

Municipalities as Catalysts for Sustainable Energy

NJ League of Municipalities--November 19, 2015

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Maplewood Environmental Advisory Committee





Maplewood Climate Action Plan: Reduce greenhouse gas emissions that result from local decisions

- Focused on emissions outcomes that are decided at the household level
- Taken up by Town Hall Meeting-- June 2007
- Adopted by the Maplewood Township Committee-- September 2007
- Rolled out to broader community at first Maplewood Green Day-- October 2007

MPLWD=GREEN

Maplewood's Plan

Maplewood's Plan to reach 20% reduction

Source of Emissions	K Tons CO ₂	Source Reduction Goal	Reduction
Electricity	60	Reduce fossil-sourced electricity consumption in homes and buildings 35%	21
Vehicles / Mass Transit	60	Improve overall avg fuel economy by 8 mpg	14
Solid Waste	50	Double recycling participation / collections	13
Natural Gas	65	Improve average home and building efficiency (space and water heating) 15%	10
Oil	20	Switch 50% of oil homes to gas	4
Air travel	35	Offset 20% of air travel through carbon offsets	7
Food Consumed	95	Reduce impact of food consumption by 10% through switching to plant-based/local diet	10
Sub-total: Locally Addressable Emissions	385		79 (-20%)
Our Share of Federal, State, Military Emissions	190	Support state and federal legislative efforts to reduce emissions 20%	38
Total	585		114 (-20%)



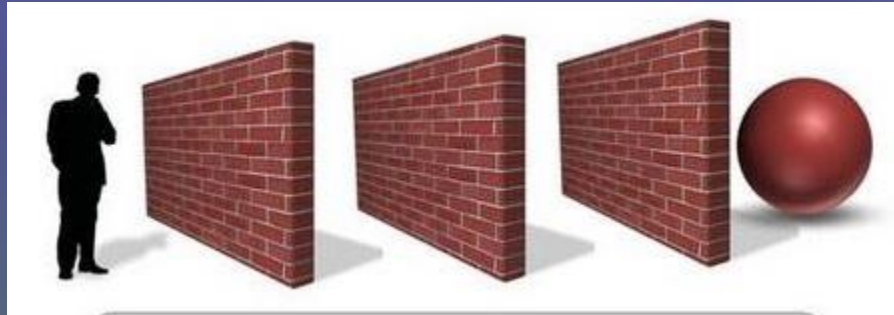
Goal is to reduce Maplewood's emissions 20% by 2015

Energy Actions Taken towards Reduction Goal

- Annual Green Day fairs featuring energy efficiency contractors
- Change-a-Light—5500 bulbs pledged
- Demonstration PV on new Police/Court building
- Energy audits of all municipal buildings
- Commitment to replace municipal light vehicle fleet with hybrid vehicles
- Discount for commuter parking for owners of fuel efficient vehicles
- Residential energy use benchmarking
- Green Challenge pledges to take action
- Redevelopment plans all require LEED certification
- Comfort Partners recruitment drive
- Expansion of commuter jitney service
- Solarize SOMA
- Essex Community Energy residential outreach for Home Performance



Developing Strategy: Assume Good Intentions Identify and Overcome Barriers



- Lack of awareness of energy use, its impact, and options
- Transaction barriers: Time cost of identifying projects and trustworthy contractors
- Competing uses for capital and expectation of rapid payback
- Ownership issues: Renting or unsure ownership will last long enough to recoup investment
- Uncertainty if promised results will materialize

Solarize SOMA

(SOMA=South Orange MAplewood)

- Organized by Community Volunteers
- Followed the “Solarize Model” from CT, MA, NY, etc:
 1. Strong support from municipal leaders—publicity, efficient permits, etc
 2. Competitive RFP and exclusive installer
 3. Discounted and tiered pricing (more systems=lower price for all)
 4. Limited time period
 5. Community-driven outreach
 6. Option of owning or leasing system
- Goal of 80 new installations



Solarize SOMA Results

Maplewood and South Orange April – December 2014:

- ~350 Expressions of Interest
- ~120 Suitable Sites
- 30 Contracted and Installed

Maplewood: 50% increase in the number of installed systems
~3x the rate of new installations vs. 2013



HOWEVER:

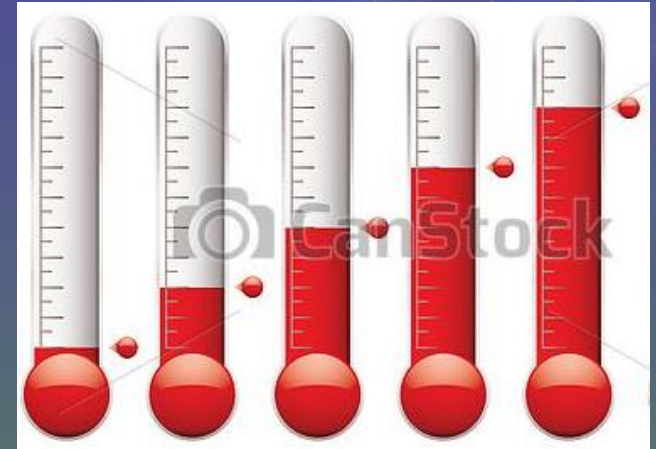
- >2000 Suitable Sites in the Two Towns
- ~5% of Suitable Sites have Installations
- ~1% of all Residences

Challenges:

Reaching the Necessary Reduction Levels

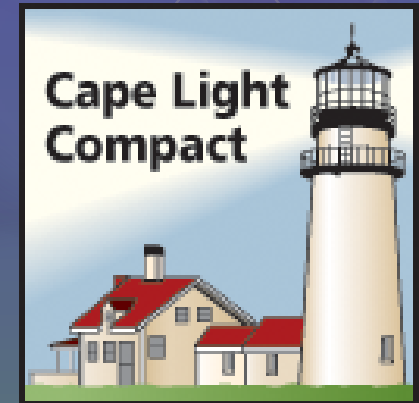
Opt out vs. Opt in

- Task is enormous: 80% reduction by 2050 is required
- Only can come from numerous actions combined: reducing wasted energy and distributed renewable energy are the local pieces
- Need to pick up the pace—some investment decisions will still be around in 35 years; others need to ramp through multiple cycles
- Most effective actions have been either mandatory or require opting out
- Local energy aggregation with an emphasis on sustainable energy is an unused option



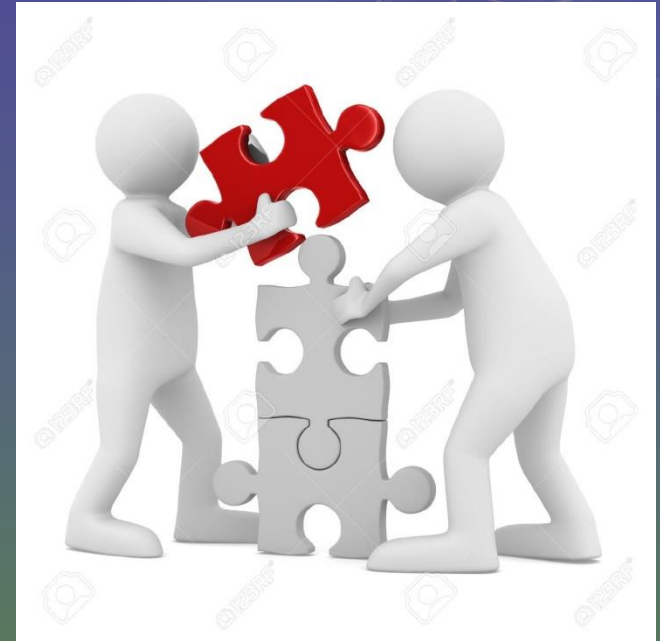
Aspirational Example: Cape Light Compact

- Energy aggregation managed by 21 towns and 2 counties on Cape Cod and Martha's Vineyard—200,000 customers
- 3 missions: Energy efficiency, power purchase, consumer advocacy
- 2014: \$36 million in energy efficiency measures, estimated to yield \$139 million in lifetime economic benefits
- Offer free residential energy audit including free lightbulbs and sealing service, pay 75% of insulation (<\$4000), and other rebates
- 6,000 Whole House participants per year with a 4-week queue
- Reducing total residential electricity use by 2% each year
- Facilitated 28 MW of solar installations through a partner cooperative



Lessons for Municipalities

- Set ambitious goals and set up structures and institutions to achieve them
- Municipal actions are possible in a variety of areas
- Actions should identify barriers and target ways to reduce them
- Look for chances to design programs so that the default option is the right choice even if opt-outs are necessary



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Resources:

*Planning and Implementing a Solarize Initiative,
a Clean Energy States Alliance Guidebook:*

<http://www.cesa.org/assets/2014-Files/Solarize/CESA-Solarize-Guide-September-2014-lowres.pdf>

Cape Light Compact:

<http://www.capelightcompact.org/>