

## **“Business as Unusual”: Full Carbon Pricing**

Launa Zimmario, League of Women Voters of Massachusetts

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As evidence about the economic, environmental and health impacts of climate change mounts, concern is turning into action across the globe. While some continue to debate the reality and causes of climate change, recognition of the seriousness of our situation has spurred the search for solutions that will significantly reduce carbon dioxide emissions and promote the transition to clean, renewable energy sources.

### **What is carbon pricing and how does it work?**

Burning fossil fuels comes at a much higher price than what we pay at the pump or to heat our homes. But the full cost is not obvious to many because the “bill” comes to us as increased health care costs, higher insurance premiums, property loss and damage, environmental degradation, and other climate change related events, referred to as “external costs.”

There are two main approaches for pricing carbon: *Emissions Trading Systems* (ETS), also known as cap and trade, and *Carbon Fees*. While both approaches differ in implementation, both factor in the external costs of carbon and use market forces to drive the push to greater energy efficiency, energy conservation, emissions reductions, and investment in clean energy businesses and jobs.

*Emissions Trading Systems* (also known as Cap and Trade) focus on the emissions end of fossil fuel combustion. They work by capping the total level of greenhouse gas emissions permitted, with the “cap” for allowable emissions lowered over time. A cap on carbon emissions is set by the government on various parts of the economy, such as power plants, manufacturing, and transportation. The cap is based on previous emissions and declines over time. Designated emitters must have permits sufficient for their emissions. These permits — or “allowances” — are sold at auction by the government. If a company does not have sufficient permits for its emissions, it can buy permits on the open market from those who emit less and, therefore, have more permits than they need.

Massachusetts has been part of the [Regional Greenhouse Gas Initiative](#)<sup>1</sup> (RGGI), a cap and trade system, since 2009. RGGI was designed to reduce emissions from new and existing power plants responsible for 20% of carbon dioxide emissions. While RGGI has brought us closer to our reduction goals and provided significant economic benefits<sup>2</sup> for the region, it does not address the primary sources of carbon dioxide emissions in MA — transportation and fossil-fuel-based heating fuels<sup>3</sup>.

*Carbon fee systems* place an up-front cost on the carbon content of fossil fuels as the mechanism for reducing the use of fossil fuels, and hence their associated emissions. This approach reflects the reality that when something costs more, most people

buy/use less of it. Carbon fee systems can take a variety of forms, but are generally based on a fee and rebate system. A fee and rebate approach returns revenues generated from carbon fees charged consumers to households and businesses through rebates. The rebate system can be designed to be 100% revenue neutral, with 100% of revenue returned to consumers, or with some level of carve-out for reinvestment in designated programs. Regardless of the degree of revenue neutrality, successful fee and rebate systems impose minimal to no negative [financial impact](#)<sup>4</sup> on consumers.

### **Support for carbon pricing growing**

Carbon pricing is promoted by a growing body of corporate and government leaders—as well as leaders from a broad cross-section of interests that span the political spectrum from conservative to progressive—as one of the most efficient, effective and powerful tools for reducing emissions and sparking innovation and investment in the transition to a clean energy economy.

The pace of [adoption](#)<sup>5</sup> carbon pricing policies has quickened dramatically, with 39 nations and over 20 provinces, regions, states, and cities now employing some form of carbon pricing. A June 2015 article in [Reuters](#) reported that Europe’s major oil and gas producers<sup>6</sup> are now urging governments to act, acknowledging that “the current trend in greenhouse gas emissions is too high to meet the United Nations’ target for limiting global warming by no more than 2°C”<sup>7</sup>. Chief executives of these giant fossil fuel companies strongly support putting a price on carbon as the most effective way to “reduce uncertainty and encourage the most cost-effective ways of reducing carbon emissions widely.”<sup>8</sup> Many [companies](#)<sup>9</sup>, including Exxon-Mobil and Google, incorporate internal carbon pricing in cost/benefit analyses and decision-making.

Connecticut, Massachusetts, Oregon, Rhode Island, Vermont, and Washington are considering carbon fee legislation. Massachusetts was the first state in the nation to introduce [legislation](#)<sup>10</sup> to price carbon through a fee and rebate approach in the last legislative session. Legislation is pending again in this session of the Massachusetts Legislature with two bills submitted – [one](#)<sup>11</sup> by Carlisle’s State Senator, Michael Barrett, and the [other](#)<sup>12</sup> by State Senator Mark Pacheco. Which state will be the first to implement a carbon fee system remains to be seen.

Recent polling indicates that [three quarters of Americans](#)<sup>13</sup> accept that climate change is real. There is also growing recognition that the [cost of inaction](#)<sup>14</sup> will be far greater than costs undertaken now to address climate change. Carbon pricing offers a way to act quickly and effectively bring down emissions and move society closer to a viable, cleaner, and renewable energy future.

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<sup>1</sup>The Regional Greenhouse Gas Initiative is the first market-based regulatory program in the United States to reduce greenhouse gas emissions. Massachusetts has been part of this nine state (originally 10 states; NJ withdrew in 2011), regional cap and trade program for new and existing power plants, since

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2009. Other NE and Mid-Atlantic states in RGGI are: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont: <http://www.rggi.org/>; accessed 11/9/15.

<sup>2</sup> RGGI Analysis Group. The Economic Impacts of the Regional Greenhouse Gas Initiative on Nine Northeast and Mid-Atlantic States Review of RGGI's Second Three-Year Compliance Period (2012-2014) indicating the net economic benefits of RGGI for the region at approximately \$3 billion, alongside an 18% drop in power plant emissions over RGGI's six year history: <http://tinyurl.com/pu2gtjx>; accessed 11/9/15.

<sup>3</sup> In MA, transportation and fossil-fuel based heating fuel are the primary source of carbon dioxide emissions; construction and manufacturing also contribute.

<sup>4</sup> Analysis of a Carbon Fee or Tax as a Mechanism to Reduce GHG Emissions in Massachusetts <http://www.mass.gov/eea/docs/doer/fuels/mass-carbon-tax-study.pdf>

<sup>5</sup> World Resources Institute: Carbon Pricing Gains Popularity with Governments, Businesses, 6/30/15: <http://www.wri.org/blog/2015/06/carbon-pricing-gains-popularity-governments-businesses>; accessed 11/9/15.

<sup>6</sup> BG Group, BP, Eni, Royal Dutch Shell, Statoil and France's Total

<sup>7</sup> Reuters, Update-3. June 2015: Europe's top oil firms jointly call for carbon pricing <http://www.reuters.com/article/2015/06/01/europe-carbon-un-idUSL1N0YN08L20150601>; accessed 11/2/15

<sup>8</sup> ibid

<sup>9</sup> ibid

<sup>10</sup> Bill H.2532 113th (2013 - 2014): An Act relative to shifting from carbon emissions to transportation investment, by former Representative Tom Conroy and State Senator Michael Barrett.

<sup>11</sup> An Act to combat climate change: <https://malegislature.gov/Bills/SearchResults>

<sup>12</sup> An Act to protect our environment and reduce the carbon footprint of the commonwealth: <https://malegislature.gov/Bills/189/Senate/S1786>

<sup>13</sup> Americans Have Never Been So Sure About Climate Change—Even Republicans: <http://tinyurl.com/o5qjvn9>

<sup>14</sup> The Economist: THE COST OF INACTION: RECOGNISING THE VALUE AT RISK FROM CLIMATE CHANGE, 2015: <http://www.economistinsights.com/sites/default/files/The%20cost%20of%20inaction.pdf>