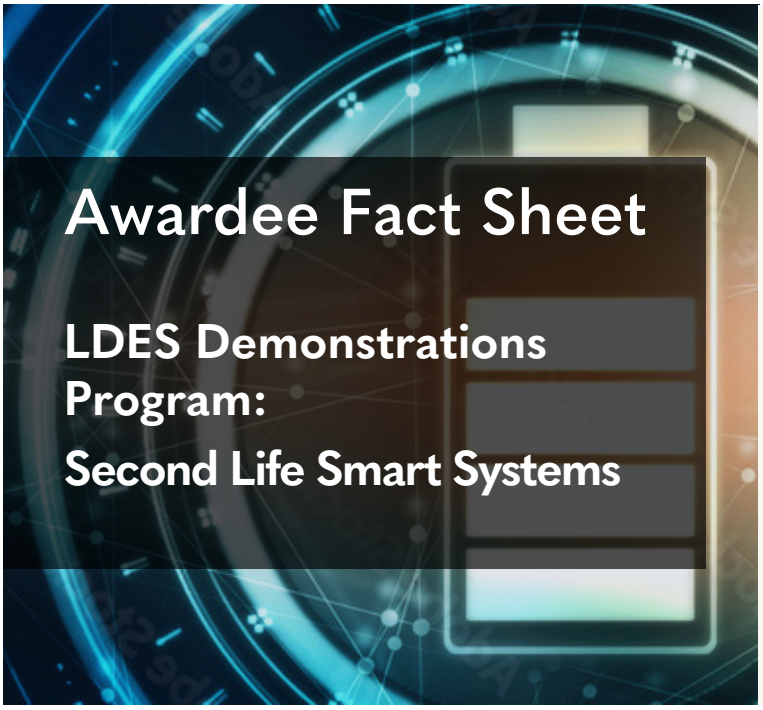
Long-Duration Energy Storage Demonstrations Program – Second Life Smart Systems

The Long-Duration Energy Storage (LDES) Demonstrations Program, managed by the U.S. Department of Energy's (DOE) Office of Clean Energy Demonstrations (OCED), aims to validate new energy storage technologies and enhance the capabilities of customers and communities to integrate grid storage more effectively. As part of this program, OCED sought applications for LDES projects from a range of different technologies intended to overcome technical and institutional barriers to full-scale deployment of LDES systems in diverse geographies. OCED selected nine projects to begin award negotiations for a total of up to $286 million. Following negotiations, in June 2024, OCED awarded the Second Life Smart Systems (SMART) project with nearly $1 million to begin work in the first project phase. The SMART project will be located in Los Angeles County, CA; Orangeburg, SC; Denmark, SC; Atlanta, GA; and New Orleans, LA.



Project at a Glance

- **Total OCED Cost Share:** Up to $10 million
- **Phase 1 Total Project Amount:** $1,999,378*
- **Phase 1 OCED Award Amount:** $999,689**
- **Phase 1 Scope of Work:** Planning, permitting, design, and other development activities
- **Phase 1 Timeline:** 12-16 months
- **Recipient:** Smartville, Inc. is a California-based energy startup focused on repurposing electric vehicle batteries by creating tools to assess, capture, and share battery data, as well as develop technologies for battery qualification, integration, and use
- **Project Locations:** Los Angeles County, CA; Orangeburg, SC; Denmark, SC; Atlanta, GA; and New Orleans, LA
- **Start Date:** July 2024

*Represents the total project cost for Phase 1.
*Represents OCED's cost share for Phase 1. Additional funding for this project is subject to future award negotiations at the end of each project phase.

About This Project

Smartville plans to demonstrate the viability of repurposed lithium-ion electric vehicle (EV) batteries in long-duration energy storage systems across a range of use cases, environments, and sizes—from smaller scale (50kW x 10 hour) to larger scale (200kW x 10 hour). Smartville aims to install small-scale systems at two Historically Black Colleges and Universities (HBCUs) for education and training purposes; two large-scale systems for grid resilience, load balancing, and peak shaving in Los Angeles County; one large-scale system to support a town renovation project and promote green technologies; and two large-scale systems to support EV charging.

With the growing supply of retired EV batteries that still hold energy value, and sustained demand for energy storage systems, Smartville's second-life battery solution – Smartville 360 BESS – was designed to repurpose spent EV batteries and unlock their untapped value in sustainable, equitable energy services. The project also plans to demonstrate Smartville's Battery Connect, a technology that connects to, communicates with, and controls EV batteries for assessment, calibration, and integration, creating an ecosystrem for scalable EV battery circularity.

In June 2024, OCED awarded the SMART project nearly $1 million to conduct Phase 1 of the project, which is expected to last 12-16 months. During Phase 1, Smartville and the project team will conduct foundational activities such as formalizing the project plan, signing partnership agreements, gaining site control, conducting interconnection studies, defining the permit plan, performing environmental planning, and conducting engineering and design work.

Project Site

The SMART project includes six sites across Los Angeles County, CA; Orangeburg, SC; Denmark, SC; Atlanta, GA; and New Orleans, LA. In line with Smartville's mission to facilitate an inclusive clean energy transition leading to energy equity, all projects are located within or adjacent to disadvantaged communities.

At two locations in Los Angeles County, CA, Smartville plans to work with EVerged to combine LDES systems (200kW x 10 hour) with EVerged EV chargers and source(s) of renewable energy. These systems would provide crucial grid resilience and decarbonization, increase the availability of renewable energy, provide affordable pricing, revitalize the communities, and create jobs in an area frequently impacted by natural disasters.

At the Green Town renovation project in Orangeburg, SC, a disadvantaged community, Smartville plans to install a 200kW x 10 hour system to promote clean energy technologies. This system would provide grid resilience and more effectively utilize clean energy technologies in the community, offering reliable backup power for transportation needs in a blackout or an emergency, and will also enable incremental savings to the customers.

At two HBCUs, Denmark Technical College in Denmark, SC, and Dillard University in New Orleans, LA, Smartville plans to install 50kW x 10 hour LDES systems for educational and community outreach purposes. This project would enable students to learn about the technology and prepare for careers in high-quality energy-related jobs.

Finally, at Cox Automotive facility in Atlanta, GA, Smartville plans to install a 100kW x 10 hour system to support EV charging at the site, which is adjacent to a disadvantaged community. The SMART project would promote reliability of EV charging, support community adoption of EV technologies, help the site reach its goal of 100% carbon neutrality by 2034, and demonstrate to commercial customers the ability to use LDES to move towards a carbon-neutral economy.

Community Benefits Commitments

Community benefits commitments, which aim to mitigate potential adverse impacts of this project and maximize local community benefits, are a key component of the SMART project. To ensure the project is informed and developed in consultation with local communities, the SMART project will implement these commitments through:

- Creating **advisory committees** composed of stakeholders from the impacted project areas. These committees will ensure the use of appropriate community advisory mechanisms, assess and ensure equitable impacts, provide input for workforce and community agreements, and provide guidance on public data reporting.
- Engaging community members through **town hall meetings**, facilitated by community representatives, to seek input on workforce opportunities, job quality, engagement practices, project benefits, and project safety.
- Creating **quality jobs**, investing in workforce education and training, providing internships and apprenticeships, and partnering with HBCUs to provide career opportunities for underserved communities.
- Developing **workforce agreements** with labor unions at each project site that promote hiring and contracting of underrepresented groups and disadvantaged communities, ensure extensive health and fire safety training, and provide above-prevailing wages and benefits greater than or equal to Davis-Bacon benefits.

More details on the SMART project's community benefits commitments can be found in the Community Benefits Commitments Fact Sheet.

The U.S. Department of Energy established OCED to help scale the emerging technologies needed to tackle our most pressing climate challenges and achieve net-zero emissions by 2050. OCED's mission is to deliver clean energy demonstration projects at scale in partnership with the private sector to accelerate deployment, market adoption, and the equitable transition to a decarbonized energy system.

LDES Demonstrations Program Goals

More than 335 million residents in the United States depend on our energy grid to reliably generate an average of 4 trillion kilowatt hours of power annually. During times of high demand, especially during inclement weather when it's more difficult to generate power, it's essential to have energy stored that can be deployed to meet demand, keep prices down, and ensure the lights stay on. Long-duration energy storage is one key option, storing energy that can be discharged over long periods of time that's ready for dispatch when needed. DOE defines LDES as systems capable of delivering electricity for 10 or more hours. The LDES Demonstrations Program features projects with a range of intraday (10 to 36 hours) and multiday (36 to 160+ hours) storage solutions, which can minimize the frequency and length of power interruptions caused by events such as severe weather or cyberattacks on the grid. These projects will help effectively demonstrate the commercial viability of innovative LDES technologies and facilitate wider commercial adoption. Through these projects, OCED envisions the technology eventually being replicated all over the country, providing flexibility and reliability to the power system without creating emissions, supporting a more renewable-heavy future.



Smartville 360 modular energy storage system rated at 50kW/500kWh, featuring second-life EV batteries and designed for turn-key installation at both commercial and utility scale deployments.



Smartville engineers conduct a quality control check on a Smartville 360 energy storage system. The energy storage system features second-life electric vehicle battery packs integrated with proprietary power electronics and controls, enhancing system reliability and extending its useful life.

Contact

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More Resources

Website: energy.gov/oced/ldes

Office of Clean Energy Demonstrations: energy.gov/oced