

Assessing Strategic Energy Management Cost Effectiveness

NEEP SEM Collaborative

November 15, 2016

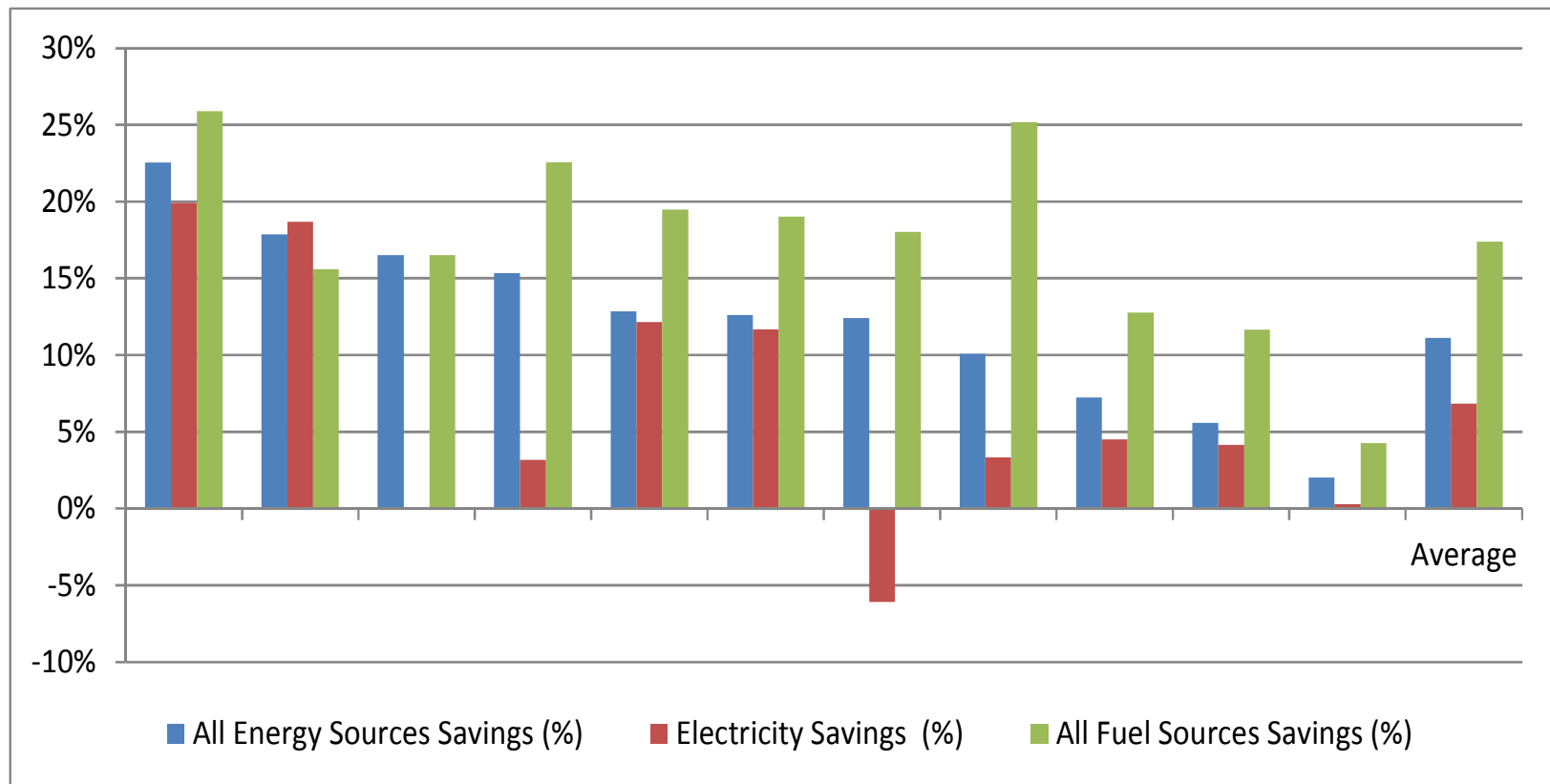
Alice Napoleon and Kenji Takahashi

Synapse Energy Economics

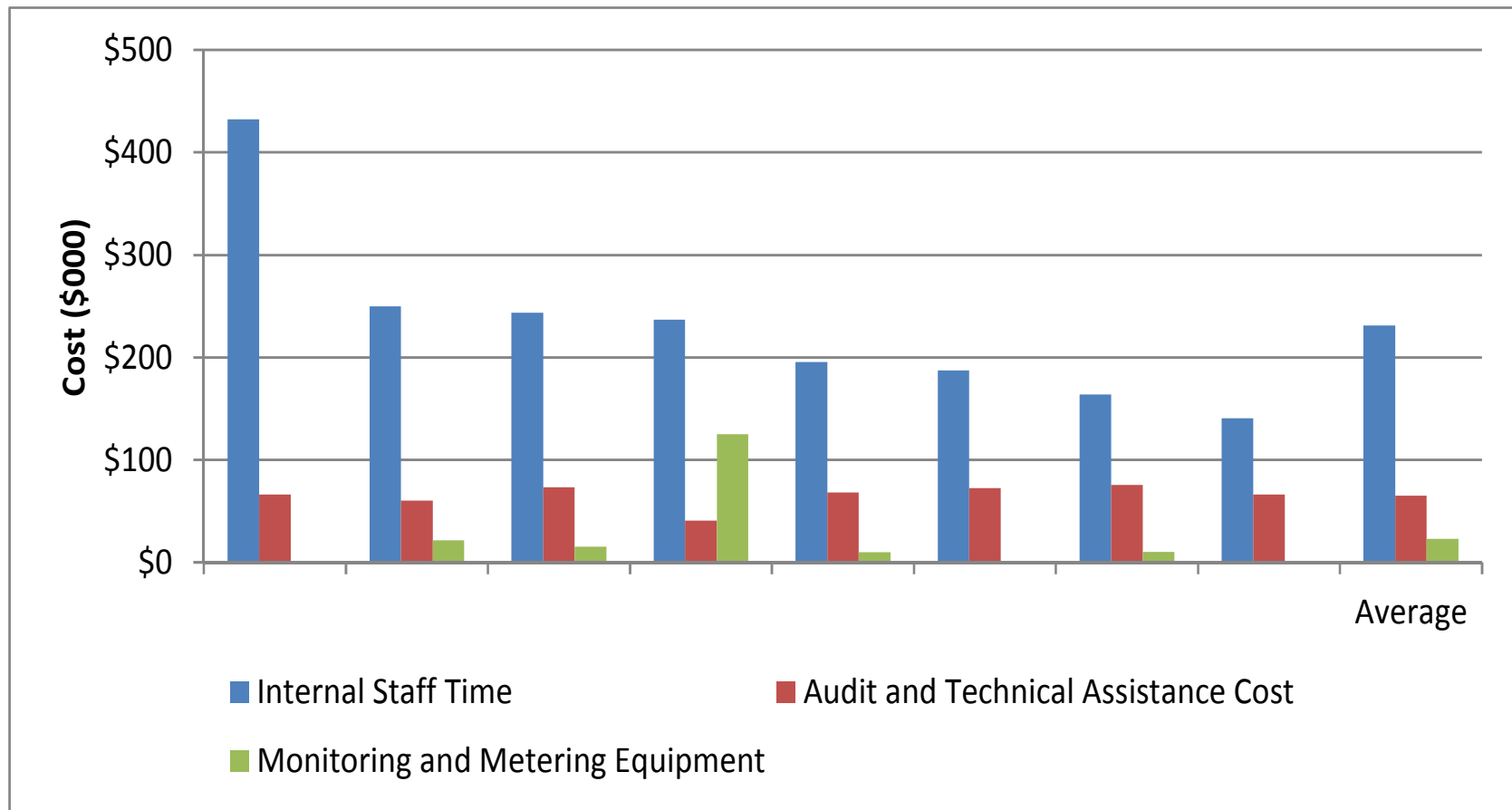
- Founded in 1996 by CEO Bruce Biewald
- Leader for public interest and government clients in providing rigorous analysis of the electric power sector
- Staff of 30 includes experts in energy and environmental economics and environmental compliance

**Superior Energy
Performance
Cost Effectiveness**

SEP Gross Energy Savings (% of Baseline Consumption) for 11 Facilities

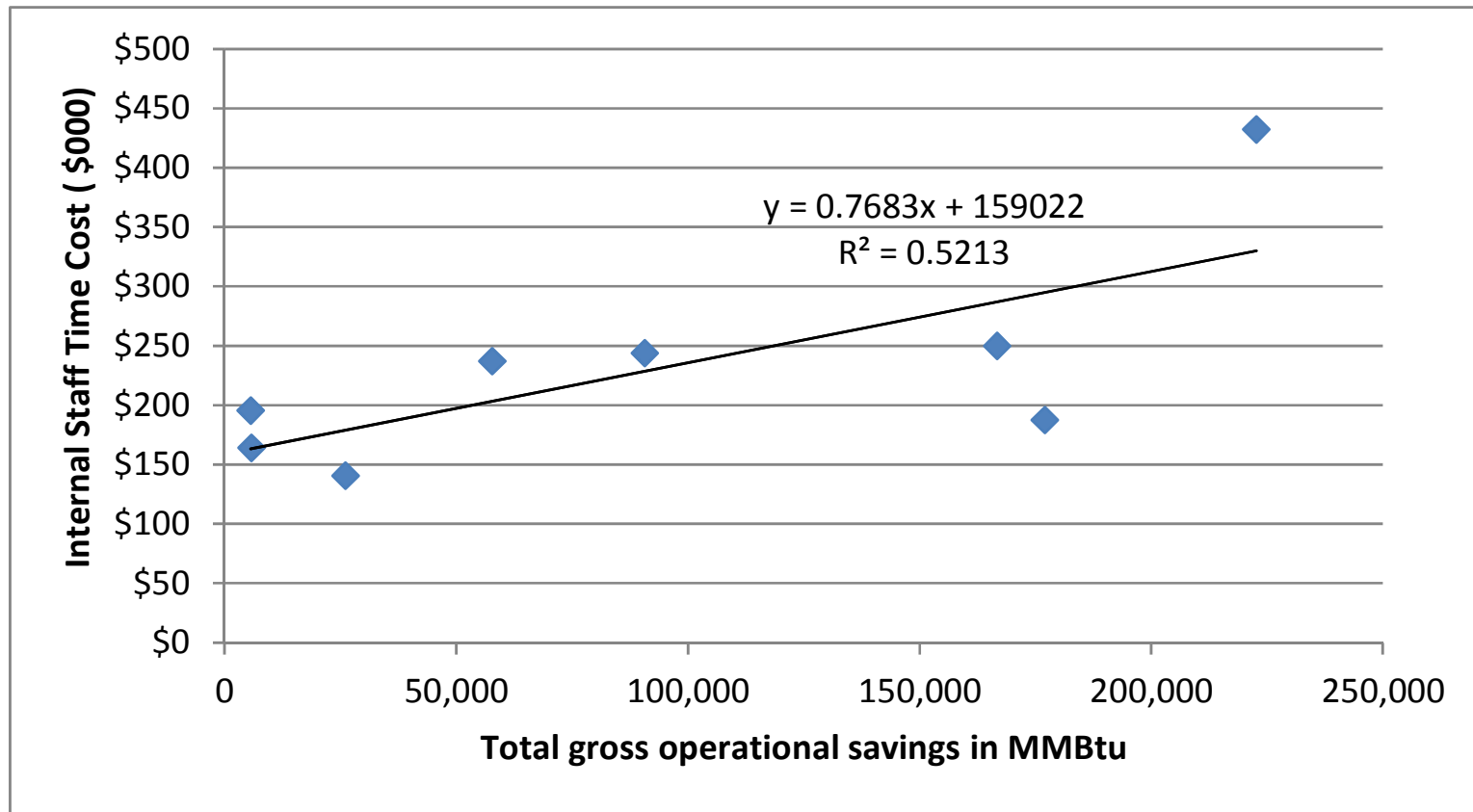


SEP Project Costs by Cost Category for 8 Facilities



Facility Internal Staff Costs for SEP Implementation

Internal Staff Time Cost vs. Total Gross Operational Savings



Costs of SEP Projects in the SEP Cost Effectiveness Screening Tool

SEP Costs for the 1st Year of Implementation

Cost Category		Definitions	Cost Assumption
Internal Staff Costs	EnMS Development	Costs for energy management system (EnMS) development	Calculated. $y = 0.5827x + 148486$, where y = internal staff time and x = total energy savings)
	EnMS Development Sunk Costs	Costs already invested in EnMS prior to SEP participation	
	EnMS Development Less Sunk Costs	Additional EnMS related costs associated with SEP	
	Audit Preparation	Costs for internal audits	
Program Cost	Audit	Costs for certification audits. Assumed 2/3 of the initial cost for the second audit, and 1/2 of the cost for the subsequent audits	\$69,000 (average program costs)
	Technical Assistance	Costs for EnMS development, energy savings determination (EnPI tool use), energy performance improvement action identification, and other necessary technical assistance. Assumed 2/3 of the initial cost for the second audit, and 1/2 of the cost for the subsequent audits	
Monitoring and Metering Equipment		Costs for monitoring and metering equipment.	\$14,000 (average program costs)

Strategic Energy Management Cost Effectiveness

Cost Effectiveness of SEM

- Potentially influenced by many factors
 - State utility regulation, energy policies and goals
 - Characteristics of the service area and program administrator
 - Participant characteristics
 - Program design considerations
- Some of these factors are considered in the SEP Cost Effectiveness Screening Tool, but some are not.

Cost Effectiveness of SEM

- Challenge: how to provide program administrators with information on SEM cost effectiveness given these variations?
- Resources under consideration
 - Menu of program design options
 - Industrial SEM Cost Effectiveness Screening Tool
 - Commercial SEM Cost Effectiveness Screening Tool

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