

CASE STUDY: UNIVERSITY AT BUFFALO

A 100% TRANSITION TO CLEAN AND RENEWABLE ENERGY SOURCES



COMPANY

A public research university on a mission to achieve climate neutrality by 2030

A flagship institution in the State University of New York system, the University at Buffalo is the largest and most comprehensive institution in the 64-campus SUNY system. It is a research-intensive, public university dedicated to academic excellence. In the fall of 2019, UB employed 6,037 full-time staff, contained a campus of over 175 buildings spread across 1300 acres, and educated 30,000 students. As a public research university, UB values its institutional responsibility to bring the benefits of its research, scholarship and teaching excellence to the members of our local and global communities in ways that enhance our understanding of our world and the quality of life for all people.



CHALLENGES

Reduce carbon emissions and switch to 100% clean and renewable energy

In 2009, UB set a climate neutrality goal for 2030. UB has updated its climate action plan in 2020 keeping this goal and has outlined 10 strategies to get to neutrality in 10 years ([UB's 10 in 10](#)). Over the past several years, UB took up the challenge to reduce its carbon emissions by approximately one-third by dramatically decreasing its scope two emissions. This equates to roughly 20,000 MTeCO₂ of greenhouse gasses. Furthermore, 100% of the total percentage of electricity used at their campus has been purchased from renewable sources over the past three consecutive years.

SOLUTIONS

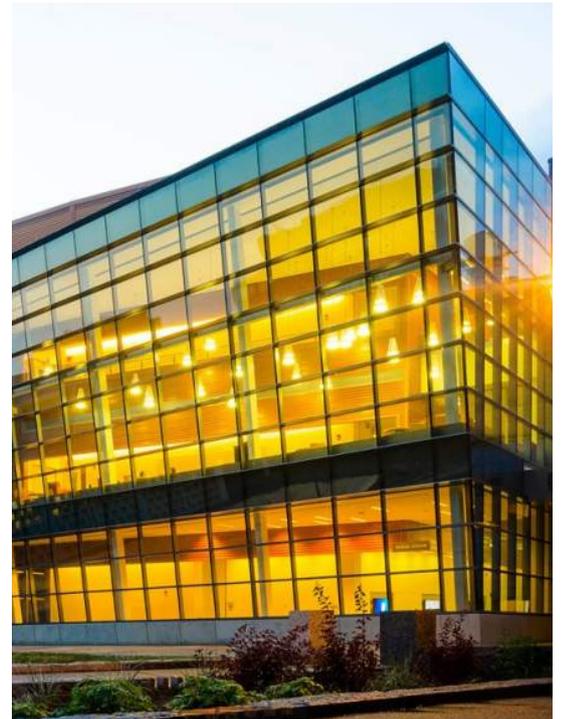
UB accomplished its goals by focusing on the University's electricity source and transitioning to 100% clean and renewable sources. This work began with two early projects, the Norton Solar Rooftop in 2005 and the UB Solar Strand in 2010, which created a critical foundation for UB to build from. It then evolved to the Steel Sun project in Lackawanna, NY, and further matured to a key Renewable Energy Certificate purchase. Today, the work continues with a renewable energy partnership between the University, Erie County, SUNY Erie Community College, and Buffalo State College. These projects are further bolstered by the continued efforts of the university to create the next generation of clean energy leaders. By integrating renewable energy and climate mitigation efforts into the curriculum and community, UB is building clean energy champions who are already working to integrate their knowledge into numerous disciplines and industry sectors thereby scaling greater carbon reduction work. This has occurred through numerous programs across the University including, the [Carbon Reduction Challenge](#), the [Education and Leadership Fellows in Sustainability](#) and of course the University's membership with WNYSSBR.

RESULTS

The University at Buffalo has reduced its carbon footprint by replacing 228,000 megawatt hours kilowatt-hours of electricity with renewable sources on an annual basis. That equates to a greenhouse gas reduction of approximately 33% of UB's carbon footprint. The decrease in carbon only tells one side of the measurable benefits of the story as UB also saved nearly \$1M in avoided costs by advancing the Norton Solar Rooftop, the UB Solar Strand, and Steel Sun from during 2017, 2018 and 2019. Both the Norton Solar Rooftop and the UB Solar Strand have been producing electricity for UB at no direct cost over the past decade as they were funded directly by NYSERDA and NYPA. When measured against the cost of that electricity during the respective years had Norton and the Strand not been on-line, the university ended up saving \$95,637 over the three-year period. Overall, the University has decreased its CO₂ emissions by 45,709.88 tons per year as a result of all its projects and initiatives.

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As a member of the SBR, UB has had the opportunity to connect students and faculty to local businesses to help with their own sustainability initiatives. The Carbon Reduction Challenge, which held its first class in 2018, is a pinnacle example of this



University at Buffalo's actions and results have been reported within the framework of The WNYSSBR's Recognition Program, a continuous improvement program structured to help businesses reach achievable sustainable targets. The program encourages companies to implement a comprehensive sustainability plan. This includes systematic benchmarking, identifying further environmental efficiency opportunities, and quantifying results when improvements are put into place.

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