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Strategic Energy Management as a Resource through 50001 Ready

U.S. Department of Energy – Advanced Manufacturing Office

Lawrence Berkeley National Laboratory

Peter Therkelsen, Ph.D. – LBNL

ACEEE – Energy Efficiency as a Resource, Minneapolis, Minnesota

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1. **Strategic Energy Management (SEM) aims to unlock additional savings** – a way to get at the “softer” and interconnected savings at a facility through integrating considerations of energy use into daily business practices.
2. **SEM programs are multiple and variable** - results include deeper and more persistent savings, customer engagement opportunities, and identification of additional efficiency projects.
3. **ISO 50001 and 50001 Ready provide additional SEM definition and direction** - being leveraged by utilities to develop long term relationships with customers, build integrated energy management practices, provide standardized technical assistance, and develop pipelines of efficiency projects.

Primary industrial energy efficiency delivery mechanisms

Capital



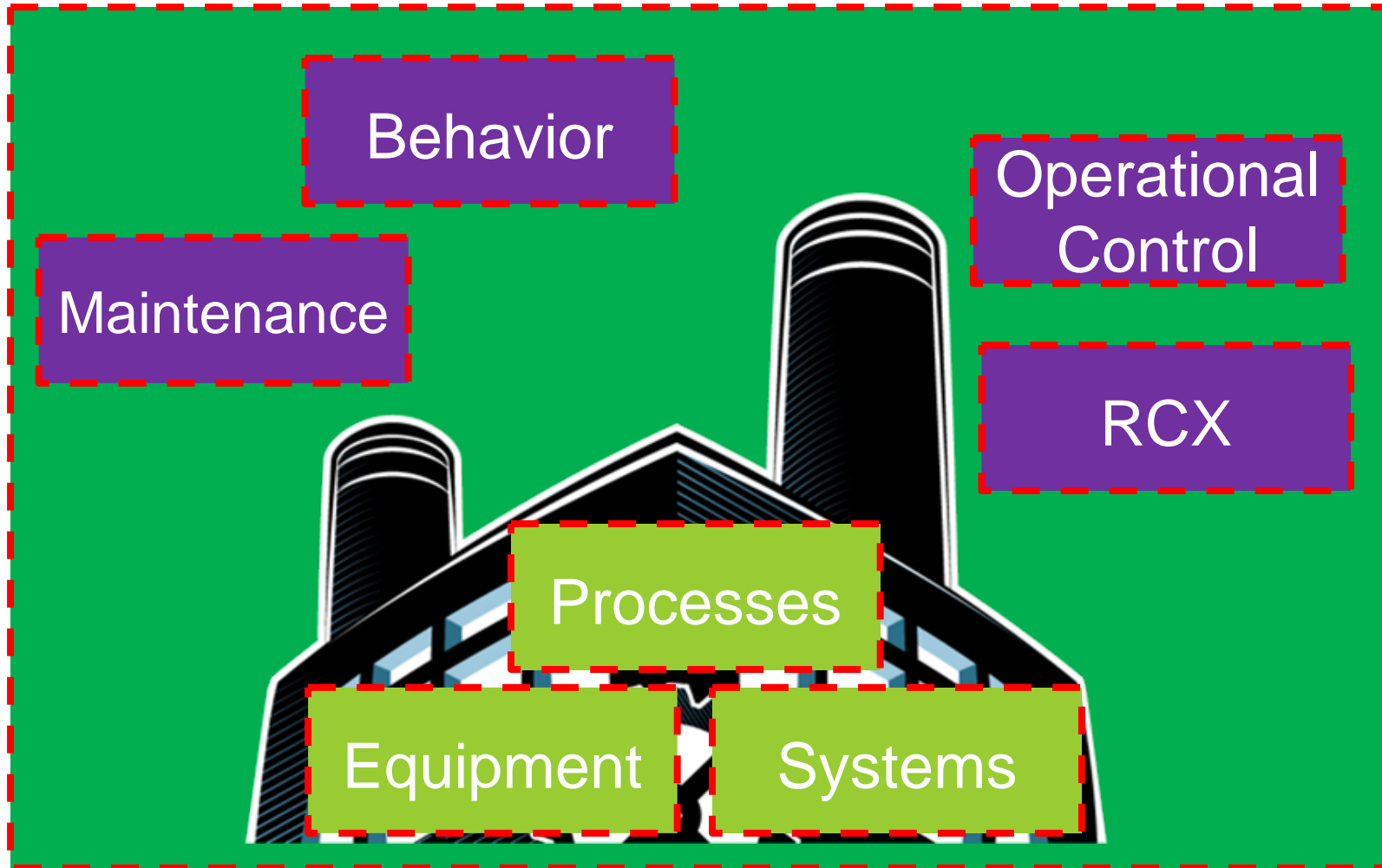
Training, behavioral



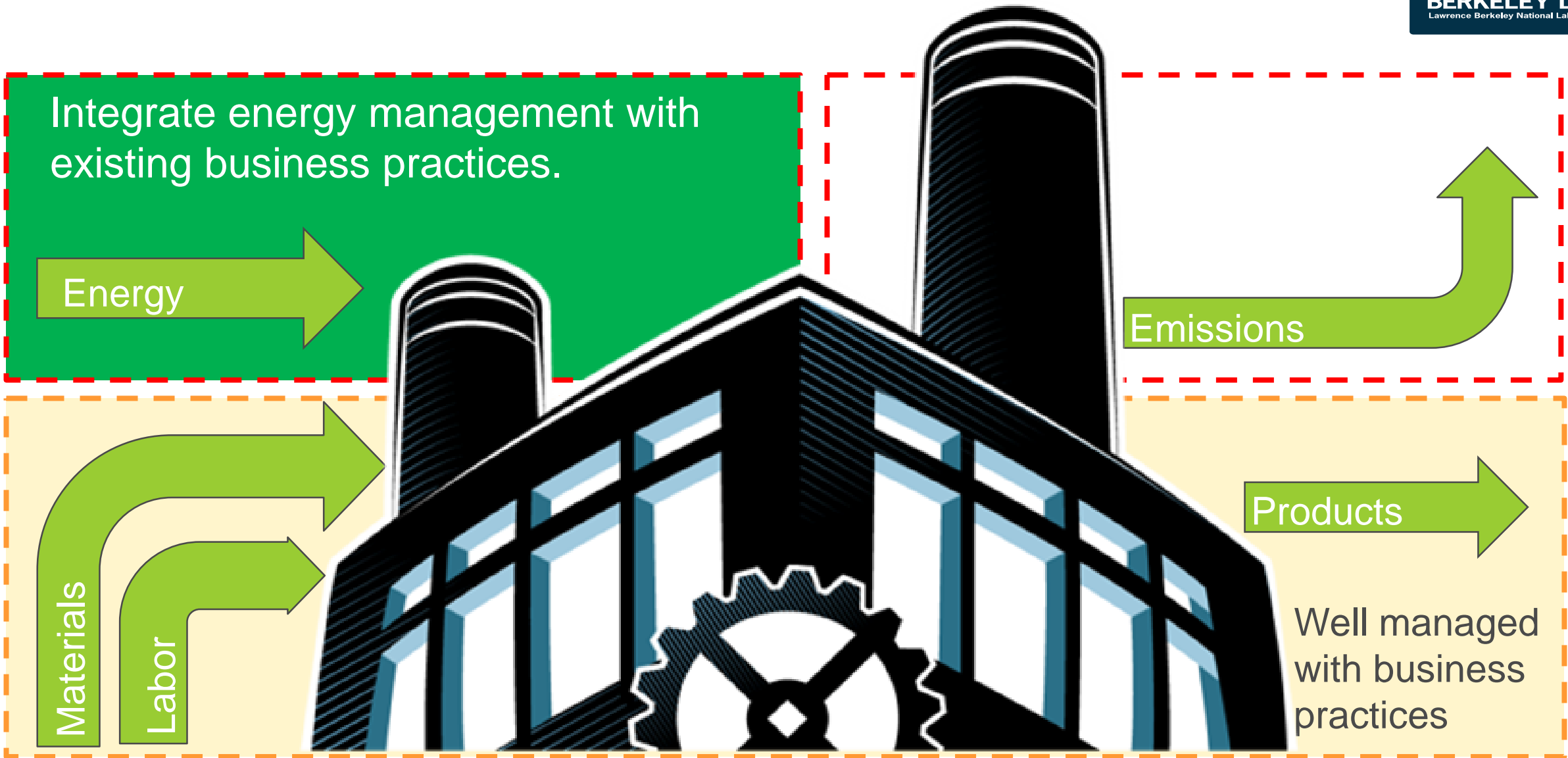
Deemed



Technology and operations offer untapped energy savings potential



- A holistic approach to managing energy use in order to continuously improve energy performance by achieving persistent energy and cost savings over the long term.
- Focuses on business practice change from senior management through shop floor staff, affecting organizational culture to reduce energy waste and improve energy intensity.
- SEM emphasizes equipping and enabling plant management and staff to impact energy consumption through behavioral and operational change.
- SEM does not emphasize a technical or project centric approach, SEM principles and objectives may support capital project implementation.



Customer commitment

- Policy and goals
- Resources



Planning and implementation

- Energy management assessment
- Employee engagement
- Metrics and goals
- Energy map
- Project register
- Implementation
- Reassessment

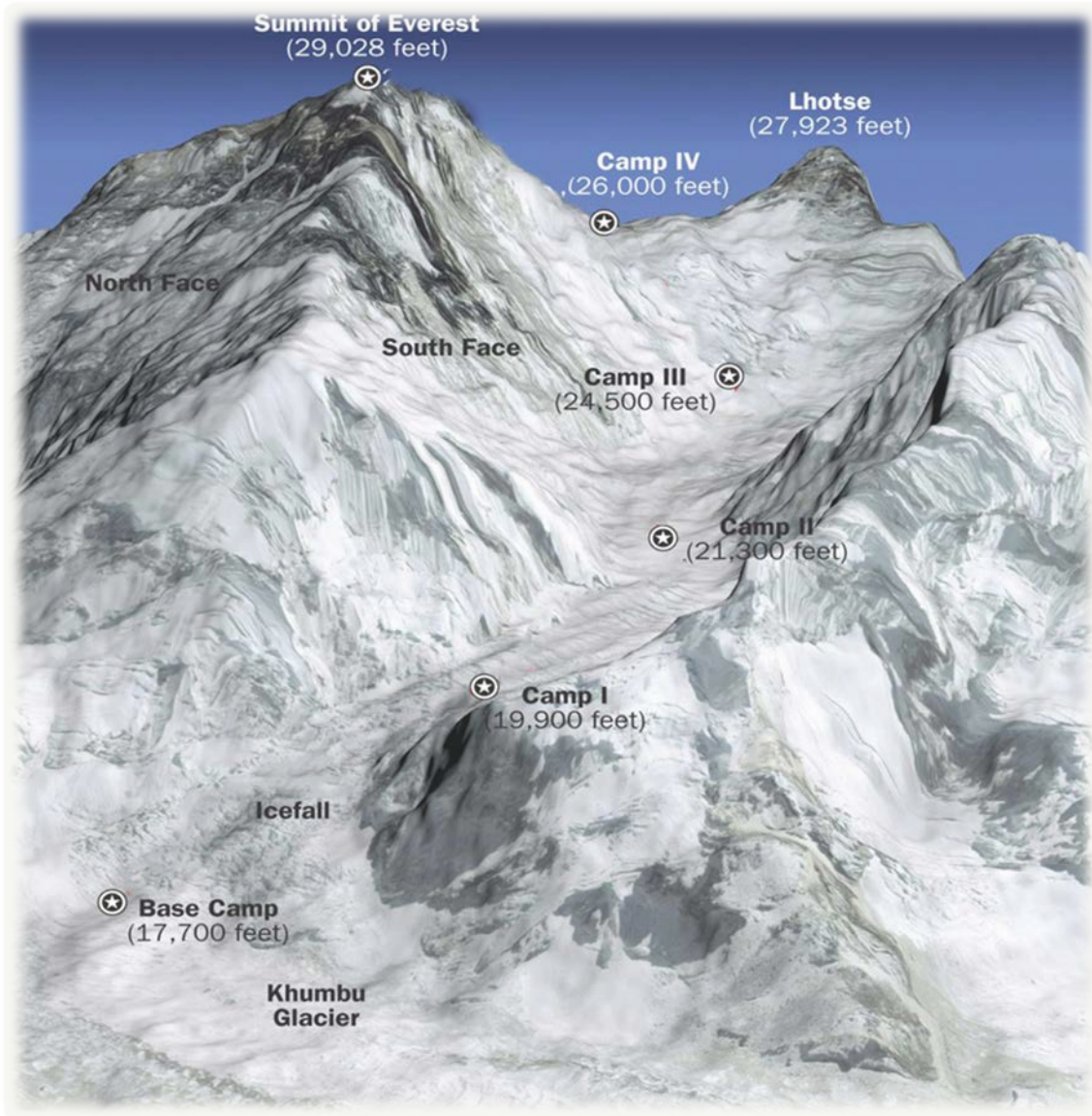


System for measuring and reporting energy performance

- Data collection and availability
- Measurement
- Analysis
- Reporting



From the customer view – how to enact SEM can be vague



Sure, there are many ways up a mountain, but how do you know which peak you want to get to and which path to take?

Result: Wide variety of SEM programs

- Length of engagement
- Type of engagement
- Objective of program



ISO 50001 – a requirements based definition of SEM



Top Management



Energy,
Environmental,
Health, and
Safety
Managers



Production
Managers
and Staff

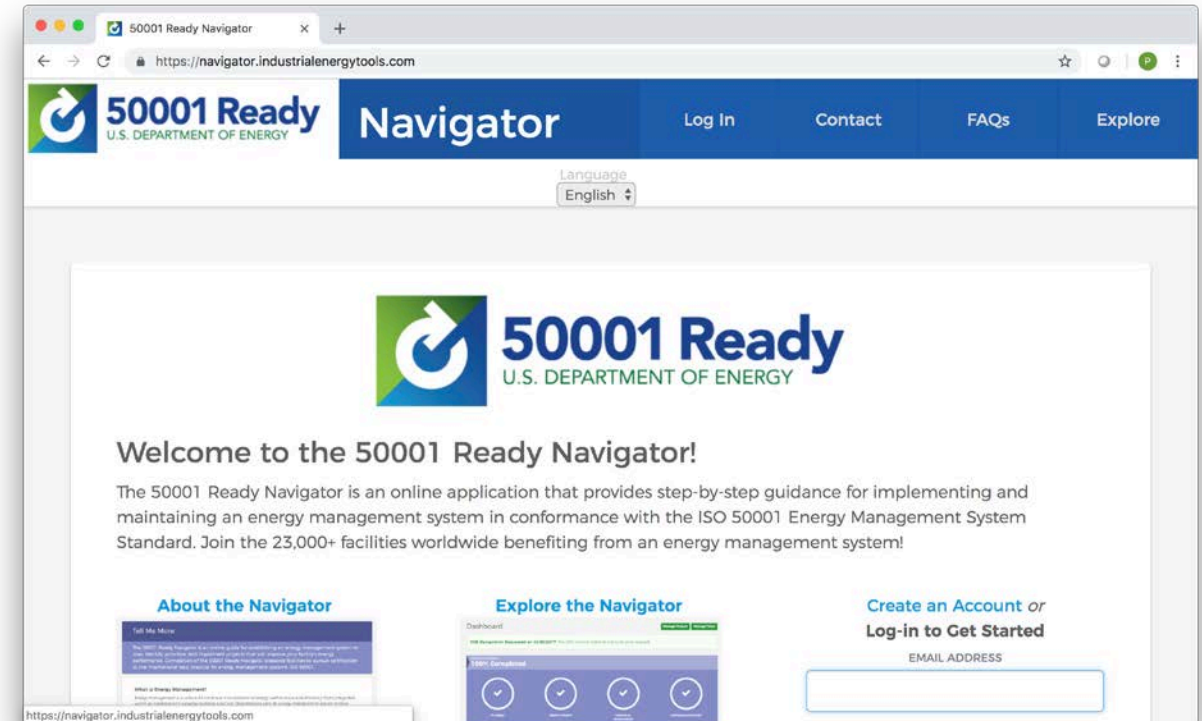


Business
Management

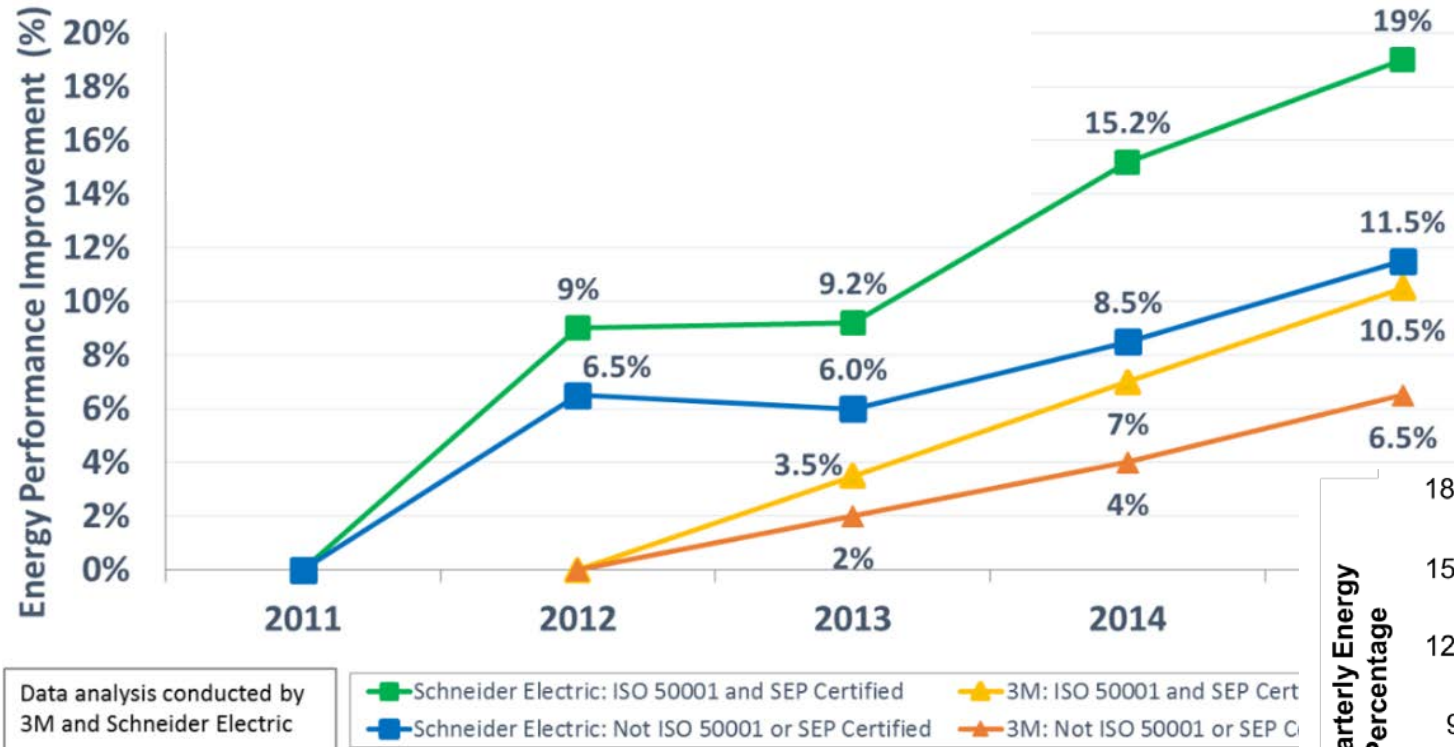


Energy
Engineering

- Software tools
- Recognition programs
- Workforce training and accreditation
- Measurement and verification of energy savings
- Research

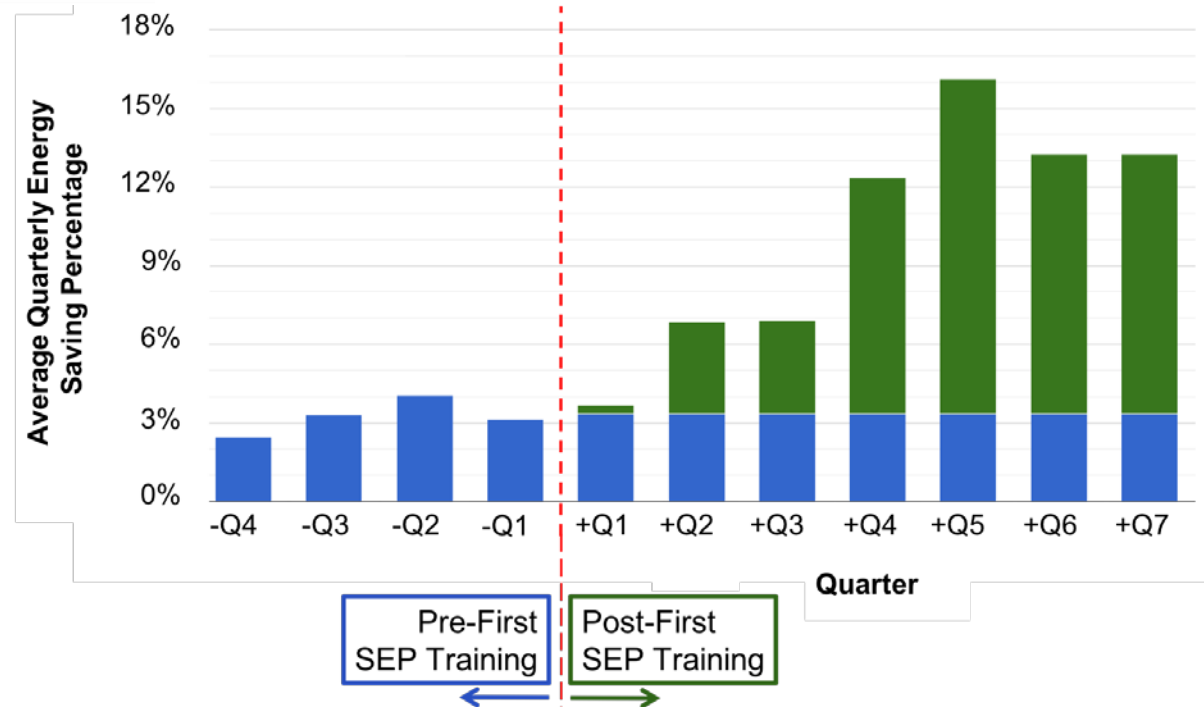


Energy and cost savings from ISO 50001 based programs

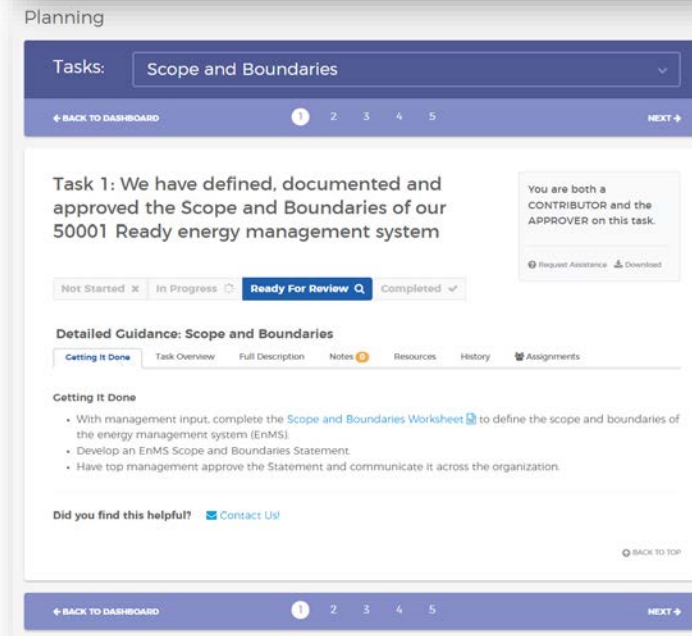
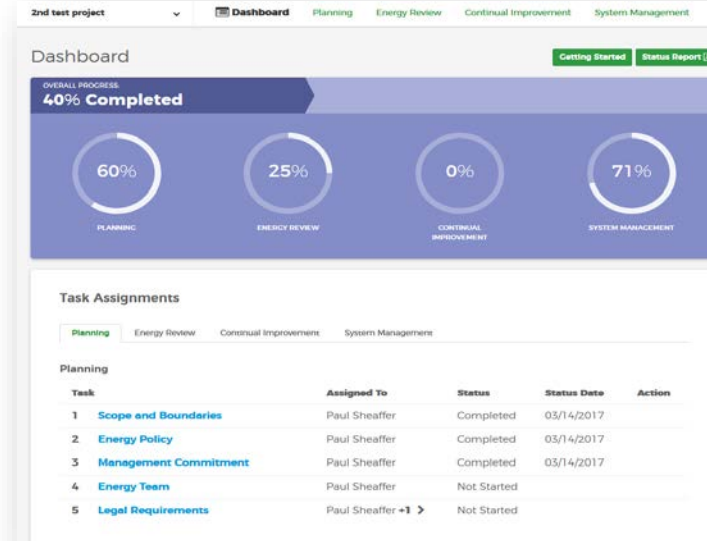


Facilities with ISO 50001 save more energy than their sibling facilities in the same company.

Energy savings more than double and are sustained over business as usual improvements. (n=9, SEP)



- Simple, step-by-step guidance to ISO 50001 implementation
- Developed and maintained by DOE to provide free training and information to the market
- Guidance provided in easy-to-understand language, focusing on:
 - Actionable steps to get it done
 - Understanding the practical application of ISO 50001
 - Building off your experience with ISO 9001/14001 or Energy Star
- Track progress and facilitate team collaboration



Growing success of ISO 50001 and 50001 Ready



50001 Ready is the MAP and COMPASS for your ISO 50001 journey



CHALLENGE: Orient end-users so they can climb the SEM mountain

GOAL: Build relationship and long term engagement with your customers.

GOAL: Know where you are in the process and how to reach the summit.



Utilities and implementers are making use of 50001 Ready



- ✓ DOE is seeking to partner with U.S.-based organizations to co-brand and offer 50001 Ready to end-users.
- ✓ Software functionality developed for utilities to provide custom guidance, track customer progress, and organize cohorts with implementers.





BC Hydro

- Build the pipeline of capital projects



Tennessee Valley Authority

- Customer engagement program



Germany

- A cautionary tale: don't focus on certificates, focus on quality!



Achieve continuity

Know the EnMS has stuck with an audit or attestation



50001 Ready-based Utility programs



Identify more projects

Integrate management of energy in normal business operations

The US Technical Advisory Group (TAG) to ISO Technical Committee (TC) 301 is the official ANSI TAG responsible for representing US positions on energy management, efficiency, and savings standards being developed internationally.

Why Join the US TAG to ISO TC 301?

- ✓ Technical Influence
- ✓ Early Access
- ✓ Professional Development
- ✓ Leadership

To learn more contact Deann Desai, TAG Administrator, at deann.desai@innovate.gatech.edu



ISO Technical Committee 301, 2019 Plenary Meeting,

**US TAG to ISO TC 301 is not a DOE program, but a professional membership offered on a fee-based structure with multiple levels of entry options available.*

Thank you!



U.S. DOE

Pete Langlois – 50001 Ready
pete.langlois@ee.doe.gov

Ethan Rogers – SEP and Utility Engagement
ethan.rogers@ee.doe.gov

Jay Wrobel – Federal Outreach
jay.wrobel@ee.doe.gov

Berkeley Lab

Peter Therkelsen, Ph.D.
ptherkelsen@lbl.gov

Paul Sheaffer
psheaffer@lbl.gov

Prakash Rao, Ph.D.
prao@lbl.gov