

ADVANCING AMERICA *through* TECHNOLOGY TRANSFER

SAVANNAH RIVER NATIONAL LABORATORY

DIVERSIFYING the NATION'S ENERGY MIX
with RENEWABLE SOURCES



METAL HYDRIDE THERMAL ENERGY STORAGE TECHNOLOGY

**CREATING MANUFACTURING JOBS
THROUGH COMPETITIVE *and*
LARGE-SCALE SOLAR POWER**



U.S. DEPARTMENT OF
ENERGY

Office of
TECHNOLOGY TRANSITIONS



How do we save sunshine for a rainy day?

Researchers at Savannah River National Laboratory (SRNL) discovered Metal Hydride materials and developed an associated Thermal Energy Storage (TES) technology that offer a superior and enduring alternative to conventional materials and TES technologies used in Concentrated Solar Power (CSP) systems. Prior to SRNL's development of Metal Hydride TES technology, CSP systems used materials and technology that could not compete with the cost, performance, and short and long-term reliability offered by fossil fuels.

Metal Hydride TES technology addresses each shortfall and through industry licensing enables new CSP systems to provide large-scale reliable solar energy production and distribution, creates thousands of American manufacturing jobs, and makes renewable energy competitive with fossil fuels for the first time in history.

SRNL at a Glance

Born in Aiken, SC in 1950 and situated in the Central Savannah River Area, SRNL was a deliberate response to Russian nuclearization and was America's sprinter in the Cold War's nuclear arms race. Today, SRNL is a multidisciplinary research and development center that protects the Nation by applying science to the energy economy, global security, and the environment. SRNL's scientists and engineers have advanced energy storage technology, materials science, and nuclear non-proliferation, and offer trusted expertise for environmental cleanup and nuclear materials management.

U.S. Department of Energy Laboratories

The 17 U.S. Department of Energy (DOE) National Laboratories comprise a preeminent federal research system that executes long-term government scientific and technological missions, often with complex security, safety, project management, or other operational challenges. The National Laboratory system produces the scientific research needed to develop national energy policy and solutions allowing DOE to be one of the largest supporters of technology transfer in the federal government.

Metal Hydride Thermal Energy Storage Technology is revolutionizing the energy landscape

Technology

Metal Hydride materials more efficiently store heat in chemical bonds yielding TES gains ten times greater than traditional materials and TES technologies.

Industry

Licensing of Metal Hydride TES technology promises large-scale solar electricity produced and distributed at prices 95% less than current photovoltaic systems.

Contact Us

The scientific discovery highlighted on this poster is just one of DOE's many successes advancing America.

Learn more about available resources and partnering opportunities with the National Labs by visiting:

www.energy.gov/technologytransitions

Technology Transitions

The mission of the Office of Technology Transitions (OTT) is to expand the commercial impact of the DOE's research and development portfolio to advance the economic, energy, and national security interests of the Nation. The office develops the Department's policy and vision for expanding the commercial impact of its research investments, and streamlines information and access to DOE's National Labs and sites to foster partnerships that will move innovations from the labs into the marketplace.

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