



Siva Powers America's 2021 Competitiveness Improvement Project award will enable the company to improve and modernize production capabilities of the SIVA 250/50 turbine (shown here) and expand its market nationally. *Photo by Padma Kasthurirangan, Siva Powers America, Inc.*

U.S. Department of Energy Competitiveness Improvement Project (CIP)

# 2021 Component Innovation Awardee: Siva Powers America

*Project Dates: Nov. 1, 2021– July 31, 2023*

## Project Overview

### Funding To Enable Increased Energy Capture at Low-Wind Sites

Siva Powers America earned a Competitiveness Improvement Project (CIP) Component Innovation award that will enable the company to evolve its 250/50 wind turbine design, discontinue its existing 13.4-meter wind turbine blades, and develop new 14.4-meter blades. These longer blades, which have additional extenders at the hub, will increase the rotor diameter to 35 meters, allowing for improved energy production at sites with lower wind resources. A collaboration with the National Renewable Energy Laboratory (NREL) includes a redesign, build, and on-site structural test for the new prototype blades. This will ultimately allow Siva Powers America to pursue recertification of the SIVA 250/50 to meet international standards.

## Project Outcomes and Deliverable

CIP funding will help Siva Powers America redesign, build, and structurally test new prototype blades that are 14.4 meters long. Longer blades will improve the turbine performance and cost in low-wind locations. In addition, the project will help increase the turbine's manufacturing production at the company's New York facility, creating more opportunities for highly skilled labor.

"The CIP award will allow us to expand the market for our Siva 250/50-kW turbine platform by including lower wind sites. We hope our blade manufacturing facility will eventually supply high-quality blades for other small to mid-size U.S. distributed wind turbine manufacturers and create more jobs for highly skilled labor."

*Padma Kasthurirangan, Siva Powers America*

## Project Approach

Siva Powers America will design and build prototype blades and complete component certification per international standards.

## Project Collaborators

Current and future project partners include:

- [Siva Wind Turbine India Private Limited](#)—Turbine & Blade Technology
- [Buffalo Renewables, Inc.](#)—Project Management
- [TÜV Rheinland](#)—Component Certification
- [Deutsche WindGuard GmbH](#)—Load Calculation
- [Aero Dynamik Consult GmbH](#)—Blade Design Documentation



## Project Financial Information

**Award Amount:** \$400,000

**Awardee Share:** \$525,250

**Total:** \$925,250

## Component Innovation Award

One of eight types of CIP awards, Component Innovation Awards are designed to support innovation in existing components— such as controllers, inverters, alternators, rotor blades, or towers—to lower costs and/or improve production. Projects can also include development of turbine components that will allow the wind turbine to enter new market areas.

## About the Competitiveness Improvement Project

The U.S. Department of Energy's (DOE's) CIP supports U.S. leadership in distributed wind technologies. Managed by NREL on behalf of DOE's Wind Energy Technologies Office, the CIP supports innovation to advance wind energy as a low-cost, distributed generation technology option.

"Siva Powers America turbines are built on a foundation of certified technology. With CIP funding, the company can explore new product innovation and help advance low-wind-site energy efficiency."

*Dave Snowberg, NREL Technical Monitor*

## More Information

Visit NREL's website at [www.nrel.gov/wind/competitiveness-improvement-project.html](http://www.nrel.gov/wind/competitiveness-improvement-project.html)

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