

EPA's Proposed Clean Power Plan – What Does it Mean for New Hampshire?

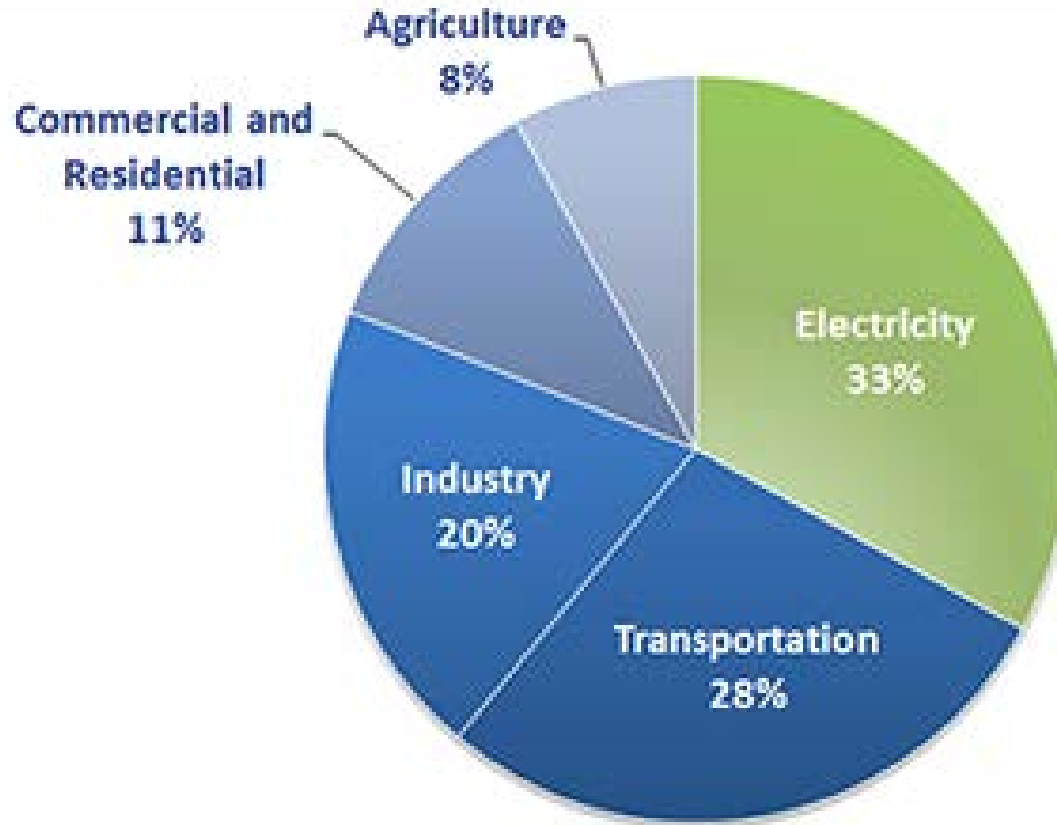
**NH Business and Industry Association
Environmental Committee**

December 16, 2014

**NH Department of Environmental Services
Air Resources Division**

Greenhouse Gases

2011 U.S. Emissions by Sector



EPA's Power Plant CO₂ regulations Background

- MA vs. EPA – CO₂ regulation of mobile sources (cars, trucks, etc.)
- Supreme Court decision on appeal (April '07) – affirmed CO₂ is a pollutant under CAA
- EPA CAA endangerment finding (Dec. '09)
- Sections 111(b) and 111(d) are applicable
- June 2013 – President directs EPA to use CAA to reduce carbon pollution from power plants

EPA's Action for new Power Plants – applies to individual plants

- Section **111(b)** of the Clean Air Act
 - EPA standards proposed Sept 2013
- **SEPARATE STANDARDS FOR COAL AND NATURAL GAS** (lb CO₂/MWh gross)
- For coal-fired utility boilers and IGCC units:
 - 1,100 over a 12-operating month period, or
 - 1,000-1,050 over an 84-operating month period
- For natural gas-fired stationary combustion units:
 - 1,000 for larger units (> 850 mmBtu/hr)
 - 1,100 for smaller units (≤ 850 mmBtu/hr)

EPA's Action for existing Power Plants – applies to *states*

- EPA was directed to:
 - build on state leadership;
 - provide flexibility;
 - take advantage of a wide range of energy sources and technologies
- ...to build a cleaner power sector

EPA's Projected Benefits

- By 2030, reduce U.S. CO₂ emissions from the power sector by approximately 30% from 2005 levels
- Significant reductions will begin by 2020
- Cut hundreds of thousands of tons of harmful particle pollution, sulfur dioxide and nitrogen oxides as a co-benefit

EPA's Projected Benefits

- From soot and smog reductions alone, for every \$1 invested, families will see up to \$7 in health benefits
- Avoid an estimated 2,700 to 6,600 premature deaths and 140,000 to 150,000 asthma attacks in 2030
- Lead to health and climate benefits worth an estimated \$55 billion to \$93 billion in 2030

EPA's Action for Existing Power Plants

- Section **111(d)** of the Clean Air Act
 - EPA's proposed emission guidelines released Monday June 2, 2014
 - Addresses CO₂ pollution from existing power plants on a statewide basis
 - Utilizes Best System of Emission Reductions (BSER) determination

EPA's 111(d) rulemaking timeline

- June 2014 – Issue proposed guidelines
- October 2014 – Comments due to EPA
- June 2015 – Finalize guidelines
- June 2016 – initial state plans due
- June 2018 – regional plans due

BSER rate-based state goals (lbs/MWh)

- Rate-based carbon intensity state goals are based on a state's current mix of generation sources and other opportunities to achieve reductions.
- Require states to meet a 10 year average interim goal (2020 to 2029) and a final 2030 goal.
- Goals take into account four “building blocks” of potential emission reductions which represent BSER per 111(d)

111(d) Building Blocks for BSER

- heat rate (efficiency) improvement at coal-fired power plants;
- shifting dispatch from coal-, oil-, and natural gas-fired steam generation to less carbon intensive combined cycle natural gas generation;
- increasing renewable and nuclear generation and offering incentives to retain existing nuclear units; and
- increasing demand-side energy efficiency.

NH Goal – can we meet it?

- NH's 2012 unadjusted emissions rate from applicable units – 1119 lbs. CO₂/MWh
- Adjusted emissions rate (EPA) – 906 lbs. CO₂/MWh (adjusted for renewables)
- Final 2030 target emissions rate – 486 lbs. CO₂/MWh (after applying 4 building blocks)
- Fifth most stringent goal in the country

Prior NE State Leadership Action

- Regional Greenhouse Gas Initiative (RGGI)
 - Implemented in 2009 in NH and:
 - CT, DE, MA, MD, ME, NJ, NY, RI, VT

- Updated more stringent regional cap - 2014

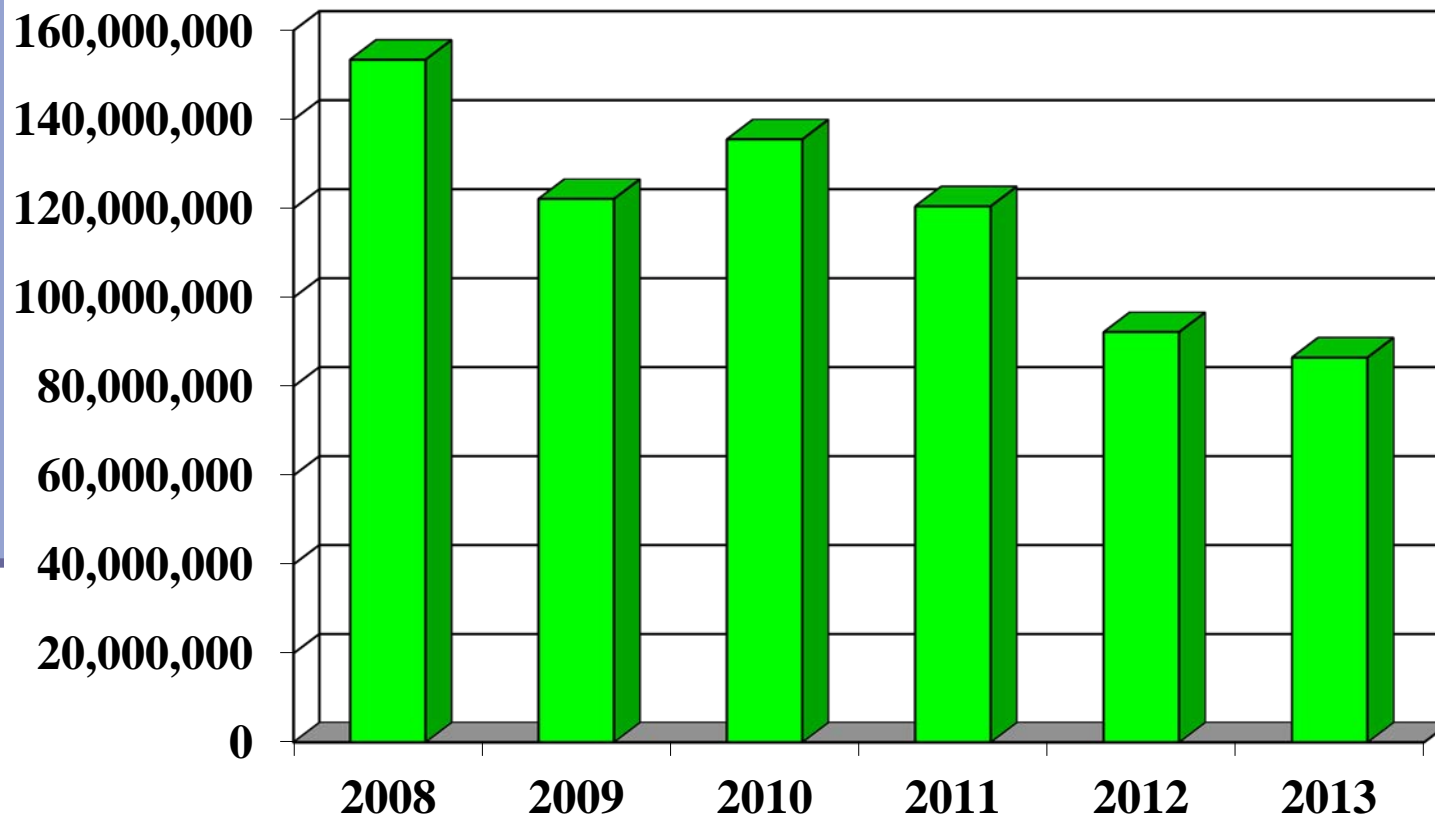
- Key 111(d) issues
 - 9 state plan implementation???
 - 111(d) proposes 2012 baseline
 - EPA assumes all states *will* achieve RPS goals

Additional 111(d) issues

- What is the RGGI regional mass-based cap?
 - How are renewables and nuclear accounted for?
- New sources - included in RGGI cap, not 111(d)
- RGGI offsets would be excluded under 111(d)
 - No offsets have been used under RGGI to date
 - In future years, only look at 111(d) sources in order to demonstrate 111(d) compliance
- Cost Containment Reserve - currently adds to cap?

CO₂ Emissions (tons) from Applicable Sources in RGGI region

Regional Trends

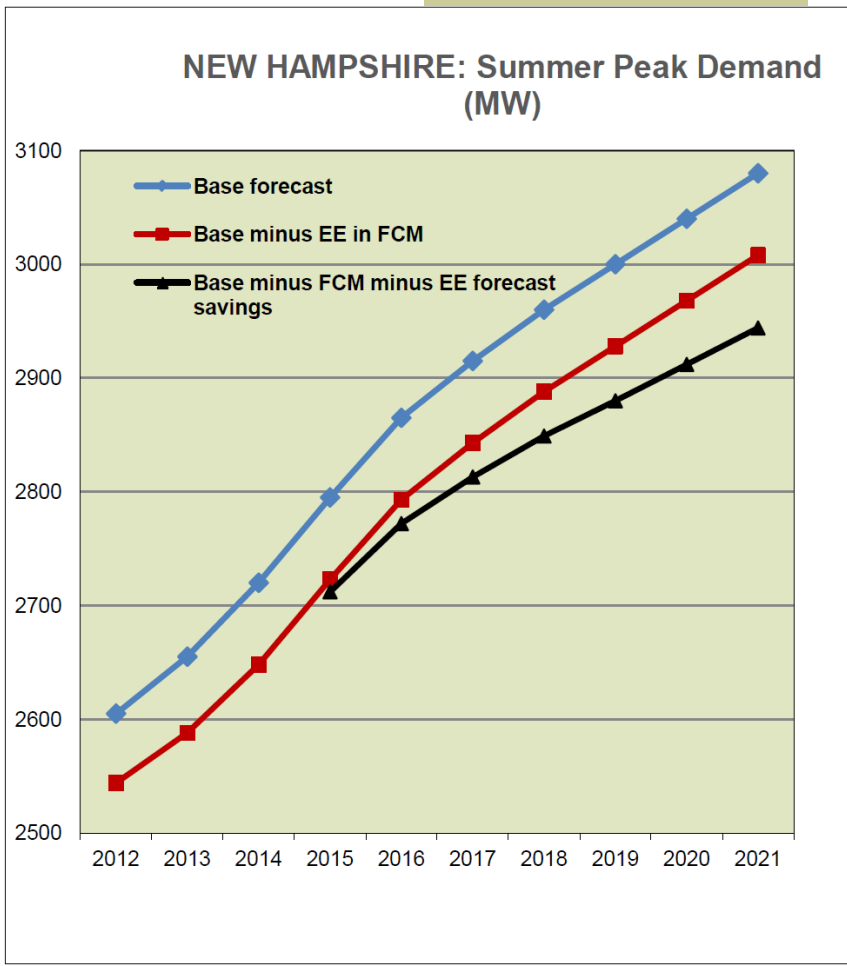
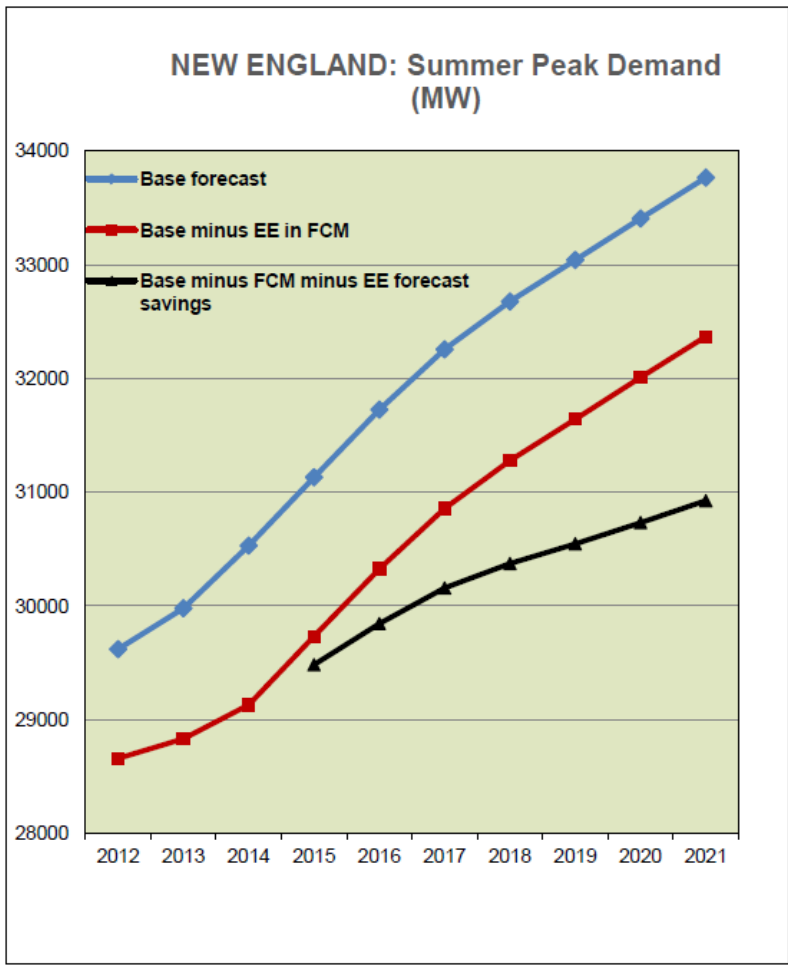


How were emissions reduced?

Increased energy efficiency, due in part to investment of RGGI & SBC funds



Impact of Energy Efficiency in New England & New Hampshire



How were emissions reduced?

- Increased generation from non-emitting sources:
 - Wind,
 - Hydro, and
 - Nuclear



How were emissions reduced?

- Dispatching oil & coal units less and natural gas units more due to relatively lower natural gas prices
- Economic downturn (less electricity used)

What does this mean for NE? RGGI?



ISO NE grid states with RGGI partner states are analyzing EPA proposal, and anticipate that any 111(d) plan will include RGGI as a cornerstone

Questions?

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