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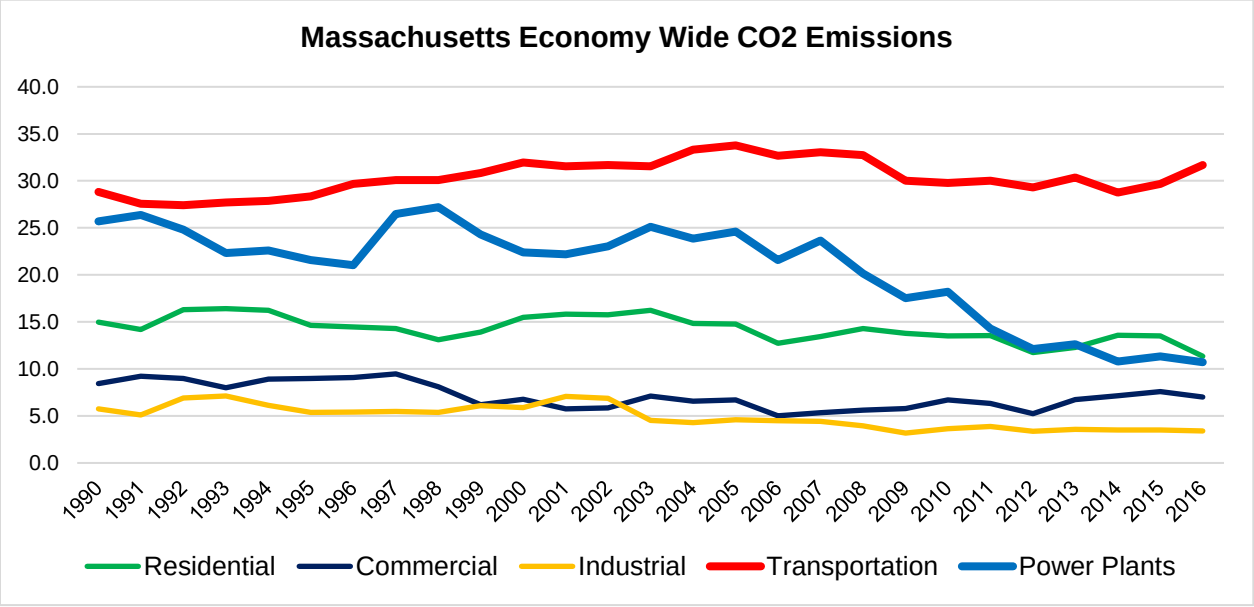
Massachusetts General Court
Joint Committee on Telecommunications, Utilities and Technology
NEPGA Testimony, July 23, 2019

The New England Power Generators Association (NEPGA)[1] applauds Massachusetts' commitment to reduce greenhouse gas (GHG) emissions across all sectors of the economy to mitigate and adapt to the effects of climate change. There is no question that addressing climate change and instituting programs to meet this challenge is of the highest priority. NEPGA is committed to doing its part, and offers this testimony in response to H.2809, H.2836, H.2862, H.2865, H.2869, H.2872, H.2873, H.2875, H.2884, H.2923, H.3622, S.1923, S.1927, S.1929, S.1935, S.1958, S.1977 and S.2008.

NEPGA is proud of the leadership of the electric generation industry in reducing carbon dioxide (CO_2) emissions more than any other sector of the economy across New England. We also recognize that to meet the economy-wide mandates of the Global Warming Solutions Act, more can and should be done. It is for that reason that NEPGA supports putting a meaningful price on CO_2 emissions in the wholesale electricity market to support the development of low and zero emissions technologies while also incenting continued investments in existing facilities critical to meeting our environmental mandates and reliability commitments.

First, a few facts. Transportation today represents over 49% of all CO_2 emissions in Massachusetts, while emissions from the power sector represent just over 16% of emissions in the Commonwealth.

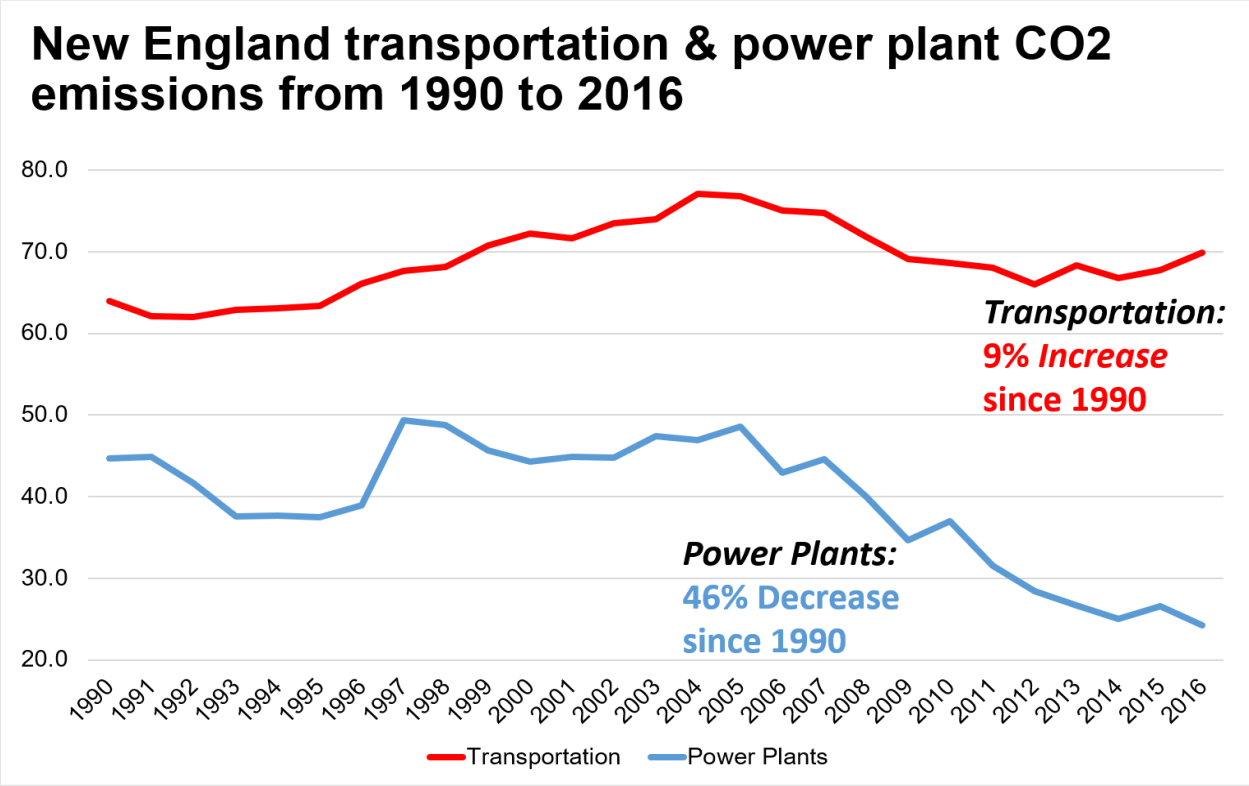


[1] The comments expressed herein represent those of NEPGA as an organization, but not necessarily those of any particular member. NEPGA is the trade association that represents competitive electric generating companies in New England. NEPGA's member companies represent approximately 90% of all generating capacity throughout New England.

Since 1990, economy-wide emissions in Massachusetts have fallen 28% while emissions from the state's power sector fell by 58%.[2] In light of these figures, the power sector provides limited opportunities going forward to meet the CO_2 reduction goals required under the Global Warming Solutions Act. In fact, the Massachusetts Department of Energy Resources (DOER) projects that an increase of 50% more renewables in 2030, which would include an increase to the Renewable Portfolio Standard (RPS) by 3% per year, would remove only an additional 1 MMT CO_2 by 2030.[3] As DOER notes in its report, the Commonwealth must target CO_2 emissions from the transportation and buildings sectors if it is to make meaningful progress toward its environmental mandates.

A Path Forward on Pricing CO_2 Emissions

The bills being heard today, including S.1958, present the Commonwealth with an opportunity to lead a broader effort to adopt and implement a regional, economy-wide price on carbon to more effectively and equitably reduce GHG emissions in the Massachusetts and beyond. As noted above, power plants have reduced their CO_2 emissions 58% since 1990 according to recent data released by the U.S. Energy Information Agency (EIA).[4]



[2] https://www.eia.gov/environment/emissions/state/excel/massachusetts.xlsx, October 31, 2018

[3] https://www.mass.gov/files/documents/2019/01/10/CEP%20Report-%20Final%2001102019.pdf, December 12, 2018

[4] https://www.eia.gov/environment/emissions/state/, October 31, 2018

Much of these reductions have been driven by greater efficiencies following the restructuring of the state's electricity industry. Since 1999, the efficiency (measured in heat rate) for power plants in New England improved by 22%. This means that the electricity output that used to take four plants to produce, today takes only three.

And yet, transportation remains the most significant portion of CO_2 emissions here in Massachusetts and across New England.

Nonetheless, NEPGA recognizes that more will be expected from the electricity sector to continue its remarkable track record. That is why NEPGA supports placing a meaningful price on CO_2 emissions into the competitive wholesale electricity market as part of an economy-wide strategy to meet regional environmental mandates. Similar proposals to address emissions have been introduced in other states.[5] But, because of the interstate nature of the electric grid, a patchwork of policies across the states should be avoided to the maximum extent possible.

NEPGA therefore suggests a trigger mechanism to ensure that as much of the regional market move forward on a comparable policy as possible. This could be done by writing into legislation a condition that the CO_2 price would only be implemented if other New England states representing a certain percentage of the region's load (e.g., 80%) adopted a similar, but no less stringent, pricing mechanism. Such a trigger has been proposed in other states in New England as well.[6]

Unless properly designed to account for out-of-state resources not subject to carbon pricing, a state-specific price on carbon could result in Massachusetts-based power plants running less (because their production will be more expensive than other regional generators), yet electricity demand in the state must still be met. This could also result in plants outside of the Commonwealth, which wouldn't run as much if not for the Massachusetts-specific CO_2 price, would have to increase production to make up for the shortfall, potentially frustrating Massachusetts emissions reduction objectives. A multi-state approach would be best to avoid this outcome and produce a transparent and efficient means for reducing CO_2 across the entire New England economy.

Addressing Transportation Emissions

While remarkable improvements have been made in the electricity sector, it is clear that other sectors of the economy are lagging far behind. With the advent of electric vehicle technologies and home heating alternatives, the time is ripe to consider a broader, market-based mechanism that would efficiently and effectively reduce CO_2 emissions. Many of the reductions that would be expected from these other sectors would come from electrification and NEPGA members stand ready to do their part.

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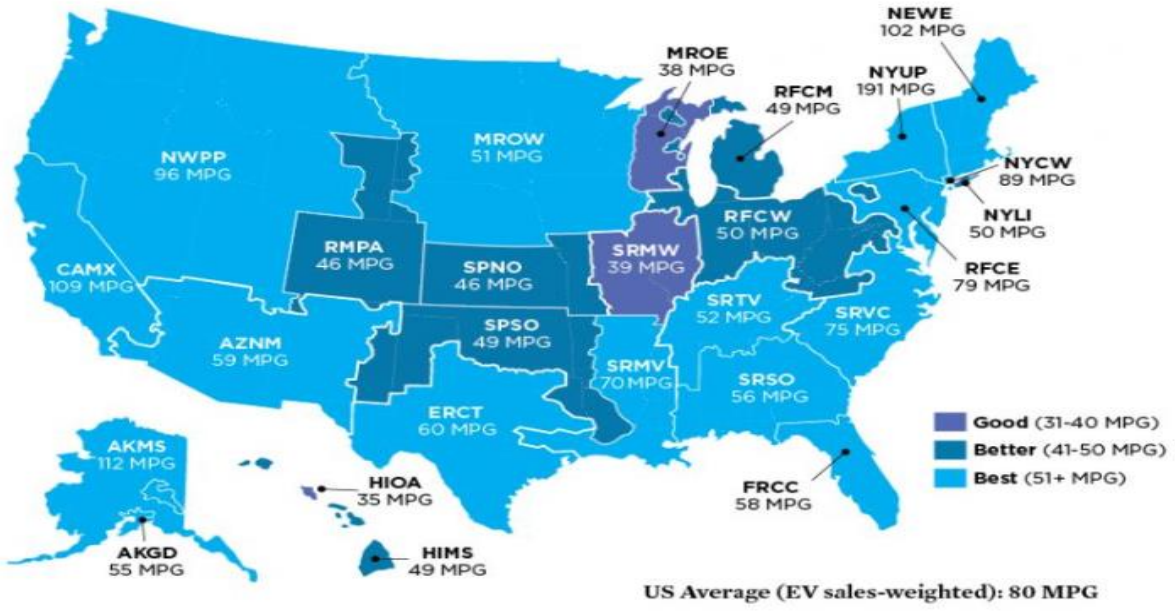
[5] H 5869, *An Act Relating to Health and Safety – Economic and Climate Resilience Act of 2019* (RI) S 662, *An Act Relating to Health and Safety – Economic and Climate Resilience Act of 2019* (RI); HB 5363, *An Act Establishing a Carbon Price for Fossil Fuels Sold in Connecticut* (CT); LD 434, *An Act to Price Carbon Pollution in Maine* (ME)

[6] H 5869, *An Act Relating to Health and Safety – Economic and Climate Resilience Act of 2019* (RI) and S 662, *An Act Relating to Health and Safety – Economic and Climate Resilience Act of 2019* (RI).

For example, according to data from the Union of Concerned Scientists, an electric vehicle driven in New England would be the equivalent of a 102 miles per gallon combustion engine vehicle – more than 25% better than the national average.[7] This comes because New England already has one of the cleanest electric grids in the country; a situation that would only improve with a price on CO_2 in the wholesale electricity market.



Note: The MPG (miles per gallon) value listed for each region is the combined city/highway fuel economy rating of a gasoline vehicle that would have global warming emissions equivalent to driving an EV. Regional global warming emissions ratings are based on 2016 power plant data in the EPA's eGRID 2016 database (the most recent version). Comparisons include gasoline and electricity fuel production emissions estimates using Argonne National Laboratory's GREET 2017 model. The 80 MPG US average is a sales-weighted average based on where EVs were sold in 2011-2017.

Certainly, a move to widescale electrification in different sectors of the economy would mean an increase in electricity demand. That is something that the markets are actually designed for. The wholesale electricity markets in New England – and across much of the United States – were developed in part on a premise of a steady increase in demand; this has been the general rule for the first century of electrification. Over the last decade, that notion has been flipped with consistent annual decreases in demand due to the effects of the great recession and huge investments in energy efficiency in New England. Nevertheless, recent history shows the ability of the competitive wholesale electricity market to respond to increased demand with investments in upgrading existing facilities and the construction of new, efficient electricity supplies.

Since electric restructuring in the late 1990s, generators participating in New England's competitive wholesale electricity markets have invested billions of dollars in facilities to produce a reliable, cost-effective and efficient supply of electricity without guaranteed cost recovery or a guaranteed rate of return. This has resulted in the construction and development of roughly 14,000 MW of new power plants – equivalent to nearly 50% of the all-time peak demand in New England. More than 4,000 MW have been brought to market or have begun construction in just the last three years. All without state subsidies or market carve-outs. These facilities are some of the most efficient, clean

[7] https://blog.ucsusa.org/dave-reichmuth/new-data-show-electric-vehicles-continue-to-get-cleaner

and cost-effective in the country and helped drive the remarkable emissions reductions seen over the last 20 years. In fact, 2016 and 2017 featured the lowest annual average wholesale electricity prices since the beginning of the competitive markets.

Open, competitive markets were key to this result and should continue to be what drives future investments.

It is that power of a competitive marketplace that Massachusetts and New England can help unleash by addressing climate change through a price on CO_2 emissions. This type of a price signal can prime investments in clean energy technologies by having some of their key attributes appropriately valued. It levels the playing-field across technology and fuel sources and sets off a competitive environment that spurs innovation.

An RPS Increase Under S.1958 is Unnecessary

As currently drafted, S.1958 would require 100% of the electricity consumed in Massachusetts to come from renewable resources by 2035. This goal would be met through annual increases in the RPS through 2025 and beyond. However, Massachusetts has already implemented numerous policies designed to increase clean energy resources and reduce in-state CO_2 emissions. Those polices include the RPS, the Alternative Energy Portfolio Standard, the Clean Energy Standard, the Solar Massachusetts Renewable Target, the Clean Peak Standard, Department of Environmental Protection power plant-specific air emissions regulations, and mandated procurements of offshore wind and large-scale, provincially-owned Canadian hydroelectricity. Given these layers of complex policies, mandating additional amounts of renewable energy outside the region's competitive markets, as proposed in S. 1958, would provide only diminishing returns toward CO_2 reductions, result in additional costs for the state's ratepayers and insulate hand-picked resources from full competition.

By constricting the focus on electricity to specific resource types rather than overall emissions, the Commonwealth is cutting out existing technologies that can help meet the environmental goals as well as explicitly writing out potentially new technologies not contemplated today. RPS programs were intended to help support what, at that time, were emerging technologies that required subsidies to be financially viable. Wind and solar have now evolved to the point where they are increasingly competitive on their own merits. With the underlying imperative of reducing GHG emissions, renewable energy is simply one of many strategies to achieve that goal.

NEPGA suggests that the same mandates laid out in legislation like S.1958 can and should be met by working with other New England states to set a meaningful price on CO_2 emissions. That will help support existing clean electricity resources while also incenting innovation for the next generation of technologies, across the economy.

NEPGA opposes policies that carve up the market for chosen technologies or subsidize individual resource types, even though those policies may be well-intentioned. Such an approach puts the risk of betting on the "right" solution on the backs of consumers. There are countless examples of similar policies prejudging the answers to government-identified issues creating unintended consequences by being rigid and prescriptive in their solutions and burdening consumers with higher costs and risks than necessary.

Instead, NEPGA believes that a policy should be clearly articulated by a state – such as lowering GHG emissions – and then implemented in a way that is flexible enough to adapt to the innovative solutions that may not be apparent today. In much the same way that most did not foresee the dramatic cost reductions in solar technologies, increased potential for onshore and offshore wind or the recently available abundance of domestic natural gas supplies, we do not know today what the best, most cost-effective electricity supply resources will be to meet a carbon-constrained economy in 2030, 2040 or 2050. It is for that reason that as the legislature considers the goals laid out in the bills heard today, it should ensure that implementation of those mandates be made in the most market-based and flexible way possible – through the integration of a resource-neutral price on CO_2 emissions.

Conclusion

Combatting climate change will require a comprehensive effort with contributions from all sectors of the economy. Massachusetts has another opportunity to lead other states in implementing a meaningful, economy-wide price on CO_2 to meet ambitious GHG emissions targets. The Commonwealth, however, must take this opportunity to address the sectors of the economy that are actually driving emissions – particularly transportation. If not, Massachusetts runs the risk of relying exclusively on the electricity sector to achieve its ambitious environmental goals.

Instead, now is the time to take a bold approach to the generational challenge posed by climate change. By working cooperatively with other New England states and instituting an economy-wide, resource-neutral CO_2 pricing mechanism, Massachusetts can continue its leadership this global issue.

NEPGA looks forward to the opportunity to work with Committee Members on the best path toward attaining Massachusetts' energy and environmental goals.

Respectfully submitted,

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Dan Dolan,
President

July 23, 2019