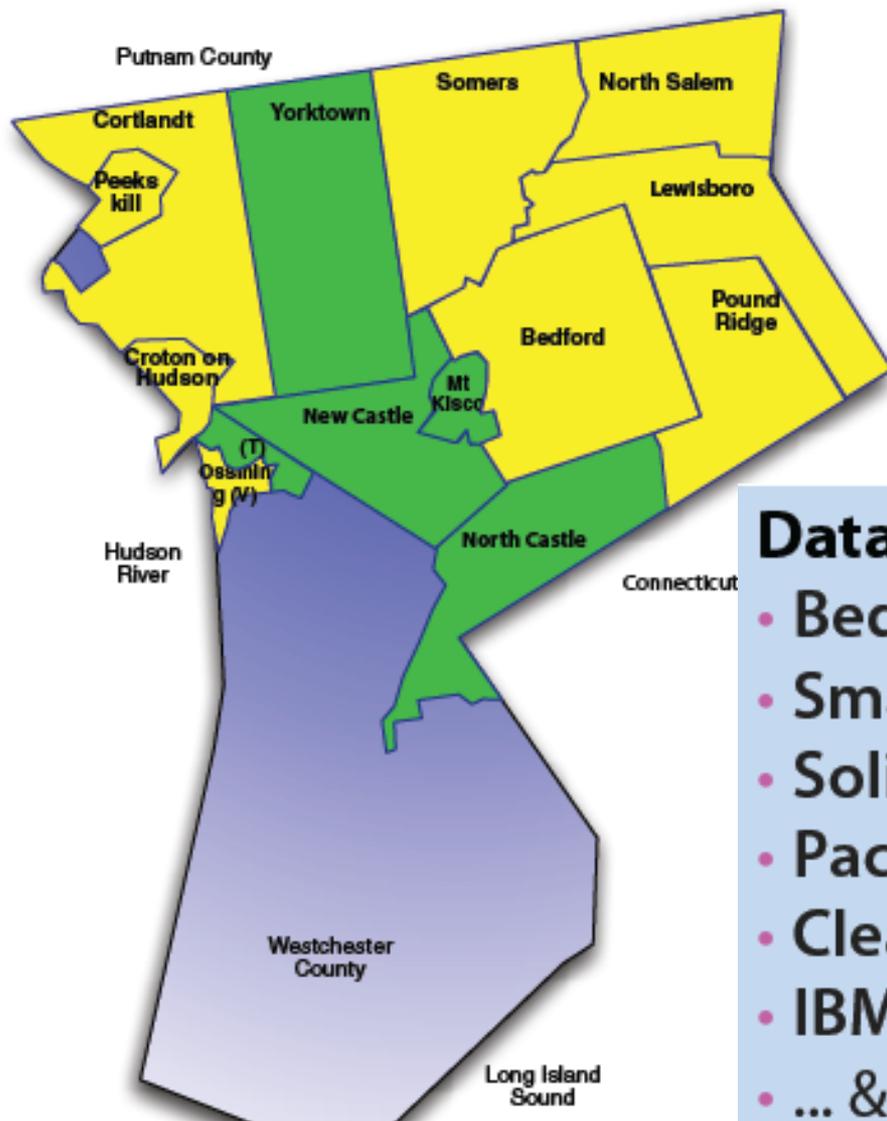
air conditioning

24%

Get more **Comfort** + **Convenience**
for less than you spend now



the Big Picture: Consortium



NWEAC

Northern Westchester Energy Action Consortium

www.nweac.org

- 7 NWEAC partners for RFP 10 Climate Action Plan grants (\$280,000) + more (Bedford Pilot \$100,000) ...
- + Other NWEAC municipalities.
- = 230,000 people living in 55,000+ homes

Data sharing + Service Sharing =

- Bedford Pilot home energy retrofit
- Smart grid demo project
- Solid waste-biomass study
- Pace Univ partnership
- Clean energy initiatives
- IBM cloud computing pilots
- ... & more



6 Easy Pieces: your GHG inventory

Personal Transportation

1. How many miles you drive per year in each car?
2. What is the average fuel mileage for each car?
3. How many miles do your household members fly each year?



Home Utilities

4. How many kWh/month do you use? (electricity)
5. How many therms /month do you use? (nat. gas or propane)
6. How many gallons of #2 heating oil/month do you use?



Average emissions per person in the United States are 20,750 pounds per year ([USA EPA 2010](#))



EPA calculator: the basics

www.epa.gov/climatechange/emissions/ind_calculator.html



Climate Change - Greenhouse Gas Emissions

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Household Emissions Calculator

[Instructions](#)

1. Current Emissions

[2. Reduce Emissions](#)

[3. Estimated Savings](#)

1. The Basics

[2. Household Vehicles](#)

[3. Home Energy](#)

[4. Waste](#)

How many people live in your home?

What is your zip code?

What is your household's primary heating source?

- Natural Gas
- Oil
- Electric Heat
- Propane
- Wood
- I do not heat my house

The calculator uses your zip code to more accurately estimate your electricity-related emissions. EPA does not record this information.

[Previous Section](#)

[Next Section](#)



Emissions from waste and emissions savings from recycling are expressed as [carbon dioxide equivalents](#).

Leo's WYCD "what you can do" Resources

Consumer's Union Greener Choices

www.greenerchoices.org/globalwarmingathome.cfm?page=Toolkit

US EPA calculator

www.epa.gov/climatechange/emissions/ind_calculator.htm

Croton's GHG Emissions baseline from all Village government sector sources:

Search for "GHG Inventory" at www.crotononhudson-ny.gov

Northern Westchester Energy Action Consortium

www.nweac.org

NYS Dept of Environmental Conservation

www.dec.ny.gov/energy/44992.html

Union of Concerned Scientists' Northeast Climate Impacts Study

www.northeastclimateimpacts.org

Encyclopedia of Earth's Climate Solutions Consensus (500+ web references sorted by topic)

www.eoearth.org/article/Climate_Solutions_Consensus

