



FACT SHEET: Carbon Pricing

What is carbon pricing?

A carbon price is a fee assessed on the carbon content of fuels. Because of the strict proportionality between fuels' carbon content and their carbon dioxide (CO₂) emissions when burned, a carbon price is effectively a fee on the CO₂ emissions from burning fossil fuels. Thus, carbon pricing is shorthand for a carbon dioxide price or CO₂ price— or, one could say, for a carbon pollution price.

Carbon dioxide traps heat re-radiated from Earth's surface and causing global warming and other harmful climate change. In contrast, non-combustion energy sources — wind, sunlight, falling water, atomic fission — do not convert carbon to carbon dioxide. Accordingly, a carbon price (or CO₂ price) is effectively a fee on the use of fossil fuels, and only fossil fuels.

The carbon content of every form of fossil fuel, from anthracite to lignite coal, from residual oil to natural gas, is precisely known. Accordingly, so is the weight of CO₂ released into the atmosphere when the fuel is burned.

A carbon price thus presents few if any problems of documentation or measurement. As discussed here, administering a carbon price should be simple; utilizing existing tax collection mechanisms, the carbon price would be paid far "upstream," i.e., at the point where fuels are extracted from the Earth and put into the stream of commerce, or imported into the U.S. Fuel suppliers and processors would pass along the cost of the carbon price to the extent that market conditions allow.

Per unit of energy (or BTU), natural gas emits the least CO₂ of any fossil fuel when burned, and coal the most, with petroleum (oil) products such as gasoline occupying the middle range. Generally, a BTU from coal produces 30% more carbon dioxide than a BTU from oil, and 80% more than from natural gas (methane). A carbon price would obey these proportions, impacting coal somewhat more heavily than petroleum products, and much more than natural gas.

To the extent that carbon is included in a manufactured product such as plastic, but is not burned, that carbon will not be taxed. Similarly, to the extent the carbon used to produce energy is permanently sequestered rather than released into the atmosphere, that carbon will not be priced or a price credit will be provided.¹

Why is a carbon price necessary?

As long as fossil fuels remain artificially cheap and profitable, their use will rise. Correcting this market failure requires their price to account for their true social costs.²

¹ "What's a carbon tax?" author unknown, Carbon Tax Center, December 10, 2014, <http://www.carbontax.org/whats-a-carbon-tax/>.

² "Carbon Fee and Dividend Explained," author unknown, Citizens Climate Lobby, date unknown, <https://citizensclimatelobby.org/carbon-fee-and-dividend/>.



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The rationale for a carbon price is simple: the levels of CO₂ already in the Earth's atmosphere and being added daily are destabilizing established climate patterns and threatening the ecosystems on which we and other living beings depend. Very large and rapid reductions in the United States' and other nations' carbon emissions are essential to avoid runaway climate destabilization and avert resulting severe weather events, inundation of coastal areas, spread of diseases, failure of agriculture and water supply, infrastructure destruction, forced migrations, political upheavals and international conflict.

A price on carbon pollution will create the broad incentives to encourage decision-makers at all levels of society to reduce carbon emissions through conservation, substitution and innovation. Currently, the prices of gasoline, electricity and fuels in general include none of the long-term costs associated with devastating climate change or even the well-quantified near-term health costs of burning fossil fuels. This immense "market failure" suppresses incentives to develop and deploy carbon-reducing measures such as energy efficiency (e.g., high-mileage cars and high-efficiency air conditioners), renewable energy (e.g., wind turbines, solar panels), low-carbon fuels (e.g., biofuels from high-cellulose plants), and conservation-based behavior such as bicycling, recycling and overall mindfulness toward energy consumption. Conversely, pricing fuels according to their carbon content will infuse these incentives at every link in the chain of decision and action — from individuals' choices and uses of vehicles, appliances, and housing, to businesses' choices of new product design, capital investment and facilities location, and governments' choices in regulatory policy, land use and taxation.

A carbon price won't stop global climate disruption by itself — other, synergistic actions are required around our warming world. However, without a carbon price, even the most aggressive regulatory regime (e.g., high-mileage cars) and "enlightened" subsidies (e.g., tax credits for efficiency and renewables) will fall woefully short of the necessary reductions in carbon burning and emissions.³

- **What is the Massachusetts Sierra Club's position on carbon pricing?**

The Massachusetts Sierra Club position is to support our state's laudable and far-reaching Greenhouse Gas emission reduction goals and to encourage our legislature to pass carbon-pricing legislation.⁴

- **Are there efforts to implement carbon pricing in Massachusetts?**

Yes. Two bills have been introduced into the State Legislature to implement a price on carbon.

An Act Combating Climate Change (SD285)

Lead Sponsor: Senator Michael Barrett

A dashboard on the state's website keeps track of where the state is in terms of reducing greenhouse gases. In 21 years, emissions have been cut by 15 percent, less than one percent

³ "Why a carbon tax?" author unknown, Carbon Tax Center, December 10, 2014, <http://www.carbontax.org/why-a-carbon-tax/>.

⁴ "Stop the Tennessee Gas Pipeline – Rally Boston Common Wednesday July 30, 2014," Ed Woll, Massachusetts Sierra Club, July 30, 2014, <http://sierraclubmass.org/wp/?author=9>.



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a year. To achieve the 2050 goal, we'll need to reduce emissions by more than twice that amount.

State Senator Mike Barrett has introduced a bill to implement a revenue-neutral carbon tax. His bill works like this. Every year, everyone receives an allowance of funds. Businesses and municipalities receive an amount proportional to how many people that they employ. Residents get an equal share per person — around \$56 to start. Everyone — even homeless individuals — will receive a carbon credit.

Then comes the carbon pricing, which targets everything that emits carbon, but especially fossil fuels. Under the program, gas at the pump won't just go up 3 cents, it will go up 27 cents. And, as time goes on, the pricing increases.

The assumption is that in order to avoid the tax, people will eventually change their behavior: More hybrid and electric cars, smarter designed buildings, less waste.

There is every reason to believe such a price on carbon would actually help the economy. British Columbia stepped out in front of the rest of Canada and initiated its carbon tax program in 2008. It has substantially cut emissions and also experienced high economic growth. Politically, the carbon tax has been a winner, with two-thirds of those surveyed in a recent poll in the province favoring the law. Meanwhile, the province's personal income taxes are tied for being the lowest in all of Canada.

The idea of a lone state like Massachusetts getting out ahead of the rest of the country and leading a program of this magnitude might strike some as too ambitious. But this is precisely what the Commonwealth has been doing on a host of issues — from marriage equality to health care. Being ahead of the curve is a good thing, especially when our future depends on it.⁵

An Act to Protect our Environment and Update our Climate Action Plan (SD1814)
Lead Sponsor: Senator Marc Pacheco

The other bill to put a price on carbon takes a slightly different path. It prohibits hydraulic fracturing and coal plant operation after 2017; divests any state pension fund from fossil fuel holdings within five years; creates an economy-wide price on carbon emissions, with 20 percent of revenue generated going to public transportation and renewable energy projects; and promotes energy efficiency and solar energy in buildings and transportation.

⁵ “Mass. can lead on greenhouse gas reduction,” Mike Ross, *Boston Globe*, February 25, 2015, <http://www.bostonglobe.com/opinion/2015/02/24/mass-can-lead-greenhouse-gas-reduction/YIVeHPE4FDBVYhIzUJn65N/story.html>.