

# EMIS FIELD EVALUATION PROTOCOL

Validate energy and non-energy benefits from EMIS

## WHAT IS ENERGY MANAGEMENT & INFORMATION SYSTEMS (EMIS)?

### EMIS Features

- Energy information systems (EIS) help find energy waste using smart meter data
- Fault detection and diagnostics (FDD) detect and prioritize HVAC system faults
- Automated system optimization (ASO) modifies control settings to minimize energy use while maintaining occupant comfort

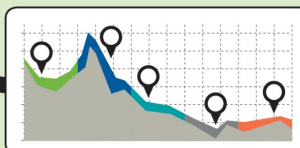


**Data collection:**  
Sensors, meters, IoT devices

### How EMIS work:

**Data Warehouse:** Integrates and organizes building data

**Data Analytics:**  
Transmits actionable information to building engineer



**Monitoring:** Tracks improvements and measures savings



**Implementation:**  
Building engineer reviews analytics and makes repairs or improvements

## EMIS FIELD EVALUATION CHALLENGES & OPPORTUNITIES

*With the number of EMIS field validation projects growing, the EMIS Protocol provides a standardized way to assess benefits*

### Challenges

- Studies have been conducted in different ways
- Inconsistent datasets can be hard to generalize
- Uncertainty slows EMIS adoption

### Opportunity

- Standardized EMIS Evaluation Protocol:
- ✓ Validates energy & non-energy benefits
  - ✓ Identifies key and optional metrics
  - ✓ Balances high rigor with flexibility

## HOW YOU CAN USE THE EMIS FIELD EVALUATION PROTOCOLS

### Target Audience

- Evaluators & Researchers on:
- Federal or state-sponsored emerging technology programs
  - Utility industry emerging technology programs
  - Large building portfolio pilot studies

### How the EMIS Protocol can help

- ✓ Includes a template to describe EMIS technology features & capabilities
- ✓ Provides an easy-to-follow EMIS field evaluation plan
- ✓ Identifies minimum & optional evaluation parameters and approaches for determining costs & benefits from EMIS



# EMIS FIELD EVALUATION PROTOCOL

Validate energy and non-energy benefits from EMIS

## EMIS PROTOCOL CONTENTS OVERVIEW

The EMIS Protocol provides an approach to assessing EMIS' energy and non-energy benefits using a minimum set of standardized metrics supplemented by optional metrics

Overview	Introduction	
	Overview of EMIS Field Evaluation	EMIS Field Evaluation Plan

### Field Evaluation Parameters & Approaches (★Key Metrics)

Metrics	<b>Energy &amp; Utility Cost Metrics</b> Annual energy savings ★ Annual energy cost savings ★ Monthly peak demand reduction Demand response load reduction	<b>Non-Energy Impacts Metrics</b> Occupant comfort satisfaction Operations & maintenance
	<b>Cost Effectiveness Metrics</b> EMIS cost ★ Simple payback period ★ Net present value (NPV) Savings-to-investment ratio (SIR)	<b>Operational Capability Metrics</b> Installation & commissioning effort Capability to enable energy efficiency ★ Accuracy of FDD issues/opportunities

Appendix	Relevant Publications	Sample Evaluation Report Outline
	Site Selection Criteria	Evaluation Reporting Template
	Common Capabilities of EMIS	Common Efficiency Measures