



# SOLAR IS WORKING FOR MASSACHUSETTS

Massachusetts is a national leader on solar. It ranks 4th in the nation in terms of cumulative installed solar capacity, which has grown from 10 megawatts (MW) in 2009 to more than 867 MW today. The electricity produced by solar is enough to power almost 133,345 Massachusetts homes. Solar also provides a range of economic, environmental, and public health benefits to the Commonwealth. This briefing highlights ten ways in which solar is working to build healthier and more resilient communities, while addressing the energy affordability challenges created by rising and volatile electricity prices.

## 1. Solar is an Economic Engine.

Solar is one way to reclaim the lost economic opportunity resulting from the \$22 billion of capital that flows out of Massachusetts every year to purchase coal, oil and gas. Every dollar invested in solar creates \$1.20 in benefits to the local economy. Between 2010 and 2014, \$2.37 billion dollars was invested in Massachusetts to install solar on homes and businesses.

## 2. Solar Creates Jobs.

During the economic crisis, employment in the clean energy sector grew up to ten times faster than in any other industry in the Commonwealth. Solar is one of the reasons why. Today, solar supports 12,000 jobs in Massachusetts and more than 1,415 solar companies are based here. This makes Massachusetts the 2nd largest solar industry employer in the nation.

## 3. Solar Lowers Energy Costs for Massachusetts Businesses.

Large and small companies alike have embraced solar power as a way to hedge against uncertain and volatile electricity prices. Staples, Inc., the biggest retailer of office supplies in the country, is the ninth largest user of solar power of any non-utility business in the US. The company benefits from 14 MW of solar installed at its operations across the country, including a 686 kilowatt (kW) installation on a garage roof at its Framingham headquarters. The family-owned hardware chain, Aubuchon Hardware, is also benefitting from solar. Aubuchon has installed a 584 kW system on the rooftop of its Westminster distribution center and purchases net metering credits from a community solar project in Gardner.

## 4. Solar Boosts Budgets in Cities and Towns.

At least 175 cities and towns in Massachusetts host one or more of their own solar projects. The more than 400 municipal projects have a combined capacity of over 340 MW. Solar benefits cities and towns by reducing and stabilizing energy costs and increasing tax revenue. In New Bedford, the local government has installed 10 solar projects across the city and currently has the most installed solar per capita in the continental US. These 10 solar projects will save the city an estimated \$22 million in electricity costs over the next 20 years.

## 5. Solar Diversifies our Energy Resources and Protects Ratepayers.

Electricity prices increased by about 30% this past winter, costing ratepayers an additional \$3 billion in 3 months. The Commonwealth's overreliance on natural gas leaves us vulnerable to future price swings even with added pipeline capacity. Solar is one way to reduce our reliance on natural gas and mitigate extreme price swings. Once installed, the cost of solar electricity is free, thereby reducing the need to run more expensive fossil fuel generation units that increase electricity costs. In this way, solar suppresses energy prices for all ratepayers, thus saving everyone money.

## 6. Solar Benefits Schools.

More than 180 schools have installed a total of 25 MW of solar. It's estimated that 82% of schools in Massachusetts can save money by "going solar" and there is a potential for another 2,000 installations totaling 148 MWs. If every school in Massachusetts that could go solar did, an estimated \$74 million could be saved over the life of the projects. Plymouth Public Schools get 100% of its energy from solar and contributes excess renewable sources back to the community. The town and school district will save 20 million over the next 20 years.

## **7. Solar Helps Low Income Communities.**

Solar on affordable housing developments across the Commonwealth stabilize operating budgets and keep rents from rising. For the Greater Boston Food Bank, the 260 kW of solar on its rooftop lowers refrigeration costs and allows more of the organization's financial resources to be devoted to helping those in need. In Worcester, an association of providers of homeless services has combined solar and other renewable and efficient technologies to lower energy costs in buildings that serve extremely low income people.

## **8. Solar Powers Our Farms.**

Solar on farms stabilizes energy costs, provides a new source of revenue and allows farmers to invest in their operations. To date, more than 30 MW of solar has been installed across more than 145 Massachusetts farms. At the Happy Valley Organics Farm in Whatley, MA, for example, a 103 kW solar installation offsets the cost of seasonal lighting for greenhouses. The money saved as a result has allowed this farm, which is the largest supplier of organic basil in New England, to expand its operations.

## **9. Solar is a Solution to the Climate Crisis.**

Solar is helping Massachusetts achieve its greenhouse gas emission reduction targets of 25% reduction by 2025 and 80% reduction by 2050. The 867 MW of solar currently installed in the state avoiding an estimated 459,556 tons of carbon dioxide emissions annually, equivalent to the emissions of 87,535 cars. Solar also has the potential to reduce climate emissions in the heating and transportation sector when coupled with technologies like air source heat pumps and electric vehicles.

## **10. Solar Protects Public Health.**

Solar is a zero emission energy source, providing electricity without producing of sulfur dioxide, nitrogen oxides, particulate matter and smog. These and other power sector pollutants exact a heavy toll on public health. In 2012, for example, pollution emitted by the Brayton Point Power Station in Somerset resulted in public health costs of between \$120.5 million and \$294.5 million.

# **SOLAR IS WHAT THE PUBLIC WANTS**

Massachusetts has more than 24,000 solar installations in the Commonwealth. Of these, the vast majority, approximately 17,000 are residential systems. As costs have declined, solar has grown increasingly affordable and available to everyone. What's more, solar and the policies like net metering, enjoy broad support amongst Massachusetts voters. A poll conducted in 2013 revealed that nearly 70% of Massachusetts voters believe that the solar power industry is important to the Massachusetts economy, and 60% strongly supported the Commonwealth's 1600 MW solar goal. More than half of those surveyed were supportive of policies in place to incentivize solar energy system installations, including net metering.