

## Consortium for Climate Solutions Frequently Asked Questions

### General

#### 1. What is the Consortium for Climate Solutions?

The Consortium for Climate Solutions is a unique collaboration between higher education institutions, healthcare systems, a municipality and nonprofit cultural organizations in Massachusetts, which are dedicated to advancing joint climate goals through investment in the development of new renewable energy projects.

#### 2. How was the Consortium formed, when, and which organizations are involved?

The collaboration stemmed from existing relationships in higher education between Harvard University and Massachusetts Institute of Technology (MIT) and was formed in 2020. Harvard, Mass General Brigham, and MIT serve as the project anchors, procuring the largest volume of energy through the aggregation.

PowerOptions was brought in and presented the opportunity to its members, engaging the City of Cambridge, Beth Israel Lahey Health, Boston Children's Hospital, Dana-Farber Cancer Institute, Tufts University, and the Massachusetts Convention Center Authority, enabling them to collectively advance their climate goals. PowerOptions also serves as an intermediary buyer on behalf of the Museum of Fine Arts, Boston and GBH, providing them the opportunity to participate with smaller purchases, supported by the project's anchor participants.

Apex Clean Energy is the project developer and owner. 3Degrees facilitated the aggregation on behalf of the Consortium.

#### 3. What is the concept of a renewable energy aggregation?

A renewable energy aggregation consists of a group of renewable energy buyers leveraging their collective electricity needs to secure long-term renewable power purchase agreements at a volume larger than what they could efficiently procure independently. Renewable energy aggregations such as this one provide market access and competitive terms to buyers who otherwise would not be able to purchase smaller volumes at such competitive terms on their own.

The Consortium for Climate Solutions is creating a replicable model that other businesses and institutions can use to advance the development of renewable energy projects and accelerate climate action.

#### 4. What is a VPPA?

A virtual power purchase agreement, or VPPA, grants energy buyers the right to renewable energy certificates (RECs) generated by a specific project. VPPAs do not involve the physical delivery of electricity. VPPAs are long-term contracts that facilitate renewable energy development, as they help enable projects to be financed. The underlying project itself may not necessarily be in close proximity to a buyer's electricity consumption.

## **5. With which renewable energy projects did Consortium for Climate Solutions members execute a VPPA?**

To advance collective climate goals, the Consortium for Climate Solutions members will procure over 1.3 million megawatt-hours (MWh)/year from two renewable energy projects, a solar array in Texas and a wind farm in North Dakota.

Big Elm Solar, a 200 MW solar energy project in Bell County, Texas, recently came online and will produce an estimated 500,000 MWh/year. Bowman Wind, a 208 MW wind energy project in Bowman County, North Dakota, will produce an estimated 860,000 MWh/year and is expected to come online in 2026. Both projects will be developed, constructed, owned, and operated by Apex Clean Energy.

## **6. What is the anticipated impact?**

The 1.3 million MWh/year of clean electricity generated on behalf of the Consortium buyers by the two projects will avoid the release of over 950,000 tons of carbon dioxide equivalent (CO<sub>2</sub>e) into the atmosphere, which is equal to the emissions from 130,000 homes' electricity consumption over one year.

Beyond generating tangible environmental benefits, including the contribution of approximately \$400,000 to regional conservation efforts, Bowman and Big Elm will inject significant economic benefits to their local and state economies. Collectively, the two will create approximately \$64 million in tax revenue for their communities, 750 jobs during construction, and a new and long-term source of income for local farmers and landowners, totaling \$100 million over the 30-year lives of the projects.

## **7. Are these types of aggregations common?**

The Consortium for Climate Solutions is a first-of-its-kind collaboration between a municipality, higher education institutions, healthcare systems, and nonprofit organizations and one of the largest aggregations by number of participants and MWh to-date. The Consortium serves as a scalable model for collaboration and joint progress towards climate goals.

## MIT

### **How does the Consortium align with the goals of MIT's Climate Project?**

This collaborative approach aligns with the missions and spirit of MIT's Climate Project, which seeks to develop MIT into one of the most prolific partners in solutions for the global climate challenge. This type of partnership and shared solution-building exemplifies the way MIT is working to address the global challenge of climate change.

### **What was the Consortium's evaluation criteria for the projects?**

The Consortium outlined several project performance requirements, including a commitment to advancing health, justice, equity, environmental conservation and workforce development.

### **What is MIT doing to decarbonize its campus?**

In addition to investing in off-site renewable energy projects, many Consortium members have developed strategies to reduce and eliminate their own direct emissions. MIT is committed to decarbonizing the campus by 2050 which requires transformative change in how energy is generated, distributed, and used on campus. Efforts underway include the installation of solar panels on campus rooftops that will increase renewable energy generation four-fold by 2026; continuing to transition our heat distribution infrastructure from steam-based to hot water-based; utilizing design and construction that minimizes emissions and increases energy efficiency; employing AI-enabled sensors to optimize temperature setpoints and reduce energy use in buildings; and converting MIT's vehicle fleet to all-electric vehicles while adding more electric car charging stations.

### **What is the benefit of engaging smaller non-profits and local organizations in the Consortium?**

In addition to its goal to accelerate global emissions reductions through the development of large-scale renewable energy projects, Consortium members were also interested in finding ways to team with municipalities and smaller nonprofits as these type of large-scale renewable energy purchases are typically out of reach. By engaging with the Consortium through PowerOptions, the organizations could work together for greater impact.

### **Is MIT investing in solar projects in Massachusetts?**

The Institute has recently concluded an agreement through the Solar Massachusetts Renewable Target (SMART) program that supports the Commonwealth of Massachusetts' state solar power development goals by enabling the construction of a new 5-megawatt solar energy facility on Cape Cod. The new solar energy system is integral to supporting a new net-zero emissions development that includes affordable housing, while also providing additional resiliency to the local grid.

## About the Consortium for Climate Solutions Founders

### MIT

MIT is leading the charge on sustainability and climate action by investing in and prioritizing cutting-edge research and breakthrough technologies to meet ambitious global targets. With a bold commitment to eliminating direct campus emissions by 2050 and achieving net-zero emissions by 2026 and leveraging the campus as a test bed, MIT is taking decisive steps both on and beyond campus. Discover MIT's comprehensive climate and sustainability strategies at [sustainability.mit.edu](https://sustainability.mit.edu).

### Harvard University

With an emphasis on cross-disciplinary collaboration, Harvard is committed to developing and promoting durable, effective, and equitable solutions to the climate change challenges confronting humanity. On campus, the university is working to achieve fossil fuel-neutrality by 2026 and to zero out fossil fuels in its campus operations by 2050. Through its Sustainability Action Plan framework, Harvard is bringing research discoveries to campus by working to holistically address sustainable development including integrated solutions to climate change, health and equity.

### Mass General Brigham

Mass General Brigham is an integrated academic health care system, uniting great minds to solve the hardest problems in medicine for our communities and the world. Mass General Brigham connects a full continuum of care across a system of academic medical centers, community and specialty hospitals, a health insurance plan, physician networks, community health centers, home care, and long-term care services. Mass General Brigham is a nonprofit organization committed to patient care, research, teaching, and service to the community. In addition, Mass General Brigham is one of the nation's leading biomedical research organizations with several Harvard Medical School teaching hospitals. For more information, please visit [massgeneralbrigham.org](https://massgeneralbrigham.org).

### Apex

Apex Clean Energy was founded with a singular focus: to accelerate the shift to clean energy. Through origination, construction, and operation of utility-scale wind, solar, and storage facilities, distributed energy resources, and green fuel technologies, Apex is expanding the renewable frontier across North America. Our mission-driven team uses a data-focused approach and an unrivaled portfolio of projects to create solutions for the world's most innovative and forward-thinking customers. For more information about how Apex is building the energy company of the future, visit [www.apexcleanenergy.com](https://www.apexcleanenergy.com) or follow us on Facebook, YouTube, and LinkedIn.

### PowerOptions

For 25 years, PowerOptions has reduced the cost, carbon, and complexity of energy for nonprofits and public entities and is now the largest energy consortium in New England. With more than 500 members of every size and sector across Massachusetts, Connecticut, Rhode Island, and Maine, PowerOptions has the market strength to negotiate very competitive prices and the member demand to drive innovation. Offerings include electricity and natural gas procurement, turnkey solar, clean transportation, sustainability planning and implementation, data analytics, and advisory services. Any nonprofit or public entity is eligible to join; for more information, go to [www.poweroptions.org](https://www.poweroptions.org).