



Connecticut Climate Change

# **CT Climate Change: Implications for Solid Waste Management**

**Solid Waste Advisory Committee**

**August 28, 2007**

**Lynn Stoddard, CT DEP**



## Connecticut Climate Change

# **CT Climate Change: Implications for solid waste management**

- CT actions to address climate change
- Climate change impacts on the Northeast and Connecticut
- Implications for solid waste management



## Connecticut Climate Change

# CT leadership on climate change

- New England Governors/Eastern Canadian Premiers Climate Change Action Plan (2001)
- CT Climate Change Action Plan (2005) – stakeholder process
- CT and New England goals to reduce greenhouse gas emissions:
  - 1990 levels by 2010
  - 10% below 1990 levels by 2020
  - 75-85% long-term reductions (2050)



## Connecticut Climate Change

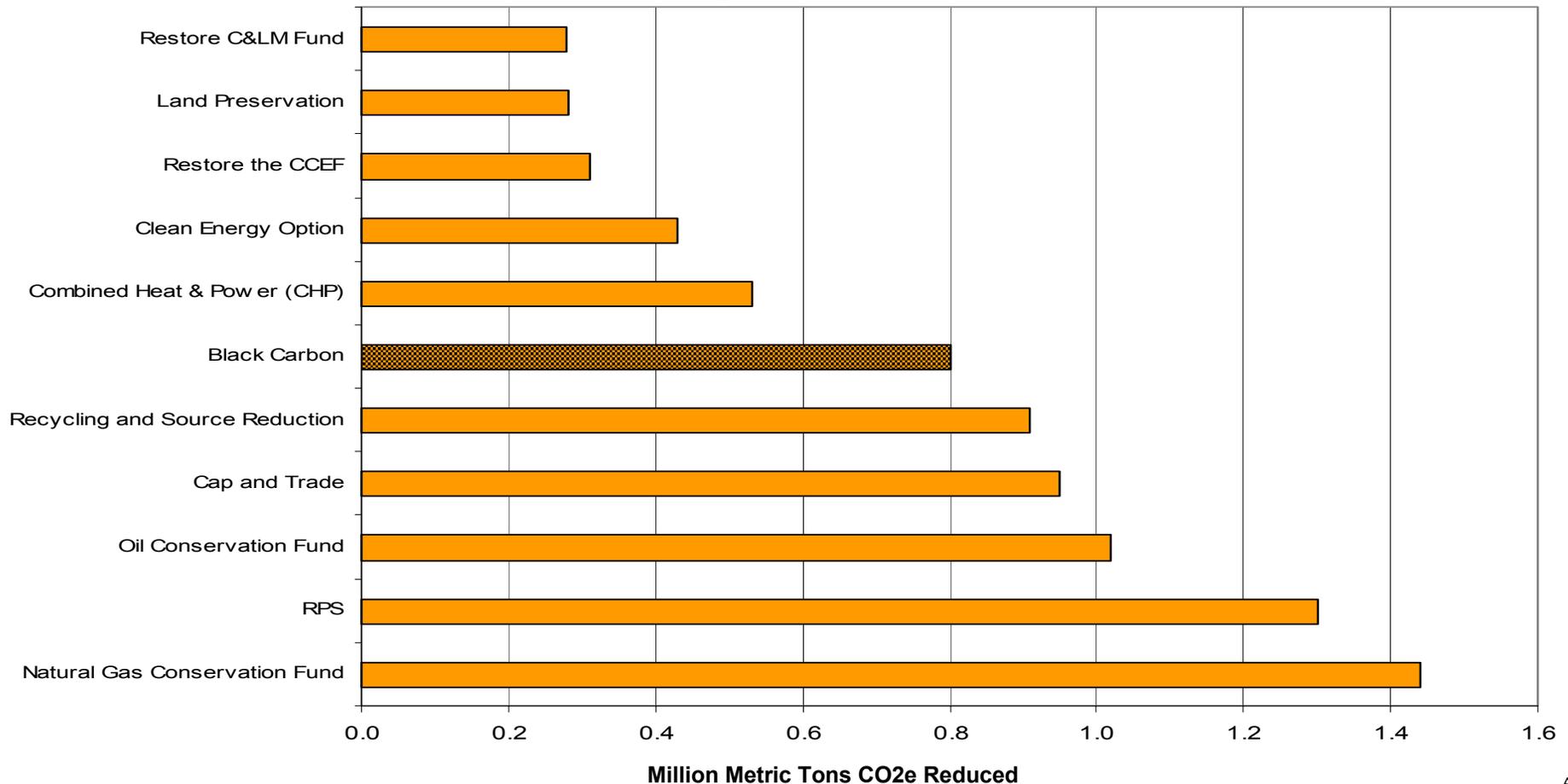
# CT Climate Change Action Plan

- 55 actions
- 5 focus areas
  - Cleaner electricity generation
  - Cleaner transportation and smarter land use
  - More efficient energy use – residential, commercial, industrial
  - Reduced emissions from agriculture, forestry, and waste management
  - Public education
- Achieves/exceeds 2010 and 2020 GHG reduction goals



## Connecticut Climate Change

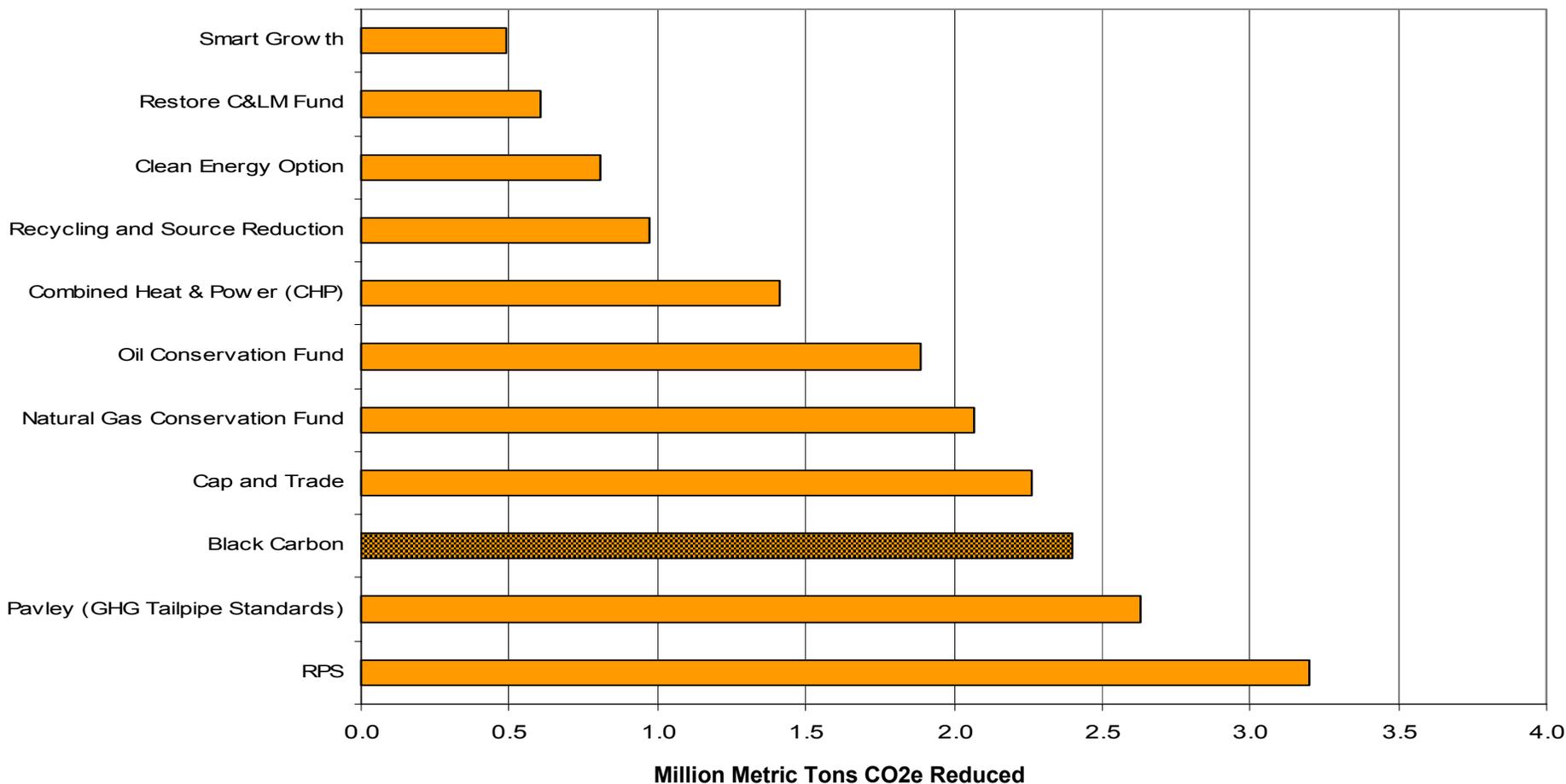
# CT Climate Change Action Plan GHG reductions for top 10 actions for 2010





## Connecticut Climate Change

# CT Climate Change Action Plan GHG reductions for top 10 actions for 2020





## Connecticut Climate Change

### **Implementation successes**

- Renewable Portfolio Standard – 20% by 2020
- CT State SWMP amended 2006 – 58% recycling goal
- Clean car regulations – 30% reduction by 2015
- RGGI “Cap and trade” program for power plants – stabilize from 2009-2015, 10% reduction by 2019
- CT Clean Energy Option – over 15,600 customers, over 50 towns committed to 20% by 2010
- Future electricity needs to be met through cost-effective energy efficiency first
- \$3 billion for public transit projects
- Permanent fund to preserve farmland
- Clean Energy Fund and CT Energy Efficiency Fund



## Connecticut Climate Change

# Impacts of climate change on Connecticut and the Northeast

- July 2007 Union of Concerned Scientists report - “Confronting Climate Change in the US Northeast: Science, Impacts, and Solutions”
- UCS and > 40 independent experts, based on International Panel on Climate Change future emissions scenarios
- Lower and higher emissions scenarios – both show impacts by mid-century



## Connecticut Climate Change

# Key findings of UCS report

- Climate is already changing across the Northeast
- Climate change is accelerating
- Projected change is significant, depending on our emissions of greenhouse gases
- Magnitude of future impacts depends on our actions today



## Connecticut Climate Change

# Climate change impacts so far

- Annual temperatures up almost 2°F since 1970
- Winters are warming fastest, at 1.3°F per decade since 1970
- Snowpack and lake ice are decreasing
- Spring indicators are arriving earlier
- Extreme heat in summer is becoming more frequent

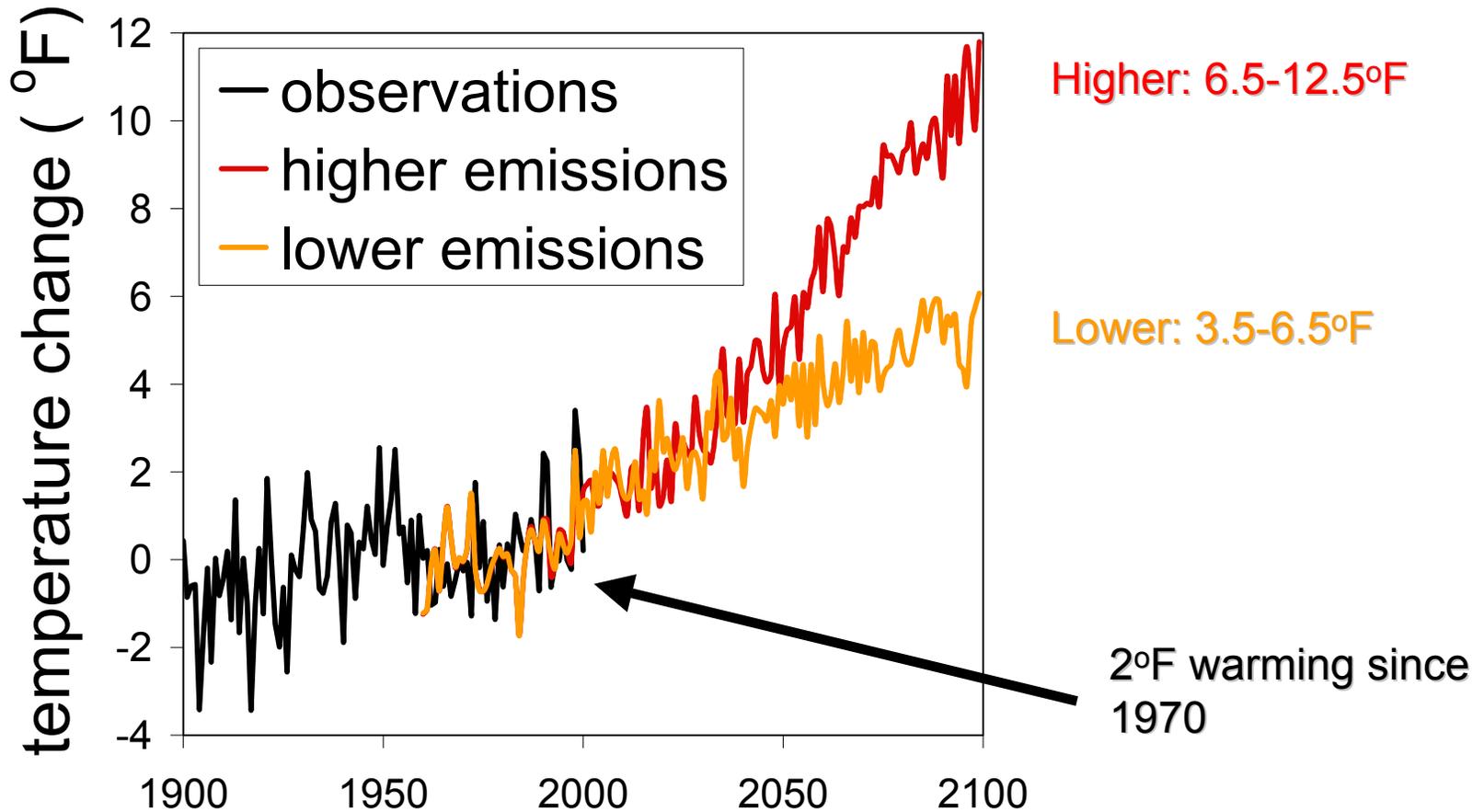
Source: UCS, Climate Change in the Northeast



## Connecticut Climate Change

# Rising temperatures (Region-wide annual average)

Source: UCS, Climate Change in the Northeast

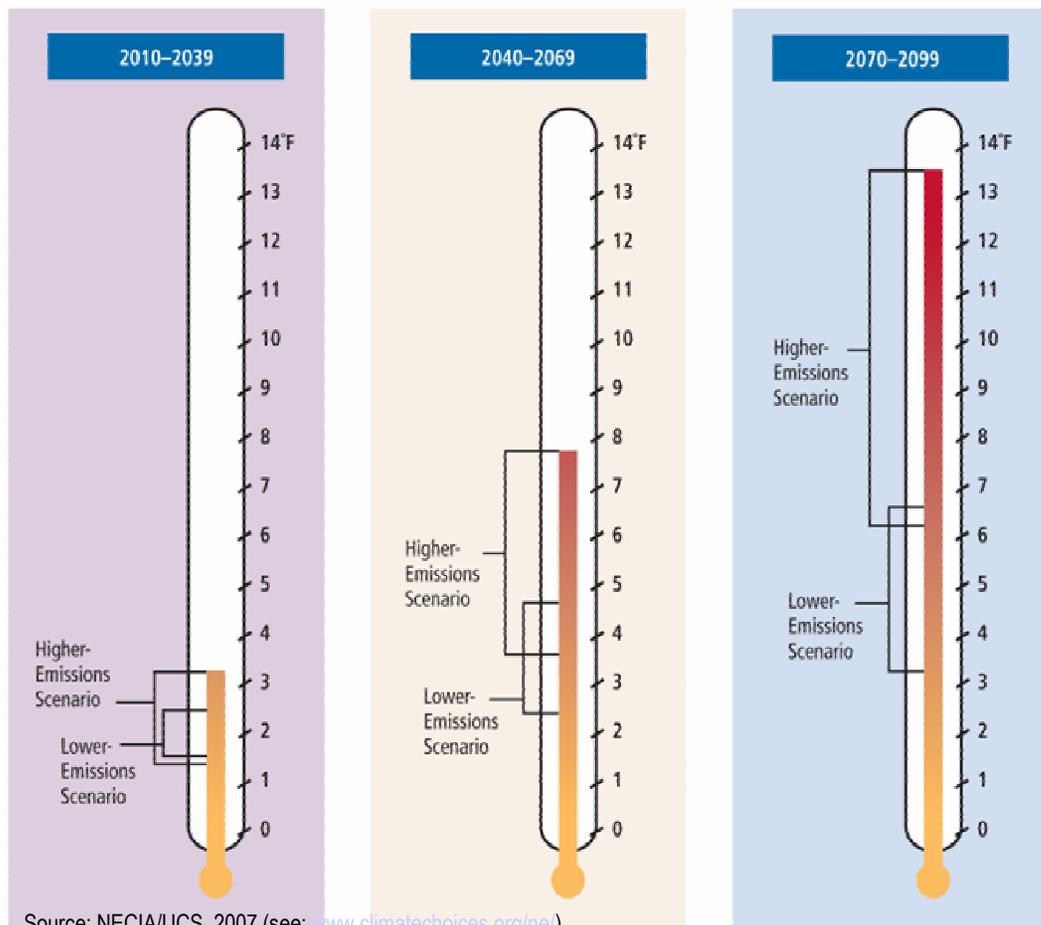




## Connecticut Climate Change

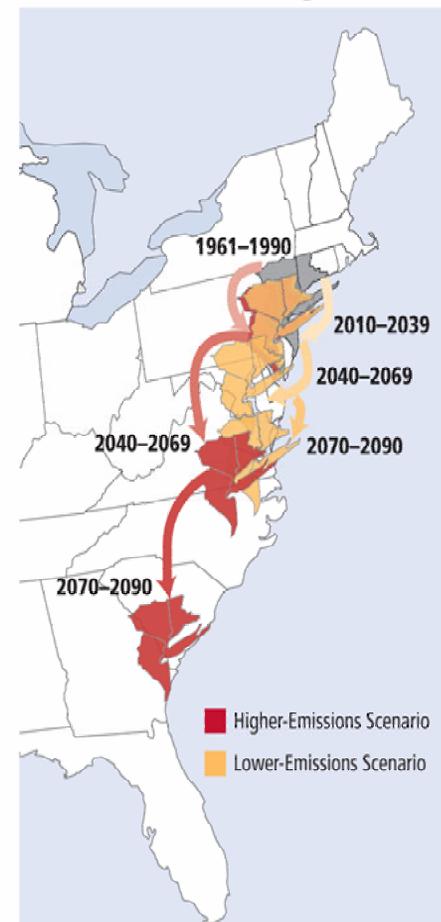
# Summer temp averages and heat index

Source: UCS, Climate Change in the Northeast



Source: NECIA/UCS, 2007 (see: [www.climatechoices.org/ne](http://www.climatechoices.org/ne))

### NYC Tri-State Region



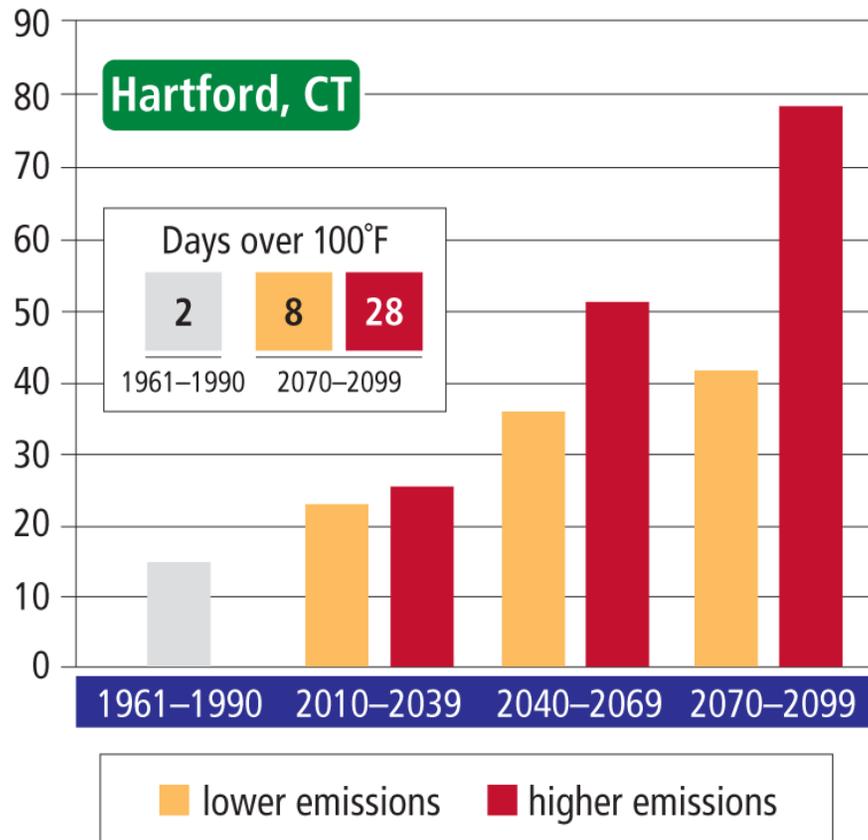
Source: NECIA/UCS, 2007 (see: [www.climatechoices.org](http://www.climatechoices.org))



## Connecticut Climate Change

# Heatwaves and temperature extremes

Source: UCS, Climate Change in the Northeast



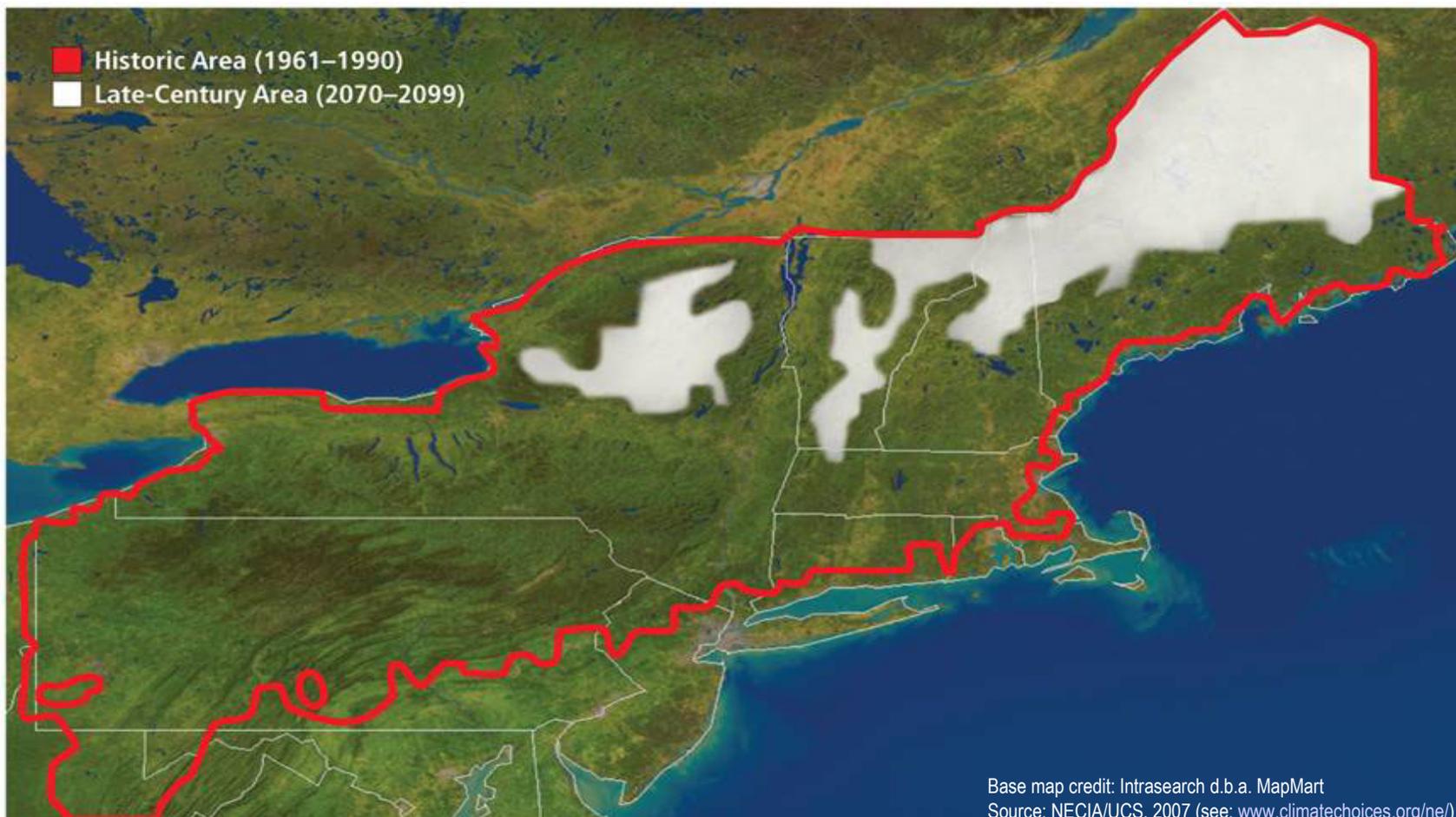
Source: NECA/UCS, 2007 see:  
[www.climatechoices.org/ne](http://www.climatechoices.org/ne)



## Connecticut Climate Change

# Days with snow cover

Source: UCS, Climate Change in the Northeast





## Connecticut Climate Change

# Projected climate impacts

- Temperature – average regional temps up by 6 - 14° F by late century; increase in days > 100° F
- Precipitation – more heavy rainfall events; 20 – 30% increase in winter precipitation, more as rain
- Sea level – 10 – 24 inches by end of century (high emissions scenario), 7 – 14 inches (low emissions scenario); does not account for melting of major ice sheets
- Coastal flooding – current 100-year flood in Groton/New London could occur every 17 years (high emissions scenario)

Source: UCS, Climate Change in the Northeast



## Connecticut Climate Change

# How will our emissions choices effect our future climate?

- **Agriculture** – dairy, crop productivity, pests and weeds
- **Forests** – ecosystem response, tree habitat change, bird habitat change, insect pests
- **Coasts** – coastal flooding, shoreline change
- **Marine** – cod and lobster habitat
- **Health** – air quality, heat-related health, urban vulnerability
- **Winter recreation** – skiing and snowmobiling
- **Solutions** – mitigation and adaptation



## Connecticut Climate Change

# Implications for solid waste management CT Climate Change Action Plan actions

- Increase source reduction/recycling to 40%
- Support economically viable landfill gas-to-energy projects
- Procurement of environmentally preferable products
- Energy efficiency measures – compact fluorescent bulb handling/recycling
- Waste collection and transport – reduce distances, cleaner diesel, rail, intermodal



## Connecticut Climate Change

# GHG reductions from increased recycling

- Material acquisition - fossil fuel energy, other emissions, changes in forest sequestration
- Energy use for manufacturing
- Waste management
- Transportation emissions between each phase
- EPA Waste Reduction Model (WARM) – calculates GHG emissions of baseline and alternative waste management practices (source reduction, recycling, combustion, composting, landfilling)



## Connecticut Climate Change

# Issues for SW subcommittees

- Database management system – consider a system that can easily calculate GHG reductions and other co-benefits
- Increasing source reduction and recycling rates – key to CT’s GHG goals, climate change is another reason to recycle
- Construction and demolition – consider GHG benefits from different management practices, emissions and sinks, energy efficiency in processing, low GHG transport
- SW statutes and regulation reform – make connections to state GHG goals and statutes
- Organics recycling and composting – carbon emissions and sinks, energy efficiency in processing, low GHG transport



Connecticut Climate Change

## **Continued climate change stakeholder input – join us!**

- Bi-monthly stakeholder meetings in 2007/2008
- Important to make Climate Change Action Plan a living document
- Need new ideas for deeper long-term reductions
- Climate change stakeholder meeting schedule and “New Ideas Form” at [www.ctclimatechange.com/stakeholder.html](http://www.ctclimatechange.com/stakeholder.html)



## Connecticut Climate Change

# More info - [www.ctclimatechange.com](http://www.ctclimatechange.com)

The screenshot shows the homepage of the Connecticut Climate Change website. At the top is a banner with the text "Working together for a climate we can all live with" and the Connecticut Climate Change logo. Below the banner is a navigation menu with links for Home, Climate Change, Publications, CT Actions, Awards, News & Events, About Us, and Search. The main content area features a "Welcome to Connecticut's Official Climate Change Web Site" heading, followed by a paragraph about the New England Governors/Eastern Canadian Premiers and the CT General Assembly's goals. To the right of this text is a photograph of a blue bus with the slogan "Cleaner air. Brighter future." and the number "H302". Below the main text is a thank-you message and two logos: the Seal of the State of Connecticut and the Tremain Foundation logo. The Tremain Foundation logo is a blue diamond with a white "T" and the text "Tremain Foundation". Below the Tremain Foundation logo is a special thanks message to the Emily Hall Tremain Foundation.

**PUBLIC INPUT** and [public stakeholder meetings](#)

[7 Receive 2007 CT Climate Change Leadership Awards](#)

[What Can You Do about Climate Change?](#)

[Success Stories](#) on CT Actions

[Speakers List](#)

### Welcome to Connecticut's Official Climate Change Web Site

The New England Governors/Eastern Canadian Premiers and the CT General Assembly have established forward-looking goals to reduce greenhouse gas emissions. On behalf of the Connecticut Governor's Steering Committee on Climate Change, we are pleased to provide information on the [Connecticut Climate Change Action Plan 2005](#), solid [progress](#) in implementing the 55 actions in the plan, inspiring [success stories](#) on action throughout our state, and other information on the Connecticut climate change initiative.

Thank you for your past, current, and continuing participation in Connecticut's climate change initiative.



Special thanks to the [Emily Hall Tremain Foundation](#) for their continued support of Connecticut's Climate Change efforts.