



Michigan State University entered into a 25-year Power Purchase Agreement (PPA) to buy 15,000 megawatt-hours of electricity produced each year by the largest solar carport in the Midwest, located on its East Lansing campus.

Renewable Energy Purchasing

Moving Toward 100% Clean, Renewable Energy on Campus

America's colleges and universities can purchase renewable power to transition to a future of 100 percent clean, renewable energy, as well as save money and hedge against volatile fossil fuel costs. Power purchase agreements (PPAs) and renewable energy credits (RECs) enable colleges to purchase clean energy and drive the deployment of new installations without upfront costs.

Renewable Energy Purchases Accelerate the Transition to Clean Energy

While some campuses have ample opportunities to install solar and wind power, colleges with limited space or cash reserves can purchase renewable energy. Financing options like PPAs avoid upfront costs, and provide incentives for developers to build additional renewable energy capacity. Renewable energy purchasing ensures all schools can achieve their clean energy goals.

Campuses Benefit from Renewable Energy Purchases

Colleges can purchase renewable electricity in different ways:

- **Power Purchase Agreements (PPAs):** Colleges can buy clean electricity directly from electricity providers, typically at a long-term cost savings, thanks to a fixed price over a long contract term (typically 20 years), no upfront capital or maintenance costs and protection from volatile energy prices.
- **Net Metering Credit Purchase Agreements (NMAs):** Some states allow NMAs, which are like PPAs, but the electricity is generated off-site, using virtual net metering.
- **Renewable Energy Credits (RECs):** Colleges can purchase RECs to pay renewable electricity providers for the right to claim the provider's renewable electricity towards their own clean energy goals. One REC represents one megawatt-hour of clean electricity. REC sales help developers to finance renewable energy projects.

As of January 2016, 61 universities had financed over 100 megawatts of solar capacity through PPAs. As of April 2016, 81 universities had contracts to purchase RECs.

Overcoming Challenges Associated with Renewable Energy Purchases

PPAs and NMAs are unfortunately not available in all states. What's more, if the project owner sells the associated RECs the college cannot claim the renewable energy or emissions reductions.

- **Double counting:** Improperly tracked RECs may be counted twice – once as a green energy purchase, and once by a utility to comply with a state's renewable energy standard.
- **Aging facilities:** Some RECs may be generated from aging facilities, rather than being used to install new clean energy capacity.
- **Favorable economics:** RECs purchased from states where renewable energy development is driven primarily by favorable economics may not effectively encourage new development.

Higher education institutions can use careful screening or purchase high-quality RECs that have been vetted by trusted certification systems, like Green-e, which verifies and certifies that RECs are not double counted and come from projects built within the last 15 years, among other criteria.

Georgetown purchases renewable energy credits that exceed its electricity use to support clean electricity generation both on and off campus.

Georgetown Uses RECs and Efficiency to Exceed 100 Percent Renewable Electricity

Georgetown University's historic campus in Washington, D.C., does not have the physical space or flexibility to deploy large-scale clean energy installations on site. Yet, by procuring off-campus renewable energy, installing renewable energy on rooftops and working to aggressively reduce energy use on campus, Georgetown University has become one of the nation's top clean energy schools.

Georgetown bought RECs equivalent to 129 percent of its electricity use in the year ending in July 2016. By exceeding 100 percent renewable power, Georgetown supports clean electricity both on and off campus. To maximize the effectiveness of these RECs in driving renewable energy adoption, Georgetown purchases RECs that have been certified by Green-e.

Clean energy adoption at Georgetown goes beyond REC purchases, and includes improving building energy efficiency, engaging people to conserve energy, and even installing solar on the roof of six historic townhouses. In fiscal year 2014, Georgetown saved 500,000 kWh of energy, which is equivalent to taking more than 700 cars off the road.

Because of its clean energy efforts, the EPA recognized Georgetown as a Green Power Partner of the Year in 2013.



Michigan State University Enters Solar PPA

In March 2017, construction began on a new solar array project at Michigan State University. Located across five different campus parking lots, the array will generate 5 percent of the campus' annual electricity needs, and is projected to save \$10 million over the next 25 years.

This project is being developed through a PPA and will be owned by Indiana solar-energy supplier Inovateus and Canadian renewable-energy developer Alterra. MSU will purchase the electricity produced by the solar array for 25 years and pay \$2.5 million to connect the arrays to the university power grid, while the investors will pay \$20 million for all other construction and maintenance costs.

The PPA-funded project will also provide research opportunities for students from the College of Engineering to explore new technologies that could be used in the solar arrays.

*This factsheet is one of a 10-piece series.
For citations, and to read the other factsheets,
please visit
EnvironmentAmericaCenter.org/Campus101*



List of Resources

To get the most out of renewable energy purchasing:

- Learn about renewable energy procurement at other colleges: greengigawatt.org/resources/IEN_CleanEnergy_whitepaper.pdf
- Consult the National Renewable Energy Laboratory's fact sheet for solar PPAs: www.nrel.gov/docs/gen/fy16/65567.pdf
- Learn more about PPAs and NMAs for institutions: www.mass.gov/eea/docs/eea/lbe/ppa-and-nma-guidance.pdf
- Signatories to the Carbon, Climate or Resilience Commitment have access to the primers, guides and market intelligence of the Rocky Mountain Institute's Business Renewable Center: www.businessrenewables.org