FEDERAL ENERGY AND WATER MANAGEMENT AWARDS

Project Award Winners

STEVEN BLANKENSHIP
KRISHNA KRISNAMOORTHY
WARREN LIVENGOOD
JOSEPH STROSCIO
SUNGMIN KIM

National Institute of Standards and Technology Gaithersburg Helium Recovery and Recycling System Project
U.S. Department of Commerce

This project is acknowledged for developing a system to recover and recycle substantial quantities of liquid helium in Building 218 of the National Institute of Standards and Technology (NIST) Gaithersburg Campus. This initiative serves as a model for other NIST labs, government institutions, and private-sector entities. The project not only curtails the irreversible loss of Earth's finite helium supply but also diminishes greenhouse gas emissions associated with helium transportation to the NIST campus. With volatile helium prices and supply issues, the project significantly reduces costs for ongoing research in NIST labs.

COLIN DAVIS
CHAD CARY
JONATHAN HEESCH
CLAIRE SURREY-MARSDEN

Sustainable Science at Sea: Comprehensive and Collaborative Energy Management and Greenhouse Gas Reduction on National Oceanic and Atmospheric Administration Ship Reuben Lasker Project
U.S. Department of Commerce

The National Oceanic and Atmospheric Administration (NOAA) Ship Reuben Lasker project achieved significant greenhouse gas reductions through collaborative energy management. Operating as a mobile laboratory, the ship faced unique challenges, relying on diesel fuel for electricity to support scientific research, ship propulsion, and onboard life. The project successfully optimized electricity generation efficiency and reduced fuel consumption. Strategies included using a power management system, modifying propulsion for efficient speed, and implementing energy-saving measures for hotel services.

GARY BROWN
RUSSELL WARREN
RYAN KILBURY
RONALD GALLAGHER
JEFFREY CARLSON

Pacific Northwest National Laboratory Energy Sciences Center Project
U.S. Department of Energy

DOE's Pacific Northwest National Laboratory (PNNL) achieved notable success with its Energy Sciences Center (ESC) project, delivering a high-performance sustainable facility that houses collaborative research in chemistry, materials science, and computing, contributing to climate change mitigation. Despite complex challenges in designing a high-performance laboratory, the ESC adheres to sustainable principles, featuring passive and active energy and water reduction designs, resulting in a 37% energy reduction. The innovative heat transfer system, capturing and reusing waste heat, significantly reduces the ESC's carbon footprint by 2 million pounds per year.

DAVID SHAFFER
RICHARD SULLIVAN
FREDERICK AGAMIE
MICHAEL CALABRESE
WILLIAM MOSER

U.S. Embassy Niamey Solar and Battery Project
U.S. Department of State

The U.S. Embassy in Niamey, Niger, achieved remarkable success through the installation of a pioneering large-scale battery energy storage system (BESS) in collaboration with the Bureau of Overseas Buildings Operations. This initiative demonstrated ingenuity, early action, and a commitment to sustainability by maximizing solar power usage, reducing dependence on diesel generators and the local grid, and enhancing energy efficiency. The BESS, with 1.5-MWh capacity, efficiently integrates with a 712-kW solar PV system, resulting in a 97% reduction in diesel generator use.

FEMP Federal Energy Management Program

2023 Awards