

**Massachusetts General Court  
Joint Committee on Telecommunications, Utilities and Technology**

**NEPGA Testimony**

**H.2810, *An Act to Promote Green Infrastructure and Reduce Carbon Emissions*  
S.1924, *An Act to Combat Climate Change***

**January 14, 2020**

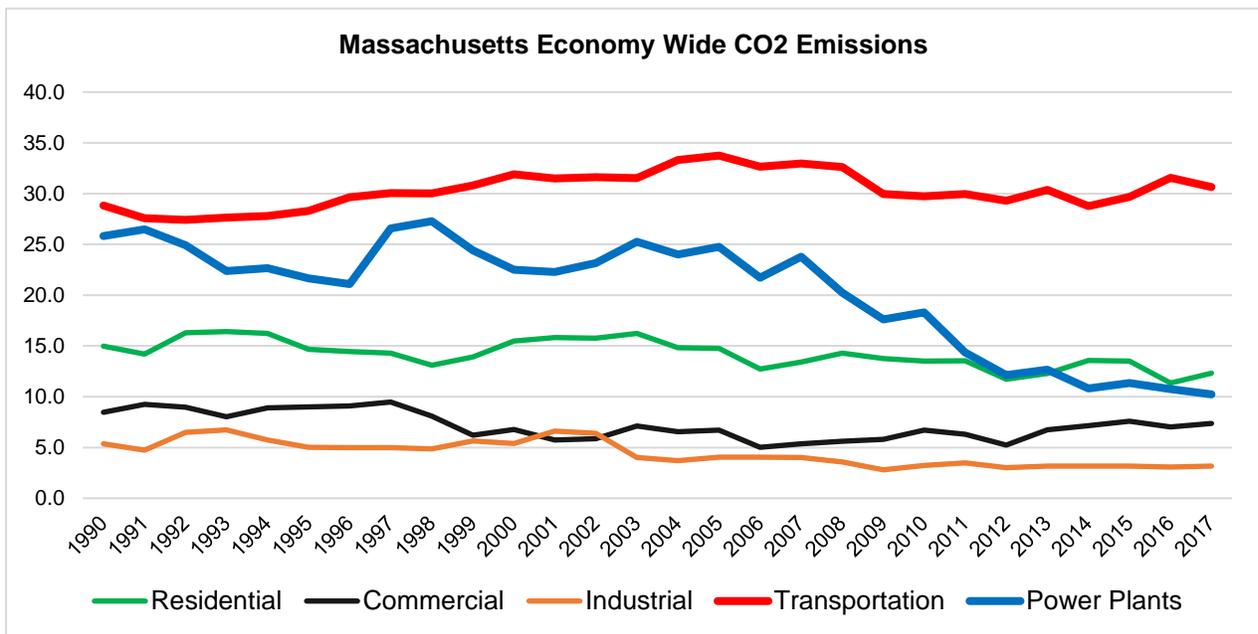
The New England Power Generators Association (NEPGA)<sup>1</sup> recognizes the urgency of reducing greenhouse gas (GHG) emissions and addressing the impacts of climate change. It is therefore critical that any effort to achieve the Global Warming Solutions Act's (GWSA) mandate must include a broader, market-based approach that efficiently reduces carbon dioxide (CO<sub>2</sub>) emissions from all sources and incentivizes the development of low and zero carbon technologies. For these reasons, NEPGA supports the objectives of H.2810, *An Act to Promote Green Infrastructure and Reduce Carbon Emissions*, and S.1924, *An Act to Combat Climate Change* to impose a meaningful CO<sub>2</sub> price on additional sectors of the economy, particularly transportation and buildings, and offers the following comments.

NEPGA is proud of the leadership of the electric generation industry in reducing CO<sub>2</sub> emissions more than any other sector in Massachusetts. Since 1990, emissions from Massachusetts power plants have declined by 58% as compared to overall economy-wide emissions reductions of 28% during that same period.<sup>2</sup> Today, CO<sub>2</sub> emissions from the power sector represent just over 16% of state-wide emissions, while transportation emissions account for over 49% of all emissions in the Commonwealth.

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<sup>1</sup> 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.

<sup>2</sup> <https://www.eia.gov/environment/emissions/state/>



Much of the CO<sub>2</sub> reductions from the electricity sector can be attributed to the innovations and efficiencies driven by private investment in New England’s power plants following the restructuring of the region’s electricity industry. Since 1999, the efficiency for power plants in New England improved by 22%. This equates to closing one of every five plants while providing the same amount of electricity. In addition, the rapid decline of natural gas prices over the last 15 years has spurred major investments in new generating facilities and improvements at existing plants that have driven a dramatic shift from primarily burning coal and oil to using natural gas for electric generation. In 2000, 40% of the electricity produced in New England was generated from coal and oil resources. Today, coal and oil plants account for just 2% of the region’s resource mix.

Massachusetts has also benefitted from the electricity sector-specific, multi-state carbon reduction program, the Regional Greenhouse Gas Initiative (RGGI), which was designed to account for the social cost of carbon in electricity prices. A recent report highlights the success of RGGI in reducing both CO<sub>2</sub> and co-pollutants across the RGGI region, even while electricity prices have fallen, while they have been rising in the rest of the country.<sup>3</sup>

However, the cost of a RGGI CO<sub>2</sub> emissions allowance is insufficient to drive significant behavioral change and incentivize investments in cleaner resources across the economy. Now is the time to adopt a multi-sector CO<sub>2</sub> price that is sufficiently stringent to attract investment in clean technologies not only in the electric generation sector, but in other sectors that have fallen behind in their decarbonization efforts.

### A Path Forward on Pricing CO<sub>2</sub> Emissions

<sup>3</sup> <https://acadiacenter.org/document/the-regional-greenhouse-gas-initiative-ten-years-in-review/>

H.2810 and S.1924 present the Commonwealth with an opportunity to adopt and implement an economy-wide price on carbon to more effectively and equitably reduce GHG emissions in Massachusetts. However, to be most effective, a CO<sub>2</sub> price should be set at a level that appropriately values the societal costs of CO<sub>2</sub>. A sufficiently stringent CO<sub>2</sub> price will send appropriate signals to consumers to seek low- and zero-carbon alternatives, while providing investors, entrepreneurs, and manufacturers with the financial incentive to develop increasingly affordable clean transportation and heating options to meet consumer demand.

NEPGA offers this perspective from lessons learned from the RGGI experience, as noted above. RGGI has been remarkably successful in creating a revenue stream to allow individual jurisdictions to invest in other emissions reducing areas. In particular, a number of New England states have used RGGI to support the nation-leading investments in energy efficiency. But because the RGGI allowance cap has been set at a relatively high level, allowance prices have been low enough that it has not driven major behavioral change in the dispatch of power plants, nor has it spurred large-scale, market-based investments in other low, or zero-carbon generation. Rather, the majority of RGGI's direct impact has occurred by the investment of allowance proceeds in state programs, most notably, energy efficiency. That weakness in RGGI has spurred a number of RGGI jurisdictions to take out-of-market approaches by favoring certain classes of resources to meet CO<sub>2</sub> emissions mandates. Most economists agree this is a less efficient outcome than pricing carbon appropriately in the competitive markets. It also saddles consumers with long-term liabilities in the form of power purchase agreements with terms of up to 20 years. NEPGA strongly encourages Massachusetts to be mindful of these issues when considering the best way to drive emissions reductions across the economy.

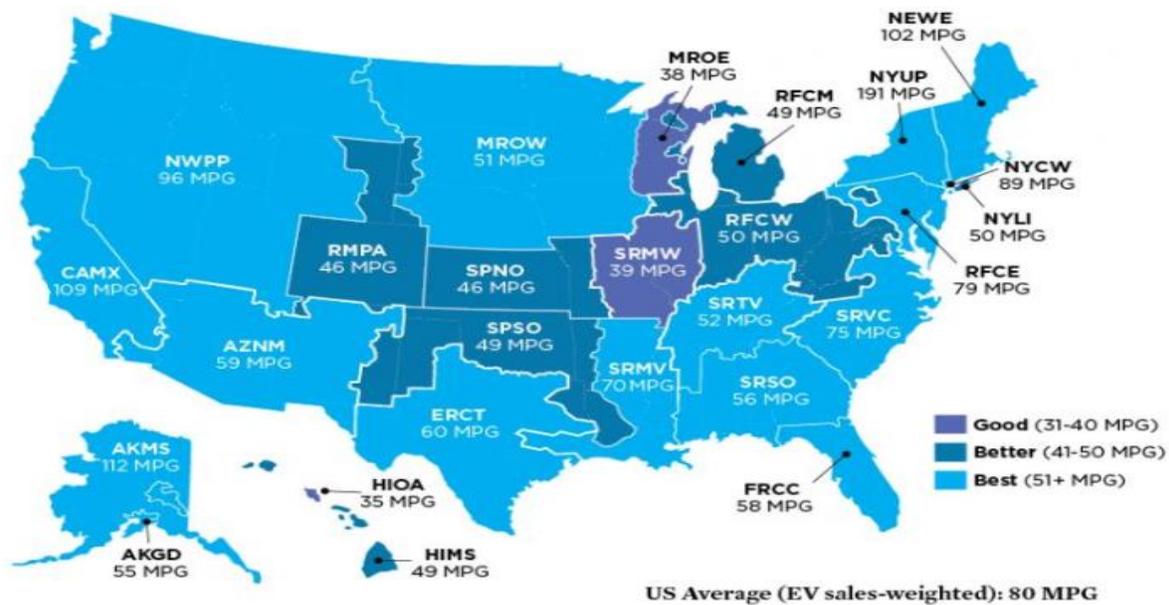
### **Addressing Multi-Sector Emissions**

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 adopt CO<sub>2</sub> pricing as a way to efficiently and effectively reduce GHG emissions. Many of the reductions that would be expected from these other sectors would come from widespread electrification and NEPGA members stand ready to do their part.

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.<sup>4</sup> 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<sub>2</sub> in the wholesale electricity market.

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<sup>4</sup> <https://blog.ucsusa.org/dave-reichmuth/new-data-show-electric-vehicles-continue-to-get-cleaner>



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. However, the markets are designed to respond in such a situation. 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 resources.

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 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<sub>2</sub> emissions. This type of a price signal can incentivize investments in clean energy technologies by appropriately valuing their environmental attributes. A CO<sub>2</sub> price levels the playing field across technology and fuel sources and sets off a competitive environment that spurs innovation.

## **Conclusion**

Climate change stands as an ongoing threat to our environment, health, and local economy. Solving it will require an “all-hands” approach from all sectors, especially those that have not fully realized their potential to make significant reductions in GHG emissions as compared with the electricity sector. Through H.2810 and S.1924, Massachusetts has another opportunity to lead other states by implementing a meaningful CO<sub>2</sub> price that will help the Commonwealth achieve deep decarbonization and fulfill its GWSA mandate.

NEPGA looks forward to working with Committee Members on the best path toward attaining Massachusetts’ energy and environmental goals.

Respectfully submitted,

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Dan Dolan,  
President

January 14, 2020