



The Massachusetts Executive Office of Energy & Environmental Affairs (EEA)
Global Warming Solutions Act (GWSA)
Implementation Subcommittees
www.mass.gov/eea/gwsa

Clean Energy & Climate Plan for 2020: Summary Reports

*As Presented to the EEA
Implementation Advisory Committee (IAC) Meeting
September 19, 2012*



Buildings, Energy Efficiency, and Demand-Side Management Subcommittee Highlights

Strategy Implementation - Progress Rating

- Low: Expand Energy Efficiency to Oil in Commercial and Industrial buildings (0.1 %) ¹

- Medium: All cost-effective energy efficiency/ 3-year plans (7.1 %)
Advanced building codes (1.6 %)
Green Communities (cross-cutting)
Leading by Example (cross-cutting)

- High: Building rating & labeling (supports other energy efficiency strategies)
Solar thermal (0.1 %)
Federal appliance standards (0.1 %)
Tree planting (0.1 %)

Key Findings & Recommendations

The 3-year plans for utility funded energy efficiency is by far the biggest element of the 2020 plan from the buildings sector. While these plans are moving forwards, their current projected savings are less than anticipated in the 2020 plan. This is partly, but not completely explained by the drop in natural gas prices and the economic downturn – which help reduce the Massachusetts green house gas (GHG) footprint in other ways. Opportunities to engage in the 3-year planning process remain, but a finalized plan must be submitted to the Department of Public Utilities (DPU) by October 31 2012.

The 2nd major source of savings is Advanced Building Codes – this is also not expected to meet the emissions targets in the plan for two reasons: a) the downturn in the construction market and b) the delay in rolling out new energy codes.

Other initiatives that support these main two strategies, such as deep energy retrofits, building rating and labeling and federal appliance standards, are moving forward with minor delays. The Solar thermal market is developing well and the research on the benefits of urban tree canopy is encouraging.

In light of the shortfall in GHG reductions from the two primary policies, the sub-committee welcomes input on additional, supplementary strategies for the buildings sector.

¹ Reflects the percent reduction in GHG emissions (compared to 1990 levels) that is projected for each strategy in the *Clean Energy and Climate Plan for 2020*

Discussion Topics

There are a number of potential discussion topics within this sector:

1. How close can we get to the GHG targets for all cost-effective energy efficiency in the 2013-15 Program Administrator (PA) energy efficiency plans, and in future planning out to 2020?
2. The PA energy efficiency plans provide potential funding and statewide scale, but require extensive evaluation for cost-effectiveness and add significant overhead costs. To what extent should 2020 strategies such as deep energy retrofits, rating and labeling, advanced codes and federal standards fall under the PA energy efficiency plans, versus being separately funded initiatives?
3. What other strategies should be deployed to enhance the likelihood of meeting state GHG goals?
4. What strategies could create long-term GHG savings and benefit legacy oil heating users?



Energy Generation and Distribution Subcommittee Highlights

Strategy Implementation - Progress Rating

-  Low: Clean Energy Performance Standard (-); Clean Energy Imports (5.4%)²
-  Medium: RPS/APS (1.2%); RGGI; Offshore Wind
-  High: EPA Power Plant Rules (1.2%)

Key Findings & Recommendations

The Clean Energy and Climate Plan includes 6 strategies grouped in the Energy Generation and Distribution subcommittee, that together are estimated to contribute a reduction of 7.7% in greenhouse gas emissions by 2020. The retiring of two coal plants in the state is going forward as expected. The Renewable Energy Portfolio Standard (RPS) is also on track, and the development of solar photovoltaic (PV) is increasing significantly. The Alternative Portfolio Standard (APS) is slower than expected. The largest contribution to emission reductions is expected from the import of large scale hydroelectric power from Canada. This is the most challenging part of this group of strategies. An analysis of the risks and opportunities of a Clean Energy Performance Standard will be performed by summer 2013.

Discussion Topics

- Offshore wind energy holds great potential for Massachusetts. The biggest challenge of realizing this potential is **financing** the projects. Does the IAC have recommendations for new sources of financing of offshore wind?
- The IAC might want to look into new **additional strategies**, to be prepared in case the current strategies deliver less than proposed. Does the IAC have recommendations for additional strategies?

² Reflects the percent reduction in GHG emissions (compared to 1990 levels) that is projected for each strategy in the *Clean Energy and Climate Plan for 2020*



Transportation, Smart Growth and Land Use Subcommittee Highlights

Strategy Implementation - Progress Rating

- Low: Clean Car Consumer Incentives (0.5%)³
- Medium: Federal Renewable Fuel Standard & Regional Low Carbon Fuel Standard (1.6%)
Smart Growth Policy Package (Sustainable Development Principles) (0.5%)
- High: Federal & California Vehicle Efficiency & Greenhouse Gas Standards (2.6%)
Federal Emissions & Fuel Efficiency Standards for Medium & Heavy Duty Vehicles (0.3%); GreenDOT (1.2%); Pay as You Drive (PAYD) Auto Insurance (pilot program) (1.1%)

Key Findings & Recommendations

- Policies reliant on Federal Standards & Massachusetts adoption of California standards are on track to produce expected GHG reductions.
- The Regional Low Carbon Fuel Standard (LCFS) is progressing, but more slowly than anticipated. States monitoring outcome of CA lawsuit.
- The Pay As You Drive (PAYD) Pilot will begin soon; expected GHG reductions from pilot may need refinement.
- A response to public comments will result in a final GreenDOT Implementation Plan this fall; the next step is Division work plans based this Plan.
- Clean Car Consumer Incentives described in the Clean Energy & Climate Plan appear unfeasible; Clean Cities Program initiatives are proposed as an alternative.
- Progress on “Smart Growth Policy Package” is mixed & implementation will be a focus this fall including drafting of “Workforce Housing Policy” & “EOHED Regional Initiatives” work plans.

Discussion Topics

- Endorsement of Clean Cities GHG reduction measures to address Clean Car Incentives shortfall.
- Importance of adequate transportation funding to realize GreenDOT & Smart Growth goals.
- Broader incorporation of forest conservation into GWSA implementation strategies
- Coordination of 1) smart growth policies being pursued by the Adaptation, Buildings, & Transportation Subcommittees and 2) land use policies being pursued for discreet purposes [like VMT and GHG reduction pursuant to the GWSA & CECP] as part of a Patrick-Murray Administration approach to land conservation & development.

³ Reflects the percent reduction in GHG emissions (compared to 1990 levels) that is projected for each strategy in the *Clean Energy and Climate Plan for 2020*

- The IAC might want to look into new strategies to be prepared in case present strategies deliver less than proposed. Does the IAC have recommendations for additional strategies?



Non-Energy Emissions Subcommittee Highlights

Strategy Implementation - Progress Rating

- High: Reducing Sulfur Hexafluoride (SF₆) Emissions from Gas-Insulated Switchgear (0.2%)⁴; Reducing Emissions from Plastics Combustion (0.3%); Stationary Equipment Refrigerant Management (1.3%)

Key Findings & Recommendations

The Clean Energy and Climate Plan includes 4 strategies grouped in the Non-Energy Emissions subcommittee, that together are estimated to contribute 2.0% of greenhouse gas emission reductions by 2020. Because motor vehicle air conditioning emission reductions are addressed in MassDEP's Low Emission Vehicle regulations, that strategy is reported on in the Transportation subcommittee. SF₆ emission reduction is going forward through a MassDEP regulation expected to go to public comment by the end of the year. Plastics Combustion reduction is occurring through a suite of activities under MassDEP's Solid Waste Advisory Committee, and is on track. Refrigerant Management is being explored through meetings with technically-knowledgeable or potentially-affected stakeholders, intended to lead to proposed regulations in the second half of 2013.

Discussion Topics

- Refrigerant Management holds the biggest challenge, in identifying smaller potentially-affected facilities. Does the IAC have recommendations for outreach to this sector?
- The IAC might want to look into new **additional strategies**, so as to be prepared in case present strategies deliver less than proposed. Does the IAC have recommendations for additional strategies?

⁴ Reflects the percent reduction in GHG emissions (compared to 1990 levels) that is projected for each strategy in the *Clean Energy and Climate Plan for 2020*



Climate Change Adaptation Subcommittee Highlights

Strategy Implementation - Progress Rating

- High: Work Plan projects are just getting started.

Key Findings & Recommendations

The first Massachusetts Climate Change Adaptation Report, released in 2011, outlines over 200 potential strategies in sectors such as Natural Resources/Habitat, Public Health, Infrastructure (energy, water, wastewater, solid waste, transportation), Economy (manufacturing, services, agriculture, forestry, fisheries, healthcare, education), Local Government, and Coastal Zone and Ocean. State agencies have been involved in climate change adaptation activities such as evaluating existing capabilities, resources, and programs; securing funding for surveys, outreach, and inventory assessments; and assessing vulnerabilities of their resources. At a recent meeting between EEA agencies, MassDOT, DPH and stakeholders about ongoing adaptation activities, participants identified the need for more information sharing and collaboration.

EEA, through its Work Plan, will focus on projects with multi-sectoral and -agency relevance:

- Explore mechanisms for addressing the potential impacts of climate change (such as sea level rise) as part of EEA's Massachusetts Environmental Policy Act (MEPA) and required by GWSA; evaluate approach and methodology for assessing land alteration impacts and mitigation in the context of MEPA's GHG policy
- Review latest science and develop updated climate change projections for Massachusetts
- Develop tools that allow visualization of predicted climate change on landscape and infrastructure
- Host workshops to transfer information about latest tools and data

Discussion Topics

- Interested in IAC feedback and comments on the above projects.
- Would the IAC like to discuss specific adaptation topics at future meetings?