



# The Clean Peak Standard:

The Role of Energy Storage in Delivering Clean Energy Exactly WHEN it's Needed

## *What is a Clean Peak Standard?*

A clean peak standard (CPS) is a relatively new program concept designed to reduce the costs and environmental impact of electricity generation when demand is highest — and correspondingly, generation tends to be the most polluting.

Like a renewable portfolio standard (RPS), a CPS specifies a minimum percentage of electricity provided during peak demand windows that must be generated from eligible clean resources. It shifts clean energy generation from periods of low emissions and low demand to higher emissions and peak demand. Massachusetts is the first state to move forward with a clean peak standard.

Energy storage plays a critical role in holding electricity generated from eligible clean resources and delivering it when it's needed — during peak demand. Even for areas with high percentages of renewable energy, those resources do not necessarily produce during peak demand periods, and so without energy storage, the grid may still rely on expensive and greenhouse gas-emitting generation resources.

## *How Does a Clean Peak Standard Work?*

In restructured markets (sometimes called “deregulated markets”), where energy generation is separated from electric retailers (sometimes called “load serving entities”), states may implement a market mechanism to encourage the deployment of a diverse set of clean energy technologies that can supply electricity or reduce demand during peak demand periods.

The CPS would require electric retailers to procure a minimum percentage of their annual electricity sales from qualified Clean Peak Energy Resources, e.g., from energy storage or directly from renewable generation. Like the structure of an RPS, the requirement increases over a defined period of time (e.g., in Massachusetts the Minimum Standard Obligation climbs from 1.5% in 2020 to 16.5% by 2030). To meet the obligations, electric retailers can either purchase Clean Peak Energy Certificates from qualified resources and report their sales to the state regulatory bodies, or choose another method of identification as determined by the regulators.

## What's Driving the Clean Peak Standard?

The CPS can save consumers money by reducing the need for higher-cost, higher-emitting peak resources, and reduce emissions by avoiding the dispatch of those resources. A Massachusetts report found that 10% of hours on average accounted for 40% of annual electricity expenditures (a cost of more than \$3 billion to ratepayers each year). The Commonwealth estimates that over ten years, a CPS will save ratepayers \$710 million net and reduce CO2 emissions by 560 thousand metric tons.

## The Clean Peak Standard in Massachusetts

In March of 2018, Massachusetts Governor Charlie Baker proposed a Clean Peak Standard program, that was signed into law in August 2018 under [An Act to Advance Clean Energy](#). The MA Department of Energy Resources (DOER) issued its [CPS draft regulations](#) in September 2019. Final regulations are expected to be filed Q1 2020, with longer-term procurement rules to be crafted later.

Eligible resources fall into four categories, which must be interconnected with the distribution system within Massachusetts, or if transmission-interconnected, must deliver energy to the Commonwealth.

- Category 1: New renewable resources that come online after January 1, 2019
- Category 2: Existing renewable resources that add new energy storage capacity of at least 25% of the renewable nameplate capacity
- Category 3: New energy storage that charges primarily from renewables: either co-located, contractually paired, or charging during peak renewable production.
- Category 4: Demand response resources including energy storage, electric vehicle charging infrastructure, or other responsive electric loads

To limit ratepayer impact to less than \$0.005/kWh, DOER proposes an annual CPS obligation increase of 1.5%, reaching 16.5% by 2030, and an Alternative Compliance Payment (ACP) in lieu of acquiring a Clean Peak Energy Certificate set at \$30 (declining after the first 10 years to \$0 in 2051)

DOER proposes multipliers to increase the number of certificates awarded if they provide certain additional benefits to the system.

- Summer and Winter peaks 3x
- Highest monthly hourly peak 15x
- Resilient resources<sup>1</sup> 1.5x multiplier
- Existing generation or state contracted resources 0.1x

More information about the Massachusetts CPS program can be found [here](#).

## Market Considerations when Designing a CPS

- Is the financial incentive impactful enough to support the economics of the project?
- Have you ensured the resource will be available in practice, if it participates in other retail or wholesale market services?
- Is there a floor price or sufficient long-term contract opportunity for participating resources?

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<sup>1</sup> Resilient resources are defined as storage collocated with an RPS resource that provides back-up power during an outage.