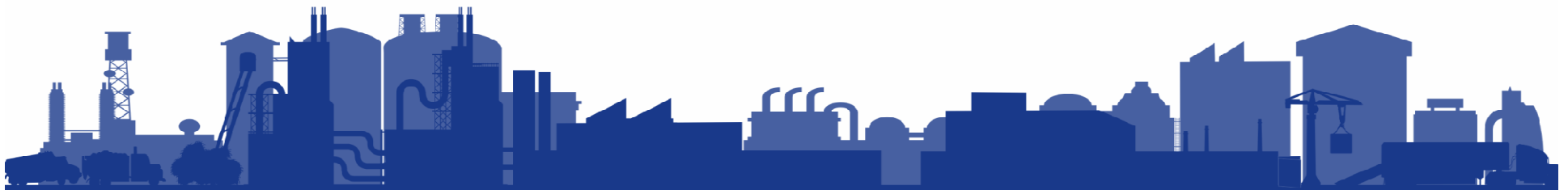


“50001 Ready”: Claiming Savings from ISO Self-declared Energy Management Systems

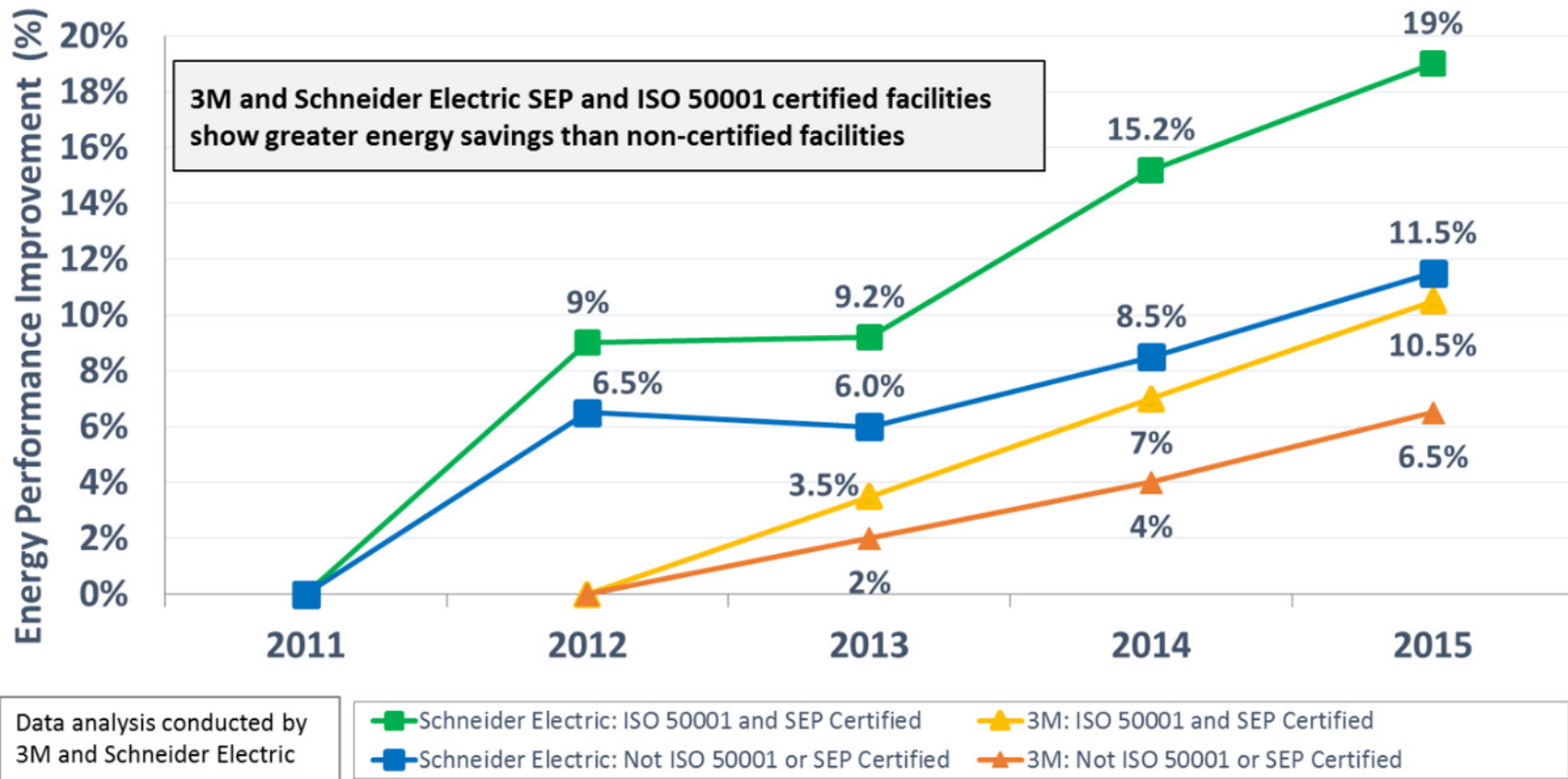
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U.S. Department of Energy
Advanced Manufacturing Office
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U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy

ISO 50001 Can Bring Additional Energy Savings



Savings at certified facilities greater on average compared to non-certified facilities:

- **3M: 62% greater over 3 years:** 18 ISO 50001 sites across 7 countries; 2 US SEP, 1 Korea SEP certified; 257 non-ISO 50001
- **Schneider Electric: 65% greater over 4 years:** 20 ISO 50001 in North America; 16 US SEP certified; 30 non-ISO 50001

ISO 50001 Being Driven by US Govt

- Clean Energy Ministerial's Energy Management Campaign: "Drive to 50001"
 - ✓ 15 countries committed to achieving a collaborative goal of 50,001 facilities worldwide certified to ISO 50001 by 2020 (up from ~12,000 currently)
 - ✓ *"urging governments, business, industry, and other key partners to use the ISO 50001 standard as a transparent mechanism to demonstrate progress towards climate and energy goals"*
 - ✓ driveto50001.org
- North American Climate, Clean Energy, and Environmental Partnership
 - ✓ US, Canada and Mexico to set a regional common target by 2017 for ISO 50001 uptake contribution to "Drive to 50001"
 - ✓ Identification of an industry partner for a supply chain pilot
 - ✓ Development of joint technical approaches and assistance programs in key sectors
- Previous ISO adoption was driven by federal policy...

DOE History with ISO 50001

EXISTING: ISO 50001 & Superior Energy Performance (SEP)

- ✓ DOE ISO 50001 and SEP certification with 3rd party verification of energy improvement
- ✓ 40+ SEP certified US facilities including 4 hotels
- ✓ Working with wastewater cohort on SEP
- ✓ DOE long involvement in ISO 50001 development

NEW: Energy Management Recognition for being “50001 Ready”

- ✓ Facilities can calculate their energy savings using DOE tools consistent with utility/Clean Power Plan best practices
- ✓ DOE eGuide being revised to assist facility energy managers through the system implementation process
- ✓ Consistent with SEP and utility Strategic Energy Management M&V
- ✓ “50001 Ready” guidance to organizations to **self-attest** to implementing an EnMS using ISO structure
- ✓ DOE recognition of “readiness” to pursue next steps: ISO 50001, SEP

What is “50001 Ready”?

GEM Tool

- “Turbo Tax” approach to instituting 50001 structure
- Key tasks identify significant energy uses and get management ‘buy in’
- Ability to assign work to staff/consultants
- ‘Self-declaring’ of completion of EnMS
- Ability for utility to be part of the process or to lead the effort

“50001 Ready” (current working title)

Step 1:
Self-declared
Implementation
of
ISO 50001

Step 2:
Validation of
energy and
emissions
reductions

How to Get Recognized

- Complete QEST Tool with > 0 results
- Complete GEM Tool
 - Answering YES to all questions
- Submit to DOE signed attestation of GEM completion along with the QEST Tool results

Utility-DOE recognized success
Conformance to ISO standards

QEST Tool

- Regression-based calculator for single or all fuels to determine energy savings.
- Methodology based on utility best practice and current Clean Power Plan guidance
- Designed to be used/branded by utilities for their program use
- Will allow import of outside data sets, such as Portfolio Manager
- M&V protocol in development

What “50001 Ready” Is Not...

1. A stand alone DOE program.
 - Designed to be ‘reskinned’/customized by the utility, state, etc.
 - DOE willing to co-brand 50001 Ready recognition
 - DOE not ‘claiming’ savings
2. Designed to replace current SEM programs or offerings
 - Can be jump start into SEM or integrated into advanced SEM program
 - Minimal effort to integrate ISO Ready with existing SEM programs
3. A certification program
 - Builds infrastructure toward certification (if desired) – hence *Ready*
 - Provides recognition for ISO 50001 self-declared

What “50001 Ready” Is...

1. Tool to be rebranded/re-purposed for utilities, cities, states, etc.
2. A user-friendly tool to establish an energy management system consistent with ISO 50001 structure
 - Should not require ‘certified’ professionals to do it; but may leverage existing program support people or CP EnMS professional
3. Regression-based energy and emissions savings calculator (QEST)
 - Based on utility SEM ‘best practices’ and CPP guidance
 - DOE will share tool for partner analysis and adoption
4. Consistent energy management principles and savings numbers
 - Based on ISO 50001 guidance used across the globe
 - Output consistent across sectors, geography, service territories
5. Not requiring certification
 - Option to move to ISO 50001/SEP certification (as Tier 2 program)

Utilities and “50001 Ready”

- For Utilities with New/Emerging SEM Programs
 - ✓ Establish link to C&I customers, including ‘C Suite’
 - ✓ Leverages ISO brand and experience (and DOE credibility)
 - ✓ Utility coordinates/supports the 50001 Ready adoption
 - ✓ Identifies the Energy Team, Decision Maker and significant energy uses
 - ✓ Co-branded Utility-DOE recognition
- For Utilities with Advanced SEM Programs
 - ✓ Minimal lift to incorporate 50001 Ready into current SEM program
 - ✓ Adds in ISO and DOE credibility and international standards
 - ✓ Process is long-term engagement that identifies long-term pipeline of projects
 - ✓ Identifies high-saving customers for advanced SEM (meters, controls, etc)

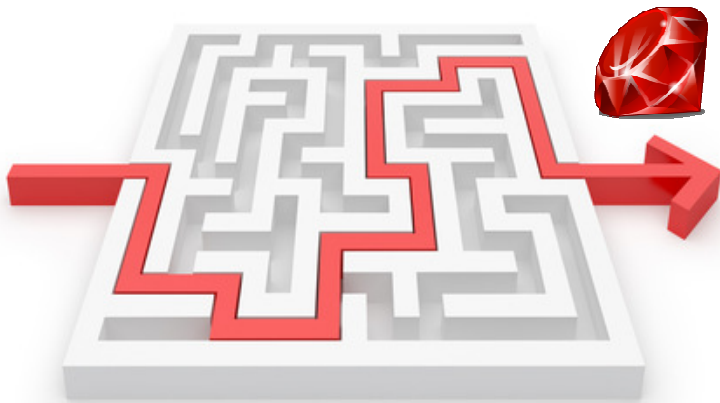
How to Participate in “50001 Ready”

1. Reach out and partner with the US DOE
2. Agree to use the GEM Tool and QEST calculator in SEM offering
 - May customize/reskin GEM as utility tool
 - May tweak variables in QEST but need to within reason of DOE values
3. Use the Qualified Energy Savings (QES) M&V protocol to support program evaluation
 - Provides actual and normalized energy savings by fuel type
 - Share EM&V results to support and refine 50001 Ready
4. Share results with DOE (national tracking of 50001 Ready facilities)
 - Facility name and aggregated energy/emissions savings (if possible)
5. Option to also support Superior Energy Performance, the 2nd Tier of 50001 Ready

COMING SOON: Guide to Energy Mgmt (GEM) Tool

Improved eGuide + Calculated Energy Savings + Online =
Guide to Energy Management (GEM) tool

Establish your energy management system guided by ISO 50001 structure



Current eGuide users:

- 3M
- Volvo Trucks
- Harbec

DOE GEM: Your guide along the way to comprehensive energy management

- Free step-by-step toolkit to create EnMS consistent with ISO 50001 structure
- Includes sample plans, templates, communications
- Input includes “claimable” energy savings calculated in new DOE QEST tool
- Central role for potential “registry” function
- Transferable tool for partner co-branding

GEM to replace existing eGuide (www.energy.gov/eguide) by end of 2016

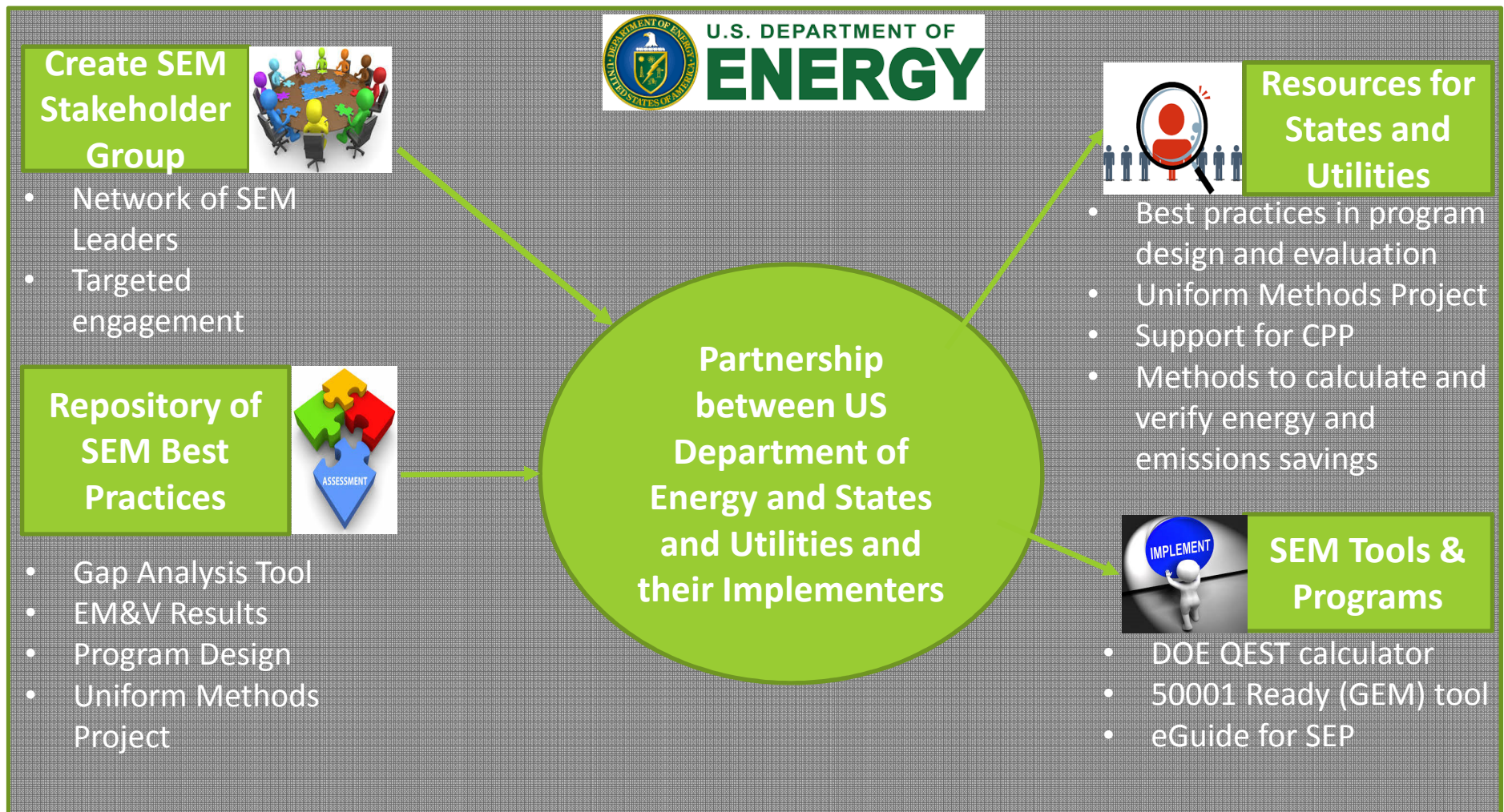
Qualified Energy & Emissions Savings Tool (QEST)

- Integration of current DOE Energy Footprint and Energy Performance Improvement (EnPI) tools into a single component, can be used offline or online (still in development)
- Qualified Energy Savings Protocol to show energy performance annually, single fuel or whole facility (top-down regression analysis) based on industry best practices
- Interoperable with EPA's Portfolio Manager data set
- Calculates energy and emissions savings due to improvement projects, requires no third-party analysis, no additional cost
- Performance improvement for a facility can be computed anonymously if desired
- Allows for "registry" function of facilities to track savings throughout an organization
- Will have similar look and feel as GEM tool
- Output file from QEST will be a required for completing the 50001 Ready steps in GEM and to receive DOE recognition

Milestones and Timeline

- December: QEST becomes available for use on DOE website
- Early 2017:
 - GEM tool becomes available for use on DOE website
 - Launch *50001 Ready Campaign* with various facilities/building/campus types as well as utility and program implementers
 - Develop co-branding and programming interfaces so that GEM can be “re-skinned” for hosted use by utilities, states, or companies

US DOE's Support for SEM and ISO 50001



DOE expanding its role in collecting and presenting best practices in SEM and ISO 50001 in support of its 50001 Ready and SEP programs. See energy.gov/ISO50001

Contact Us

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<http://www.energy.gov/eere/amo/advanced-manufacturing-office>

<http://www.energy.gov/ISO50001>