

# Three cheers for natural gas

## It's the fuel of past, present, and future

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**NATURAL GAS HAS BEEN** a resounding environmental success story for Massachusetts that has delivered every benefit environmentalists predicted it would back in the 1990s. Continued access to reliable supplies of natural gas will be critical to fulfilling Massachusetts' renewable energy revolution in the 2020s and well beyond.

Those are two realities we believe far too few residents of Massachusetts fully appreciate. Amid resistance to pipeline expansion—and to upgrades of almost any energy infrastructure—what's overlooked are the reasons why safe, robust, and expanded access to natural gas will remain critical to sustaining all the environmental benefits Massachusetts has won already, and to the “green energy” transformation to come. How can that be? Because only gas can deliver the full-scale reliability we need to backstop our growing reliance on wind and solar power to produce electricity.

Let's look at the past and future of gas in Massachusetts.

The past: Back in the 1990s, environmentalists aggressively pushed the state to embrace greater use of natural gas for generating electricity, as a cleaner-burning alternative to coal and bunker oil. Investors poured billions of dollars into new power plants that produce half the global warming emissions and virtually none of the smog-causing pollutants and mercury.

According to the most recent data from the US Energy Information Administration, in 2014 Massachusetts generated nearly 60 percent of its electricity with natural gas, up from just 15 percent in 1990. That swing has driven into retirement coal-burning power plants at Salem Harbor and Mount Tom in Holyoke. Brayton Point in Somerset, the state's last coal-fired plant, will close in June 2017. And burning of heavy oil has plunged. Oil used to produce 38 percent of the Bay State's electricity in 1990; in 2014 it produced barely 3 percent.

The payoff in reduced emissions has been nothing short of spectacular. Even as Massachusetts' consumption of electricity grew by 21 percent from 1990 to 2014, federal data show, emissions from electric generation plummeted:

- 63 percent less carbon dioxide,
- 78 percent fewer nitrogen oxides,

- 97 percent less sulfur dioxide.

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Beyond electricity, natural gas has also transformed home heating in Massachusetts. Since 1990, nearly 31 percent more homes are heated by natural gas instead of more expensive, carbon-intensive, and polluting heating oil. More than half of Bay State homeowners, close to 1.5 million in all, now heat with gas. Thousands more want to convert.

The future: Massachusetts’ transition to natural gas has been so successful that the Commonwealth now faces serious risks of electricity shortages on cold winter days, because so much electric generation—as environmentalists advocated—now depends on gas. Late in September, the head of New England’s power grid warned that ensuring reliable delivery of electricity during deep-winter cold snaps is now “precarious” and will become “unsustainable” once the Pilgrim nuclear plant shuts down in 2019.

Without expanded pipelines and liquefied natural gas supplies, Massachusetts can’t meet home heating demand, guarantee reliable electric supply, and lift moratoriums now blocking homeowners in several parts of the state who want to switch from oil to gas.

Looking ahead, Massachusetts’ dependence on natural gas isn’t going away. Only gas-fired generation can provide the safe, reliable, dependable backstop for a future electricity grid powered by wind, solar, and hydro. Gas is the sole lower-carbon source of power that can cycle up as quickly as the wind dies down or the sun goes behind a cloud. We hear of new developments in electrical energy storage, but that promising technology can’t yet affordably deliver the required reliability at mass scale, and it likely won’t for years or decades to come.

Long after the Commonwealth has approved gigawatts of wind off Martha’s Vineyard and covered acres of rooftops and fields with solar panels, natural gas-fired power plants will be critically needed as the source of on-demand backup electricity.

The time has come for Bay State leaders and clean-energy advocates to acknowledge the truth about natural gas. It doesn’t merely deserve credit for delivering massive environmental benefits that were hardly imaginable just 20 years ago. Natural gas will also remain a pillar of the region’s energy supply for the foreseeable future. Access to this critical resource must be assured as Massachusetts works to comply with our Global Warming Solutions Act emissions reductions, and to drive our transition to a greener energy economy.

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