

GOVERNMENT & RESEARCH

NREL — Low-Cost Circuit-Level Submetering

A National Renewable Energy Laboratory field evaluation of a low-cost circuit-level electrical submetering system, prepared for the U.S. General Services Administration.

NREL

Independent evaluation

GSA

Sponsor

Validated

Accuracy & ROI

The Challenge

The U.S. General Services Administration sought independent validation of low-cost circuit-level submetering technology as a path to scalable energy management across the federal building portfolio.

The Solution

NREL conducted a structured field evaluation of self-powered wireless current sensors paired with a cloud analytics platform, comparing measured data against reference instrumentation across multiple load types.

Results

- Demonstrated accuracy suitable for energy management decision-making.
- Confirmed low installation cost and minimal operational disruption.
- Validated the approach for federal portfolio-scale deployment.
- Reference document for GSA energy program planning.

“Low-cost submetering closes the gap between building-level bills and asset-level decisions.”

— NREL Field Evaluation Report