

Energy & Technology Committee Informational Hearing

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February 8, 2018

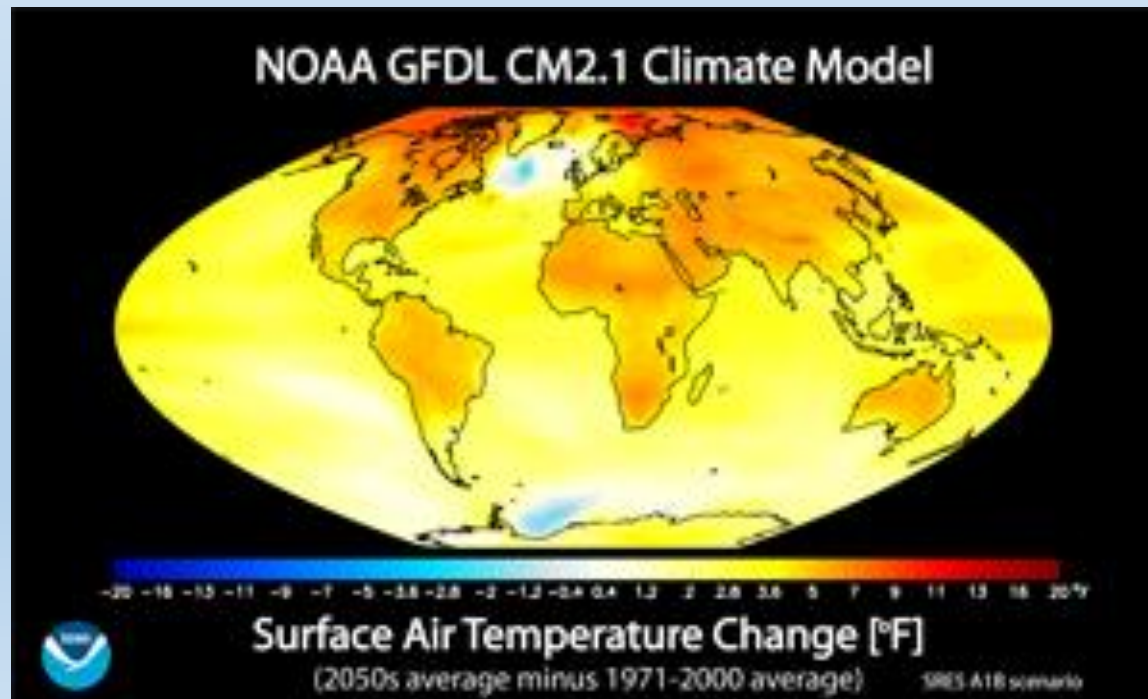


**Connecticut Fund
for the Environment**

Save the Sound®

Global Climate Change

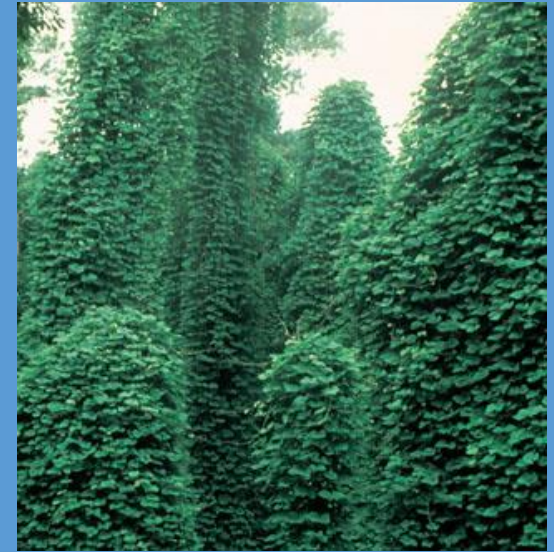
- Climate change is the **greatest crisis facing humankind**. It threatens our very survival.
- Humans are on track to warm the planet by more than **2 degrees Celsius**, which is likely to cause catastrophic consequences.



Climate Change Impacts in CT

Impacts of climate change in CT include:

- Sea level rise and flooding
- More heat waves
- More frequent and intense storms
- Ocean (Long Island Sound) acidification
- Loss of wildlife habitat and loss of species
- Spread of disease and invasive species
- Property damage (from storms, flooding, etc.)
- Declines in health and quality of life



Federal Rollbacks → Opportunity for States to Lead



U.S. CLIMATE ALLIANCE

| | | |
|-------------|----------------|--------------|
| California | Massachusetts | Puerto Rico |
| Colorado | Minnesota | Rhode Island |
| Connecticut | New York | Vermont |
| Delaware | North Carolina | Virginia |
| Hawaii | Oregon | Washington |

**Ahead of the
CURVE**

States Lead on Climate Change

CT's Longstanding COMMITMENT:

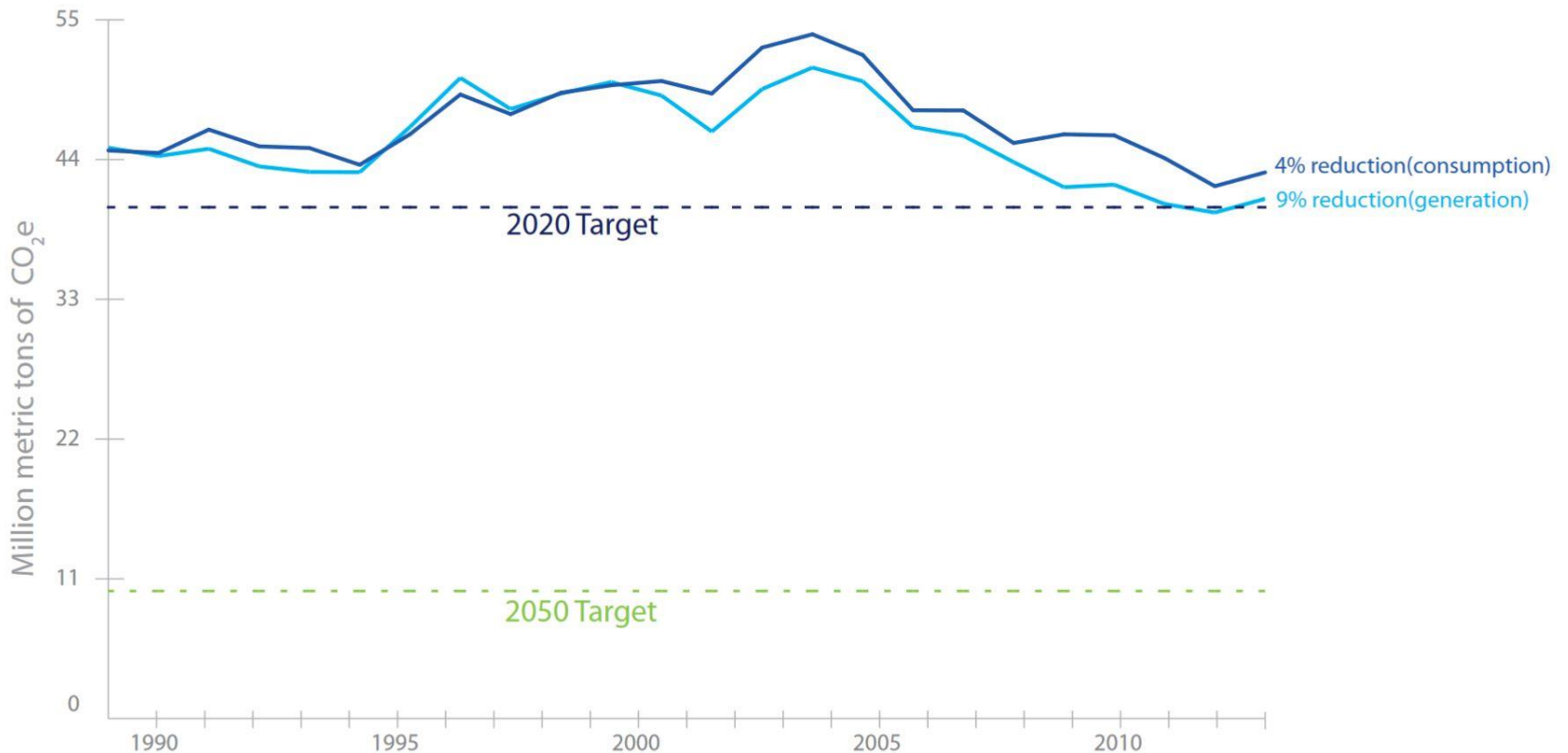
REDUCE Climate Pollution

- In 2008 CT Fund for the Environment helped pass the **Global Warming Solutions Act**, which requires CT to reduce GHG emissions at least:
 - 10% from 1990 levels by 2020
 - 80% from 2001 levels by 2050

CT Not on Track to Meet Climate Goals

Connecticut Statewide Greenhouse Gas Emissions 1990-2013

Comparison of Electricity Sector Generation and Consumption-based Accounting



* Targets shown in this graph utilize the consumption-based 1990 baseline of 44.7 MMTCO₂e. The generation-based 1990 baseline is 44.9 MMTCO₂e.

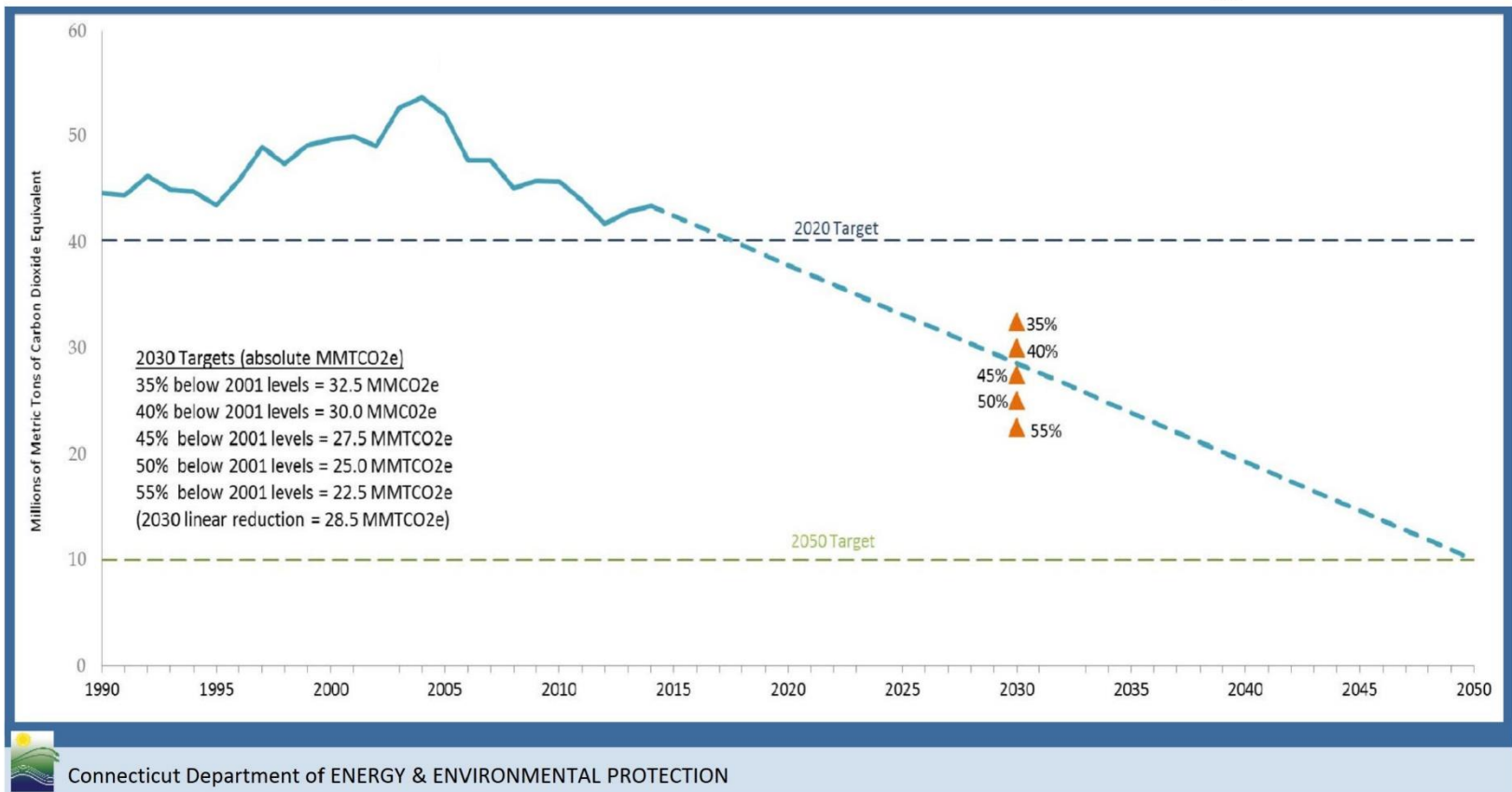
What's Needed?

Energy Policy that Advances Our Climate Goals

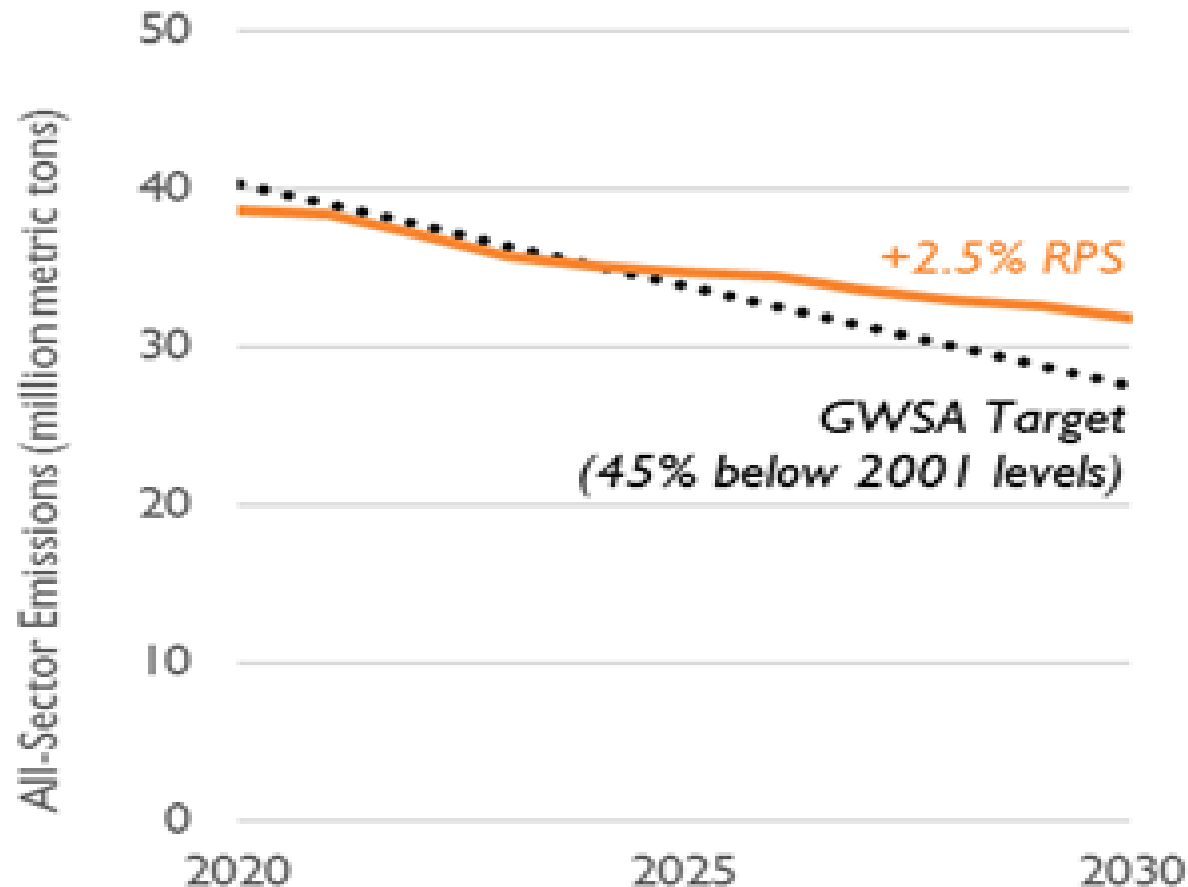
- 1) Enhanced Accountability for GHG-Reductions
- 2) Ramp up Renewables
- 3) Protect and Expand Smart Investments in Energy Efficiency and Clean Energy

GC3: Strong Interim GHG-Reduction Target Needed & Beneficial to State

Assessment of 2030 Interim GHG Reduction Targets for CT

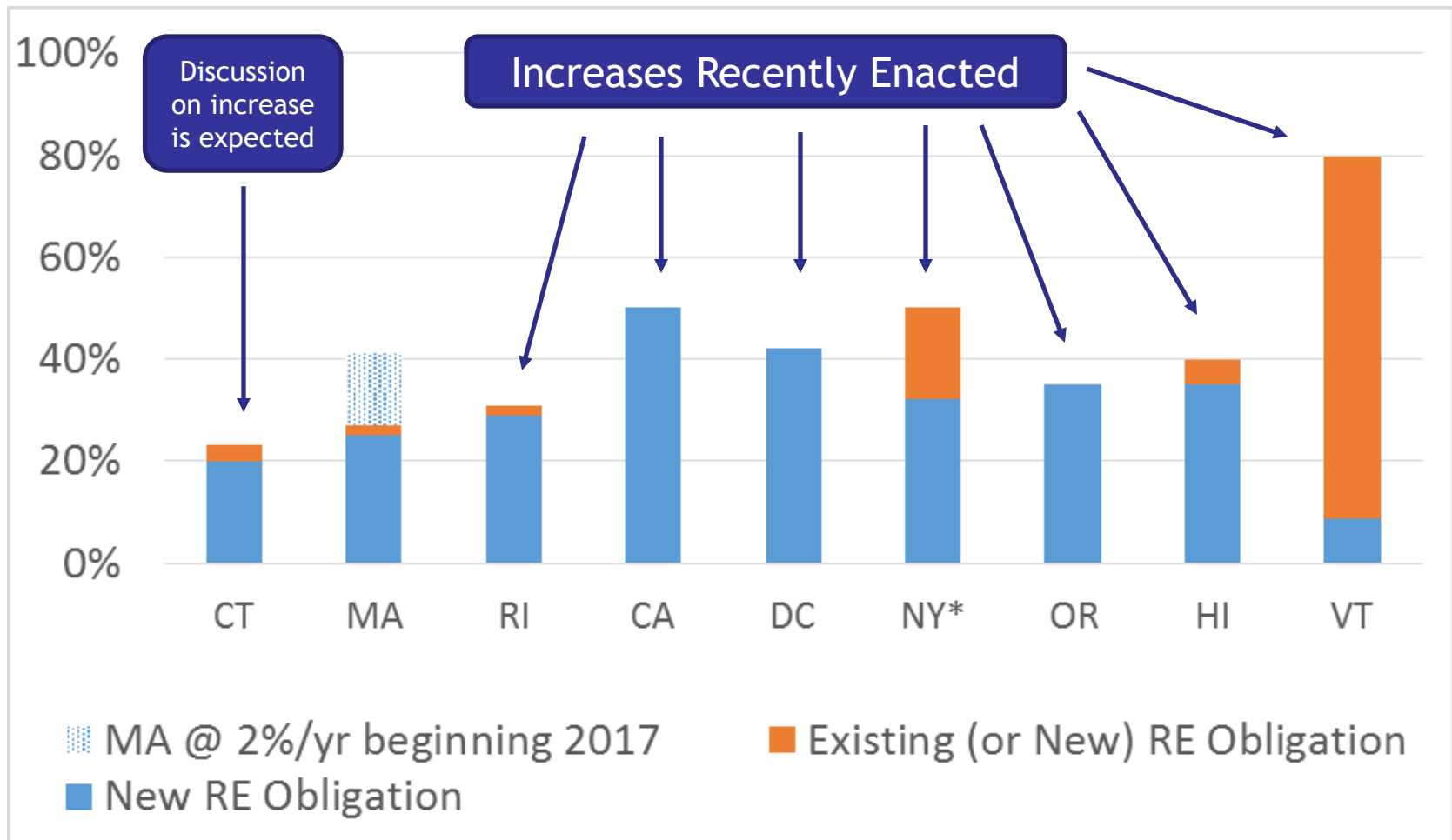


RPS Expansion & Renewable Growth Critical to GWSA Compliance:



Synapse
Energy Economics, Inc.

Other States Increase RPS Demand: Summary of Targets @ 2030

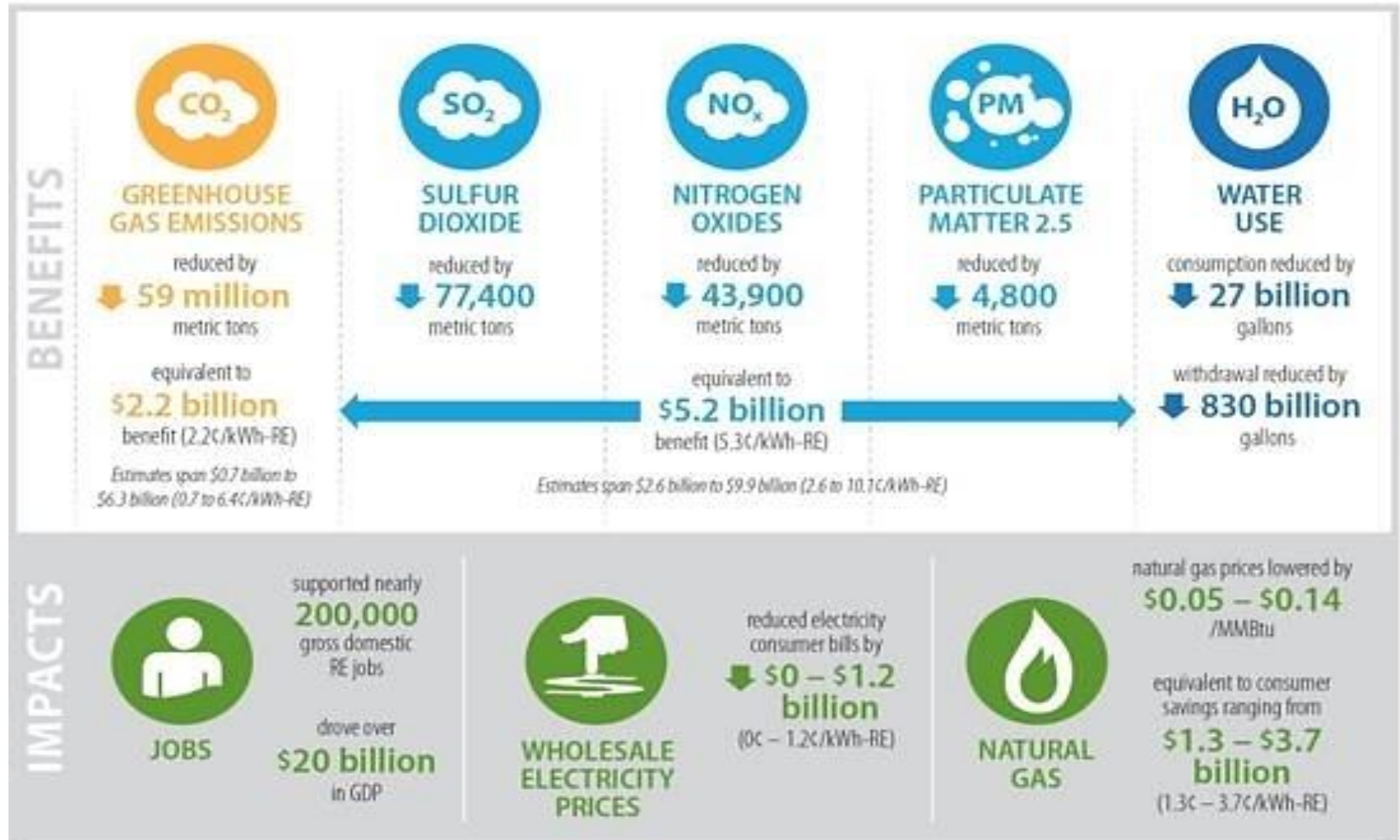


* Subject to final approval.

Note: Year associated with target is shown below the state abbreviation.



Benefits of Extending and Strengthening CT's RPS



LBNL/NREL, Jan 2016 Report

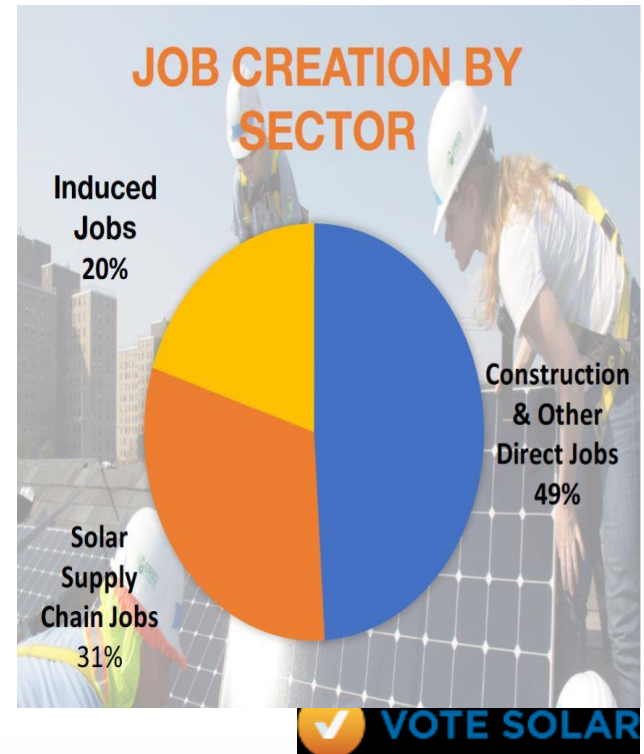
Expand Access to Clean Energy Through Shared Solar

- About **80%** of CT residents can't put solar panels on their roofs, because:
 - They live in an apartment
 - They have a shady roof
 - They rent



Benefits of Shared Solar

- Combat climate change
- Promote energy democracy
 - EVERYONE should have access to clean energy regardless of income or where you live.
- Create more green jobs
- Cost-effective Solar Generation



Share the Sun
Harness your power. Demand solar access for all.

CT SHARED SOLAR

MOVING FROM PILOT TO FULL SCALE PROGRAM

2014

General Assembly
February Session, 2014

Raised Bill No. 5412

LCO No. 1906

*01906 ET *

Referred to Committee on ENERGY AND TECHNOLOGY

2015

Substitute Senate Bill No. 928

Public Act No. 15-113

RED CLEAN ENERGY FACILITY PILOT PROGRAM

• 2015 - CASE study supports full shared solar law
 • 2015 - 6 MW pilot passed (P.A. 15-113)
 • 2016 - Fix to pilot passed (P.A. 16-116)

2016

Substitute House Bill No. 5427

Public Act No. 16-116

AN ACT CONCERNING THE SHARED SOLAR FACILITY PILOT PROGRAM

• 2017 - DEEP rejected bids from initial RFP; New RFP issued
 • 2017 – 3 Pilot Projects Chosen
 • Nov. 2017 – PURA Approved Projects Selected (Docket No. 17-06-28)

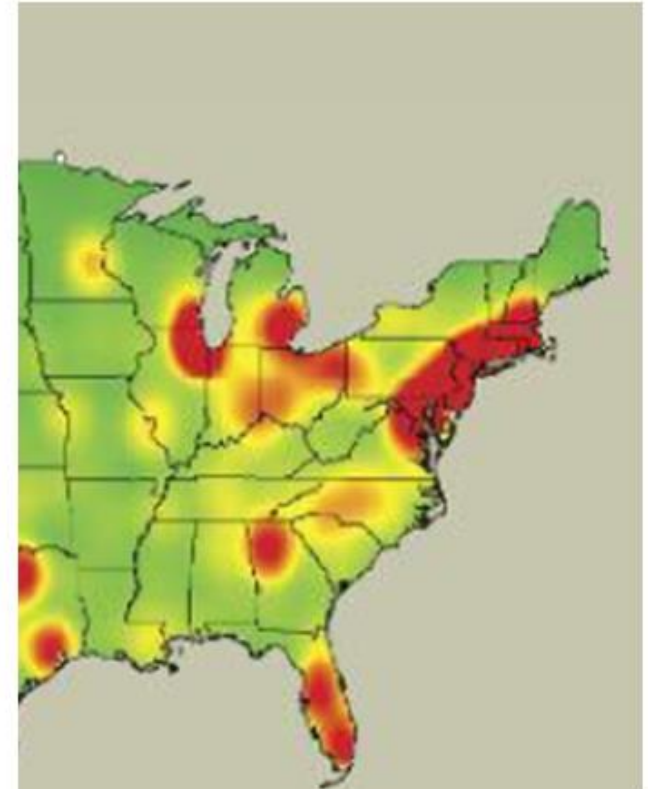
(a) An electric distribution company may recover its costs and investments that have been prudently incurred as well as its revenues lost resulting from the provisions of sections 16-1, 16-19ff, 16-50k, 16-50x, 16-243h to 16-243q, inclusive, 16-244c, 16-244u, 16-245d, 16-245m,

OFFSHORE WIND ENERGY: POWER RIGHT WHERE WE NEED IT



U.S. land-based and offshore wind resource estimates

Source: National Renewable Energy Laboratory



U.S. Population Density

Source: AWS Truepower

(from the Vestas international survey of consumers)

Getting in on the Offshore Wind Boom

Block Island:

- 5 turbines with 30 MW total capacity
- Employed 300 union workers during construction

Mass: Legislative mandate for 1600 MW of offshore wind by 2027.

- Initial RFP for 400-800 MW (June 2017).

NY: Gov. Cuomo's 2017 Exec Order called for 2400 MW of offshore wind by 2030.

- 2018 State of State called for solicitations in 2018 and 2019 for at least 800MW.

CT: Legislative Authority for up to 240MWs. (P.A. 17-144)

- DEEP issued a request for proposals in January 2018 for up to 240 MW.

Additional Authority and Mandates for Offshore Wind Needed!



Restoring and Protecting Investments in Energy Efficiency and Clean Energy



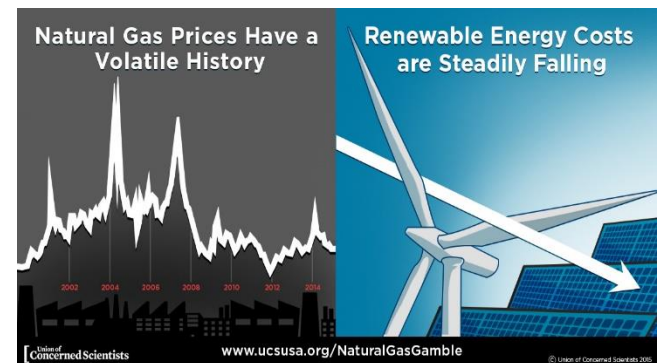
Critical Energy Efficiency Investments

- Lowers electric bills for consumers
- Saves state energy expenditures
- Booming green jobs market – 34,000 in Connecticut in 2017
- Economic impacts of fund EE diversions:
 - Several thousand jobs lost
 - Over 200 million in private capital investments
 - 12,900 homes won't be weatherized
 - 5,600 low-income families lose energy bill savings
 - \$230M lost investments in state EE project
- Environment and Health Impacts of Fund Diversions:
 - Lost energy savings = more reliance on fossil fuels
 - 13 million gallons of oil burned in CT in next 2 years
 - ISO-NE regional market impacts

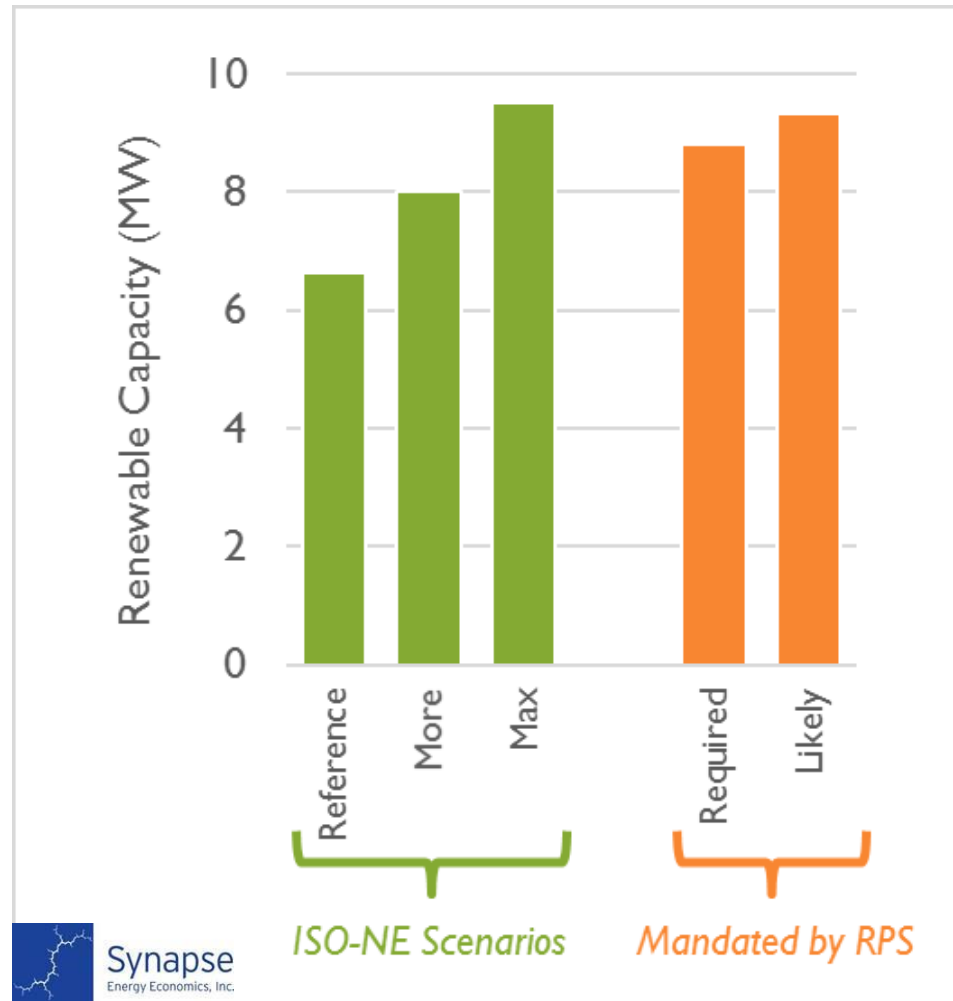


Clean Energy Investments = Good for Consumers

- Ratepayer Impacts Important Consideration – but must also look at long-term life-cycle costs as well and other co-benefits:
 - ✓ Costs of renewables are plummeting – increasingly cost competitive with fossil fuels.
 - ✓ No ongoing fuel costs – sunlight and wind are free!
 - ✓ Cuts costs system wide - no operation costs
 - ✓ Lowers wholesale electricity prices
 - ✓ No hidden costs to our health and planet



Renewable Growth Supports Grid Reliability



ISO-NE and Synapse Estimates on
Expected 2024 capacity for wind, solar, and other renewables

Other Benefits of Renewable Growth:

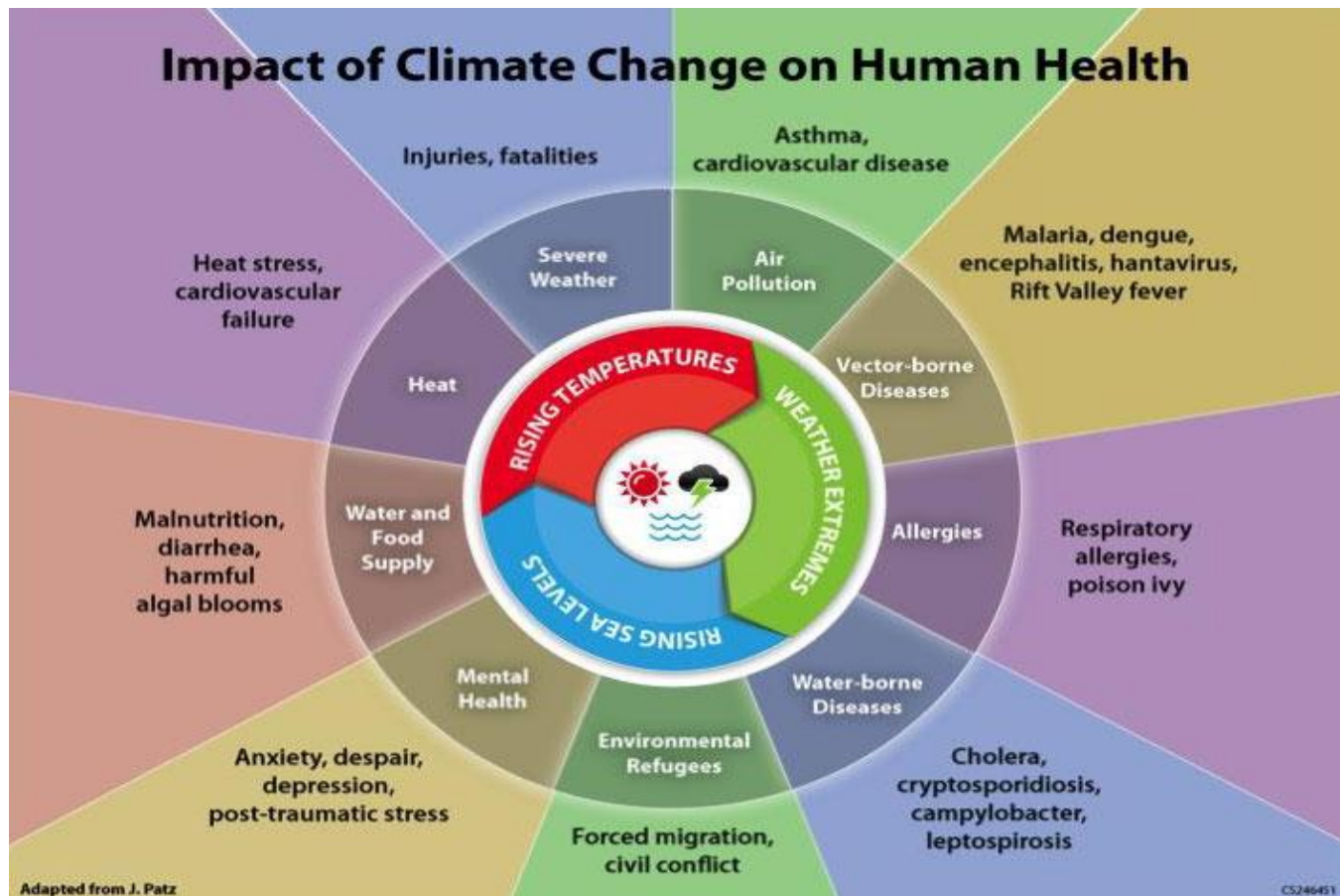
Jobs

- **Shared Solar:** 200 Mw shared solar estimated to bring 2,580 full time jobs during construction and an additional 104,000 hours of work associated with maintenance. (*Source: Vote Solar*)
- **Offshore Wind:** Ambitious offshore wind deployment could create 500,000 job-years by 2030. (*Source: NYSERDA Report, Oct. 2017*).

Revenue

- **Shared solar:** 200 Mw project = \$370 million in local economic benefits, and \$80 million in property taxes. (*Source: Vote Solar*)
- **Virtual Net Metering:** saves municipalities hundreds of thousands of dollars a year in energy costs

Human Health Benefits and Reduced Healthcare Costs



Source: US National Oceanic and Atmospheric Administration, June 2015

Conclusion: Renewable Energy is Connecticut's path to a Healthier, Economically Vibrant Future



Questions? Contact Claire Coleman:
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