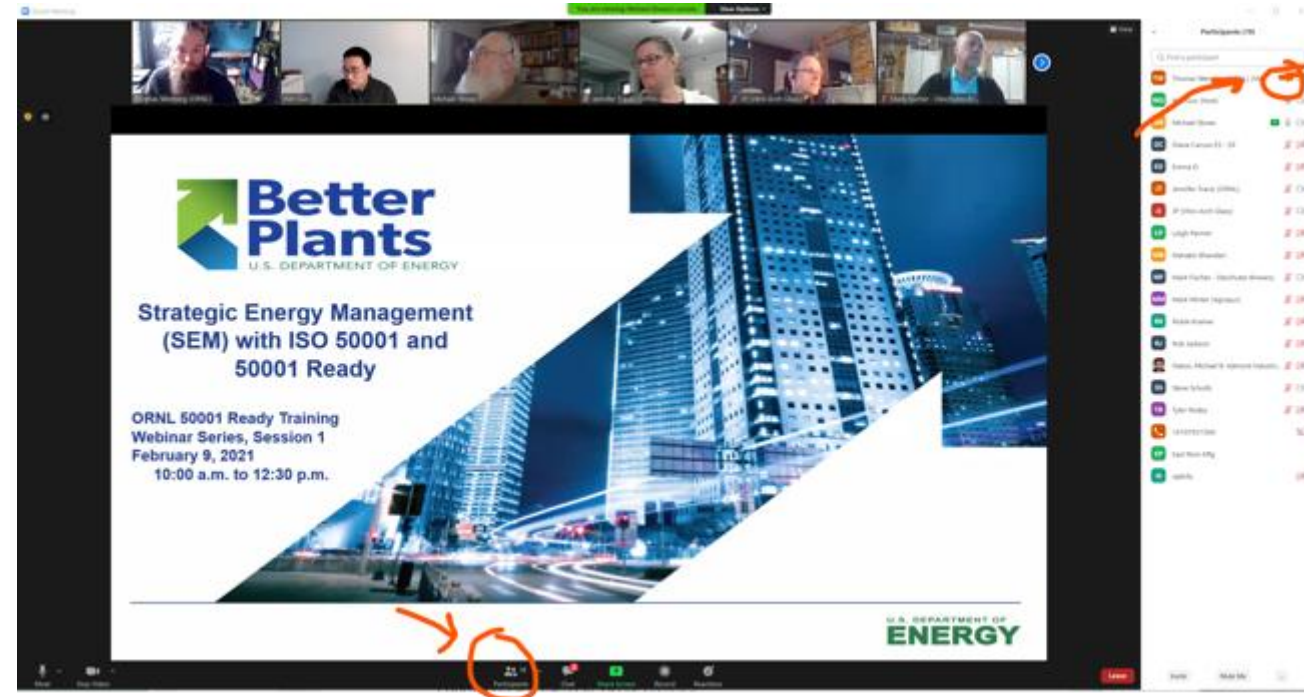


Rename Yourself to be your Real Name (Company Name)

1. Click on Participant list
2. Go to the right and hover over your name
3. Select “More” & “Rename”
4. Enter your company name in brackets
5. Turn on your camera 😊



 Rename ✕

Enter a new screen name:

☒ Remember my name for future meetings

OK Cancel



Big Wins and Ambitious Actions in Energy Reduction

Thomas Wenning, PE

Oak Ridge National Laboratory

Making the Business Case Virtual Training

Sep 22, 2026

DOE's Better Plants Program

Helping manufacturers, water/wastewater utilities and other industrial organizations save money, improve their competitiveness.



**Increased Energy
Productivity**

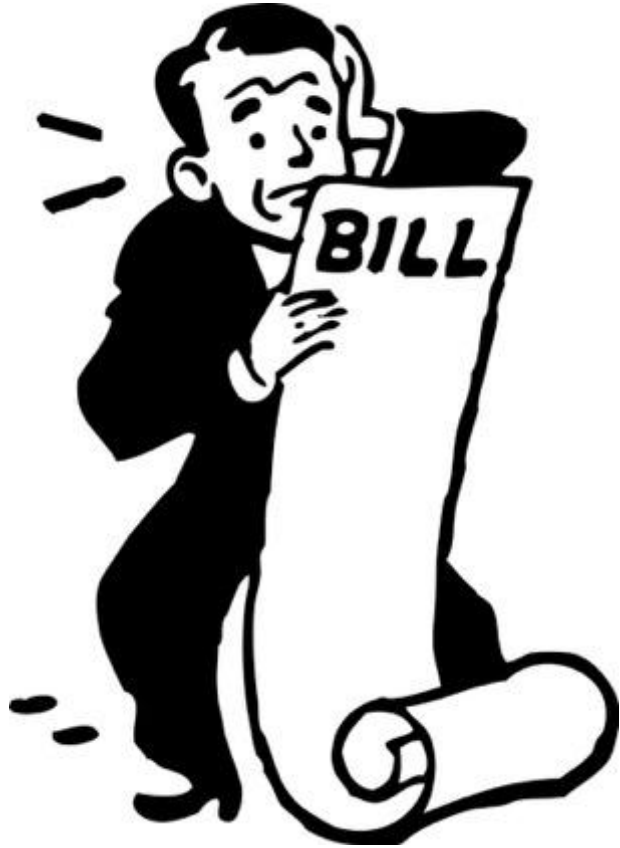


**Water
Savings**



**Waste
Reduction**

Manufacturing and Municipalities – Why do we care?



Manufacturers and utilities spend \$200+ Billion/year on energy to operate their plants

DOE data demonstrates most plants have big opportunities to reduce energy use with relatively short payback periods

Resiliency, Competitiveness, Workforce

How Does Better Plants Work?

Voluntary and Free to Participate

Partners set long-term strategic goals

DOE works with you to achieve your goals



What Market Leadership Looks Like



Better Plants Resources

TRAINING & EDUCATION



Over
200

**In-Plant Trainings
Conducted to Date**

Multi-day training for staff to identify, implement, and replicate energy-savings projects.



31+

**Virtual Trainings
Conducted to Date**

NO-COST SOFTWARE & TOOLS

Access to no-cost software and tools to identify and implement energy saving opportunities and manage energy use.



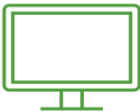
**80+
Calculators**



**40+ No-Cost
Tools for Loan**



**Financing
Navigator**



**Solution
Center**



**No-Cost
Resources
& Guides**

RECOGNITION



**95 Better Project &
Better Practice Winners**



**95
Goal
Achievers**



**600+
Solutions on
Solution Center**

For innovative and industry-leading accomplishments in implementing and promoting company-wide practices, principles, and procedures of energy management, as well as improvement projects at individual facilities.



**National Recognition in
Media and Online**

INNOVATION & LABS



**17
National Labs
Across the Country**

Partner with the National Labs to spur innovation.



Lab Technology Days

Sneak peek at early-stage R&D technologies.



Field Validation

A new pilot for partners to accelerate the voluntary adoption of cost-effective, high-impact technologies while reducing adoption risks.

Technical Assistance: In-Person and Virtual Trainings

Teach plant workers how to conduct assessments, use DOE tools, and implement projects

In-Plant Trainings (INPLTs)

- 175+ In-Plants - 3,200 participants since 2011
- Identified more than \$75M+ in energy savings

Virtual Trainings

- Over 28 trainings completed
- All sessions were recorded and posted online
- Results: ~2,000 trained and ~\$11M+ in savings

Bootcamp Trainings (Energy)

- 385+ participants since Aug 2022
- 112 unique companies

<http://bptraining.ornl.gov/>



Training Topics:

- | | |
|-------------------|------------------------------|
| • Pump Systems | • Industrial Refrigeration |
| • Fan Systems | • Water/Wastewater Treatment |
| • Compressed Air | • Municipal Water |
| • Processed Heat | • Energy Management |
| • Process Cooling | • Water Efficiency |
| • Steam Systems | • Treasure Hunts |
| • Motors | • Mfg Waste Reduction |
| • CHP | |

Virtual Training 2026

Topic	Dates
Compressed Air	Jan to Mar 2026
50001 Ready	Feb to Apr 2026
Industrial Water Efficiency	Jun to Aug 2026
Process Cooling	Jul to Sep 2026
➔ Making the Business Case	Sep to Oct 2026
Steam System	Oct to Dec 2026
CHP	Dec 2026



Bootcamps 2026

Learn about energy management, process heating, steam, and industrial motor-driven systems such as compressed air, pumping, fan systems, and alternative energy options. Participants will learn how to use diagnostic equipment to identify energy savings opportunities and quantify cost savings.

Bootcamp	Dates
Energy	March 23 to 27, 2026
Energy	Sep 2 to Oct 2, 2026



<https://energybootcamp.ornl.gov>

Important Info

- Schedule: Sept 22 to Nov 10, 2026; Every Tues; 10am – 12:30pm ET; 7 sessions.
- Sessions will be recorded
- We want these VT to be interactive!
- We're hoping you finish the VT with some big progress
- There will be homework – just try your best!
 - “You’ll get out what you put in!”



Links:

<https://bptraining.ornl.gov/>

<http://betterbuildingsolutioncenter.energy.gov/better-plants>

<https://measur.ornl.gov>

NOTE - Responsible Use of AI

AI tools (e.g., ChatGPT, Copilot, Gemini, Claude) are **encouraged as learning aids**—NOT as substitutes for your own engineering judgment.

AI MAY be used to:

- Explain concepts and answer technical questions
- Improve writing, grammar, and presentations
- Assist with spreadsheets, code, and data visualization

AI MAY NOT be used to:

- Complete homework or engineering analyses for you
- Generate or fabricate facility data, calculations, or energy savings
- Submit AI-generated work without verification and understanding

Remember:

- Do not upload confidential or proprietary information.
- You are responsible for the accuracy of all submitted work.



Introduction and Employee Engagement for Energy Productivity Projects

Building a system that turns employee knowledge into implemented results

Thomas Wenning, PE



U.S. DEPARTMENT
of ENERGY

Making the Business Case Virtual Training Agenda

Session 1 – Introduction and Employee Engagement for Energy Saving Projects; Sept. 22, 2026

Session 2 – Beyond Energy Cost Savings: Foundations of Multiple Benefits; Sept. 29, 2026

Session 3 – Power Up the Business Case: Applying Multiple Benefits in JUSTIFI; Oct. 6, 2026

Session 4 – Life Cycle Assessment (LCA) for Energy Projects; Oct. 13, 2026

Session 5 – Technoeconomic Analysis (TEA) for Industrial Projects; Oct. 20, 2026

Session 6 – Communicating the Business Case: Presenting to Decision Makers; Oct. 27, 2026

No Session; Nov. 3, 2026

Session 7 – Session Review and Participant Report-Outs; Nov. 10, 2026

Overview of Session 1 – Employees Engagement

A successful program turns employee knowledge into owned actions, verified results, and shared learning.

- What is a good energy program?
 - Systematic approach
 - Not ad-hoc or project based
- Engage employees and build ownership
 - Build ownership
 - WIIFM
 - Make it fun
- Resources for implementing energy projects
 - Funding mechanism
 - Incentives



<https://elearningindustry.com/employee-engagement>

Overview of Session 2 and 3 – Multiple Benefit and JUSTIFI Tool

Identify the full value of energy projects and use JUSTIFI to build stronger business cases.

- Foundations of Multiple Benefits
 - Look beyond energy cost savings to identify benefits such as improved safety, fewer defects, increased throughput, and lower maintenance costs.
 - Connect these benefits to business performance, decision-making, and facility competitiveness.
- Applying Multiple Benefits in JUSTIFI
 - Use a real or illustrative facility project in a guided, hands-on JUSTIFI exercise.
 - Quantify operational and financial benefits and connect them to performance metrics that support a clear, defensible business case.

Welcome to JUSTIFI

Use this tool to identify, estimate potential and report on the operational and strategic benefits that can be found while conducting energy assessments.



Overview of Session 4 and 5 – LCA and TEA

LCA identifies life cycle impacts and hotspots. TEA evaluates manufacturing cost, investment performance, and uncertainty.

- Life Cycle Assessment - LCA
 - Evaluates the effects of a process or product across its entire life cycle
 - Introduces key LCA concepts and methods
 - Explains how LCA results can support project selection and implementation
- Techno-Economic Analysis - TEA
 - Evaluates the economic and commercial performance of an industrial project or technology
 - Translates technical and financial information into quantitative metrics
 - Calculates measures such as minimum selling price, return on investment, and payback period
- Combining TEA and LCA can provide useful insights for project success



<https://www.project-resource.eu/the-critical-role-of-teas-and-lcas-in-sustainable-process-design/>

Overview of Session 6 – Communicating the Business Case

Communicate project value clearly and build management support for implementation.

- Develop a management-ready pitch
 - Organize technical and financial results into a clear executive message.
 - Highlight the project's key financial and operational benefits.
- Build support for project approval
 - Address questions from decision makers.
 - Address concerns related to project cost, risk, and implementation



<https://media.oralhealthgroup.com/uploads/2019/11/Associate-Buy-ins-OHO.jpg>

What you will be able to do

Explain why a program matters

Connect technical opportunities to ownership, follow-through, and sustained performance.

Define plant-level roles

Clarify the sponsor, Site Energy Leader, cross-functional team, area owners, and employee roles.

Choose engagement methods

Select practical channels that fit industrial work: huddles, events, suggestions, training, and competitions.

Create feedback and recognition

Make progress visible, remove barriers, verify results, and recognize the behavior you want repeated.



The "Program"

Coming together is a beginning. Keeping together is progress. Working together is success.

Henry Ford

What is an Energy Management Program?

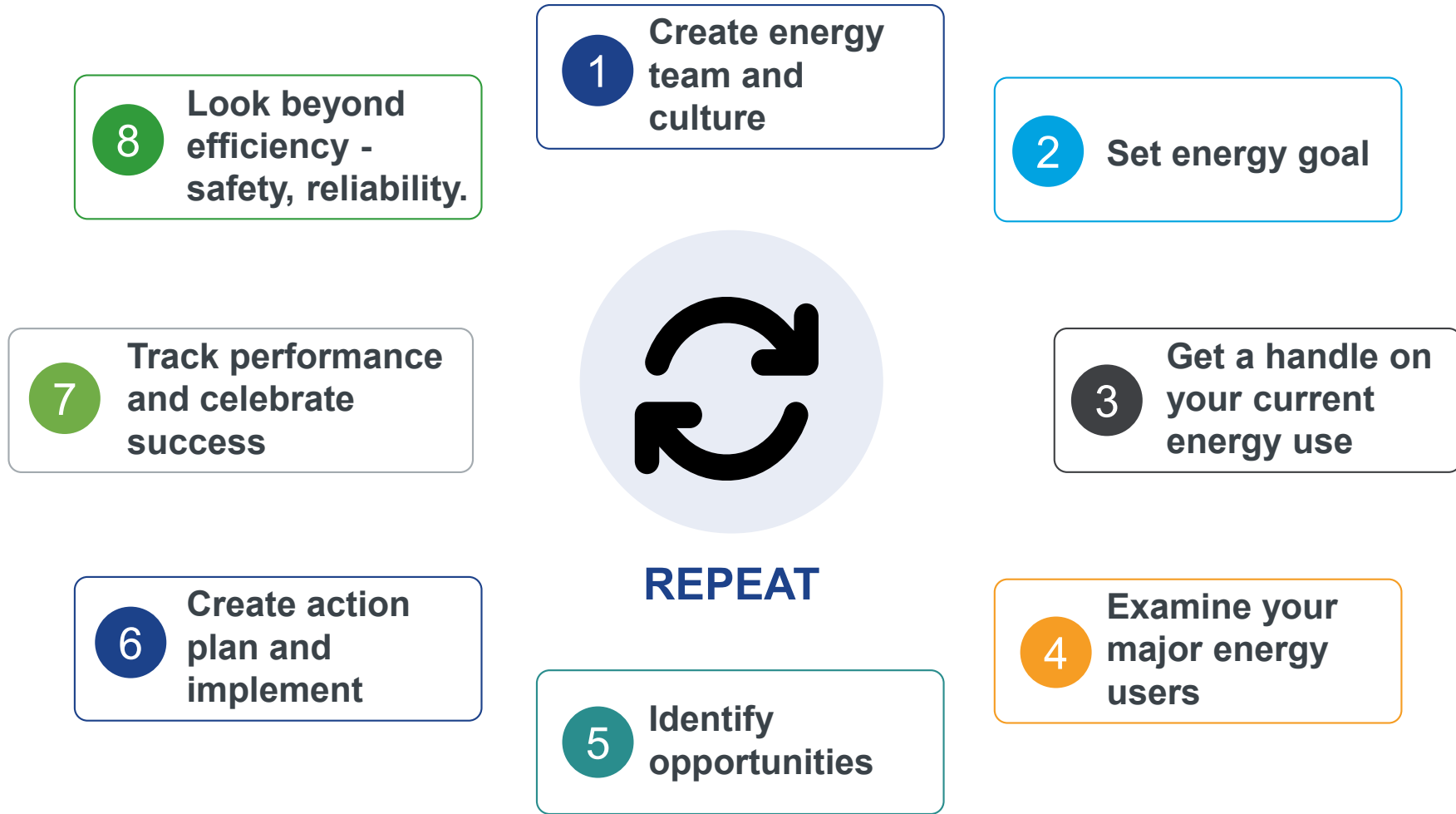
Manage energy as a business resource.

It connects leadership, people, data and operating practices to improve energy performance year after year.

A structured system that turns energy improvement from isolated projects into an ongoing business practice.



A program is a cycle—not a campaign



Recognition and reassessment keep the work from becoming a one-time event.

Energy Programs

The Power of ~~Compound Interest~~

AND REGULAR CONTRIBUTIONS OVER TIME

in programs for people

Below, we show how investing ~~\$100~~ each month at ~~10%~~ annual ~~return~~ can generate exponential results—thanks to the power of compounding interest over the long term.

“ The first rule of compounding:
Never interrupt it unnecessarily. ”
—Charlie Munger

Program Savings

~~Portfolio Value~~

Projects

Contributions Interest

\$1,500,000

Compound Interest:
interest earning
interest on itself.



By the time the investor is 75,
their portfolio would be worth
over **\$1.5M**—or **25X** more than
their total contributions.

\$1,000,000



Time is an investor's greatest ally.
In just 20 years, the interest soars
to **more than double** the principal.

In the first five years alone,
the interest grows to **over 22%**
of the portfolio's total value.

\$0

\$10

\$2,136

\$9,223

\$24,299

\$52,243

\$100,910

\$182,952

\$318,743

\$541,101

\$902,872

\$1,489,172

25

30

35

40

45

50

55

60

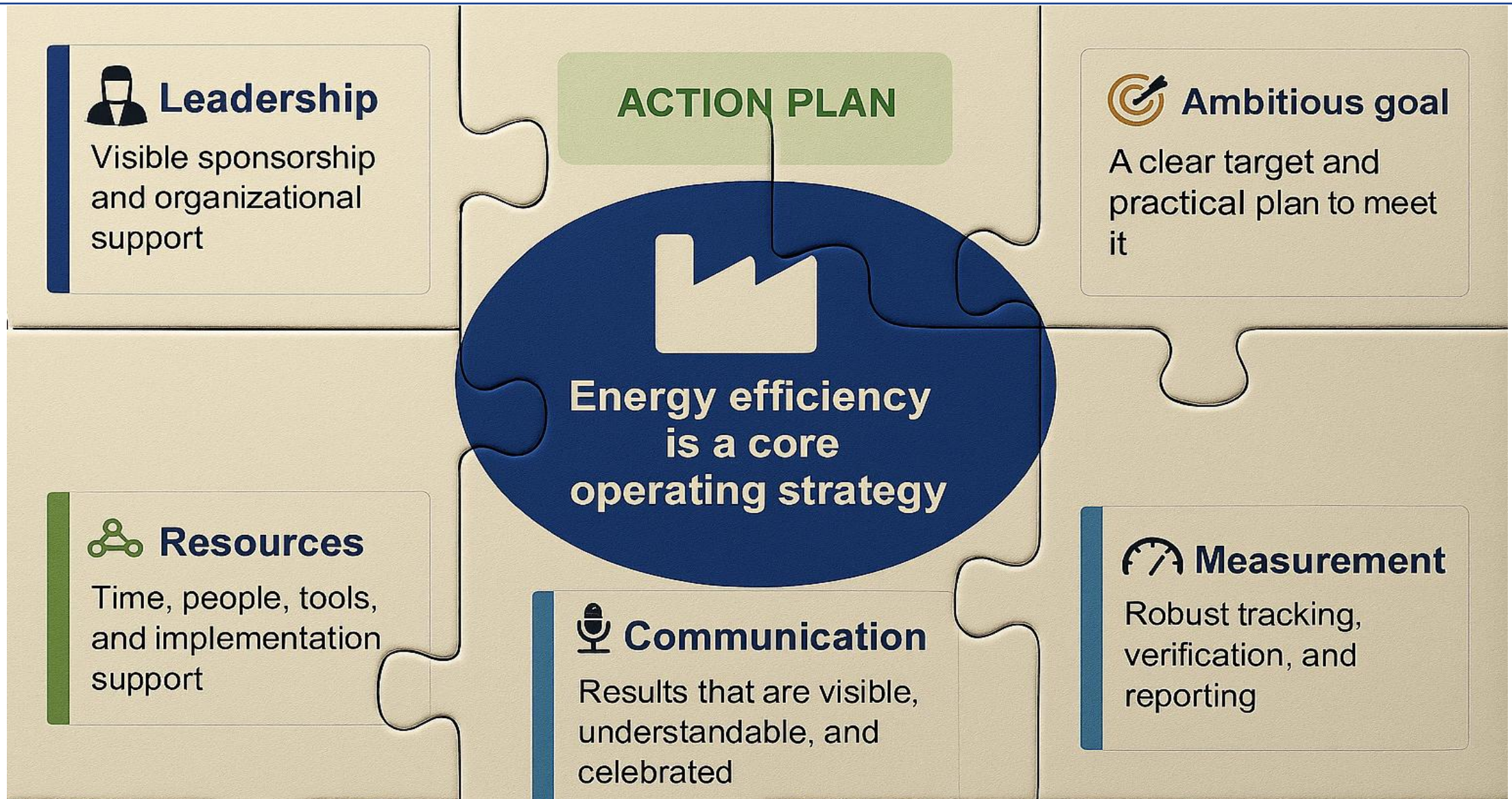
65

70

75

Age

Successful programs have visible habits



Poll: Where does your facility usually stall in the energy management cycle?



Identifying opportunities



Action planning



Implementation



Follow-up / verification



Recognition & reporting



Energy Program Resources



GAP MATRIX



SELF ATTEST



CERTIFY

Tasks Associated

- Excel-based tool
- Quick gap assessment of energy program
- Determine next steps

- Complete 25 steps in Navigator
- Self-attest to completion
- Report energy performance

- ANAB-accredited audit
- Receive certification from the certification body

Time Req.

Self-Driven

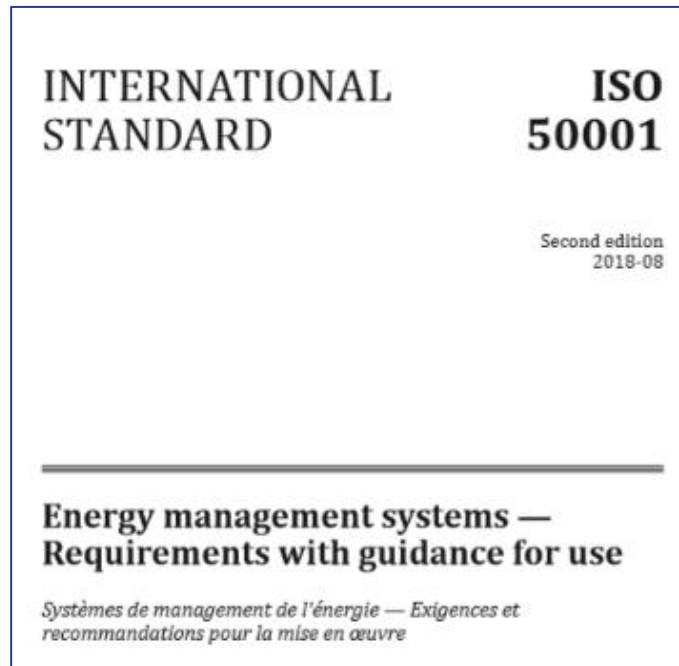
Flexible

12-18 months

Note - Local Utilities often offer structured Strategic Energy Management (SEM) Programs

What is ISO50001?

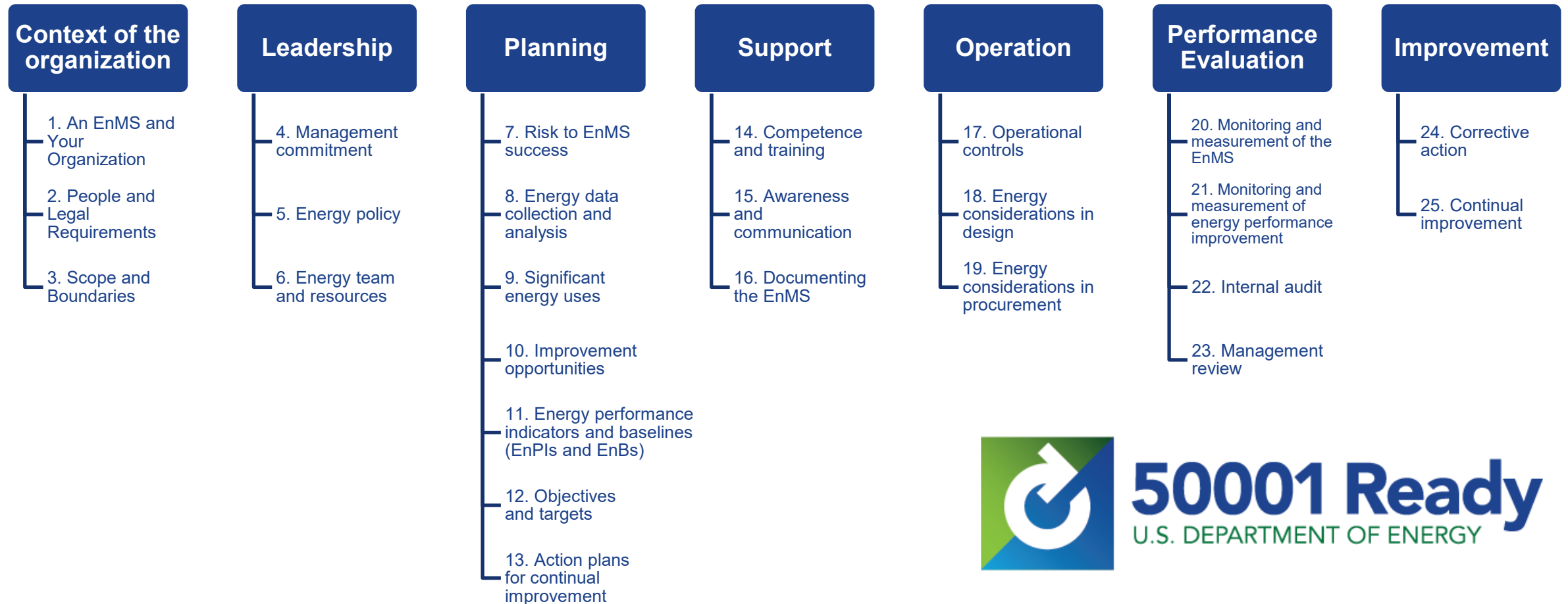
International standard that draws from **best practices around the world** – data-driven, flexible design helps organizations of all kinds and sized achieve **persistent energy & cost savings** over the **long term**.



1. Scope
2. Normative references
3. Terms & Definitions
4. Context of the Organization
5. Leadership
6. Planning
7. Support
8. Operation
9. Performance Evaluation
10. Improvement

Overview of 50001 Ready - Tasks

50001 Ready Coaches train participants on how to implement each of the 25 steps toward building systematic energy management approach using the 50001 Ready Navigator



50001 Ready
U.S. DEPARTMENT OF ENERGY

General Motors: 50001 Ready at Scale



GENERAL MOTORS U.S. FACILITIES

27 FACILITIES RECOGNIZED

**MOST MET AN 80% SHUTDOWN CUT
SOME EXCEEDED 90%**

Photo courtesy of U.S. DOE

1 STARTING CONDITION

GM sites used distinct systems and formats. The company needed one repeatable energy management process across a diverse plant network.

2 ENGAGEMENT MECHANISM

Four corporate staff and at least two energy conservation engineers per site used weekly meetings, treasure hunts, and the Navigator scorecard.

3 WHAT TEAMS CHANGED

Teams adopted shared sufficiency plans, a central manual, common templates, expanded training, and detailed shutdown and startup instructions.

4 RESULT + WHY IT LASTED

Most plants met the 80% shutdown-energy reduction goal, and some exceeded 90%. Shared tools and peer networks sustained gains.



TRANSFERABLE LESSON

A common operating system can scale local energy management: standard templates, site-specific appendices, visible progress, and a peer network that spreads working practices.

Why good energy programs collapse

X Corporate value is unclear

Employees and leaders do not see the connection to plant priorities.

X Management support is weak

Management is distant, inconsistent, or only visible at launch.

X The tone becomes “energy police”

Plant-owned work is judged instead of supported.

X Communication fades

No visible progress, feedback, recognition, or shared story is provided.

X Knowledge sits outside the plant

A consultant or one expert becomes the only source of capability.

X The program stops evolving

No succession, peer exchange, outreach, or new challenge planning takes place.



People

A tribe is a group of people connected to one another, a leader, and an idea.

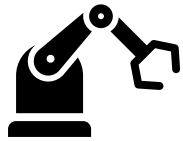
Seth Godin

Who owns the energy?

Production stopped 30 minutes ago, but these systems are still operating:



Compressed air



Process equipment



Plugged Load



Process heat

The energy crosses every department.

Ownership must be designed.

POLL

Who owns that energy?

Operations

Maintenance

Engineering

Management

Everyone

Nobody

Energy programs need EVERYONE

THREE MUST-HAVES



Managerial

Commitment • policy • goals •
resources • reviews • recognition



Technical

Design • commissioning • assessments
• projects • tracking • best practices



Organizational

Network • reporting • communication •
training • awareness • ownership

ROLE CASCADE



Sponsor/ champion

Authorizes time, removes
barriers, reinforces priorities



Site energy leader

Coordinates, tracks,
communicates, and develops
capability



Cross- functional team

Identifies actions and shares
ownership across functions



Area + shift owners

Integrate actions into
normal operating work



All employees

Observe, suggest,
operate, verify, and sustain

Poll: Who owns energy at your facility?



Operations

Maintenance

Engineering

Management

Everyone

Nobody / unclear

Respect the knowledge at the plant



PLANT PERSONNEL KNOW

- How the equipment actually runs
- Schedules, workarounds, and recurring problems
- Operating constraints and safety realities
- Which ideas will survive after the event

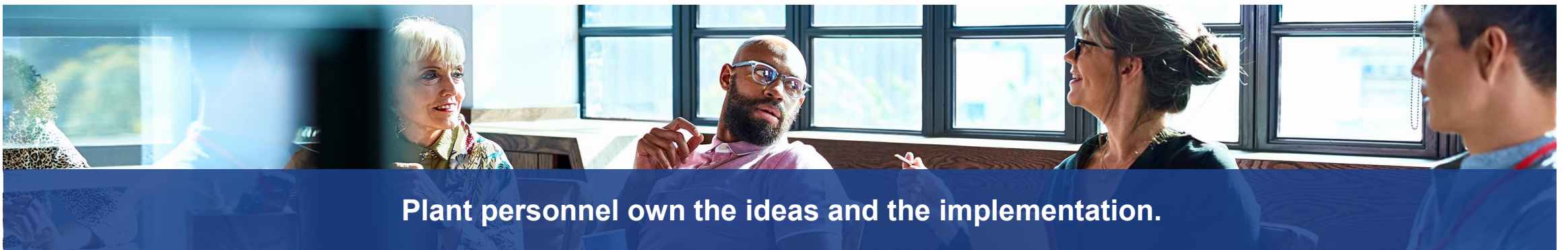
**Facilitate the
Discussion**

**DON'T TAKE
OVER**



EXPERTS/FACILITATORS ADD

- Questions that challenge the status quo
- Tools, measurement, and calculation support
- Examples from other operations
- A structured process for turning observations into actions



Plant personnel own the ideas and the implementation.

3M: Annual Energy Communications Plan



3M GLOBAL ENERGY PROGRAM

275+ LOCATIONS • 70 COUNTRIES

12 COMMUNICATION CATEGORIES

Illustrative employee communication image

1 STARTING CONDITION

A small corporate energy team needed to reach executives, managers, plant leaders, and Energy Champions across more than 275 locations in 70 countries.

2 ENGAGEMENT MECHANISM

3M coordinated monthly web conferences, targeted emails, internal resources, champion training, awards, and a global engineering-and-energy conference.

3 WHAT EMPLOYEES CHANGED

Employees gained one place to find guidance, tools, project examples, and archived updates. Cross-functional groups shared successes and replicable opportunities.

4 RESULT + WHY IT LASTED

Participation increased and energy messages became clearer. A yearly workbook assigned each activity an audience, cadence, owner, channel, due date, and feedback measure.

TRANSFERABLE LESSON



Utilize an annual calendar, audience segmentation, clear ownership, and feedback loop. Adapt the cadence, language, and channels to local roles, shifts, and digital access.

Transparency and Accountability

When you combine a culture of discipline with an ethic of entrepreneurship, you get the magical alchemy of great performance.

Jim Collins

Tune in to WII-FM: “What’s in it for me?”



Poll: What motivates your role the most? (WII-FM)

Process stability

Fewer recurring failures

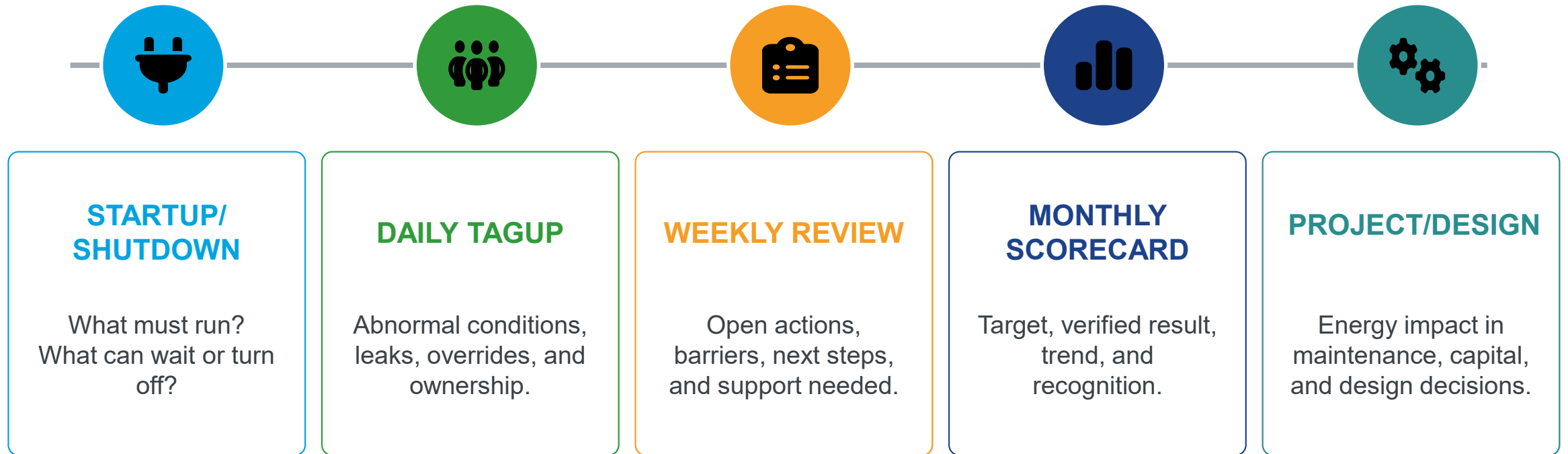
Credible data & repeatable solutions

Controllable costs

Visible progress

Other

Build energy into the way work is already managed



Celanese Corporation: Energy Sparks Training Tools



CELANESE CORPORATION ENERGY SPARKS

PLANT OPERATIONS TEAMS

15 TOPICS • ~\$7K LOSS AVOIDED

Illustrative toolbox-training image

1 STARTING CONDITION

Operators wanted to help, but knowledge gaps made inefficient setpoints, equipment lineups, manual operation, and undetected faults easy to normalize.

2 ENGAGEMENT MECHANISM

A specialist team supplied one-page “Did You Know” Energy Sparks, stored them centrally, translated them to Spanish, and coached site leaders on delivery.

3 WHAT EMPLOYEES CHANGED

Teams used the resources in shift toolbox talks and on bulletin boards—then applied the guidance to inspect equipment, question waste, and suggest actions.

4 RESULT + WHY IT LASTED

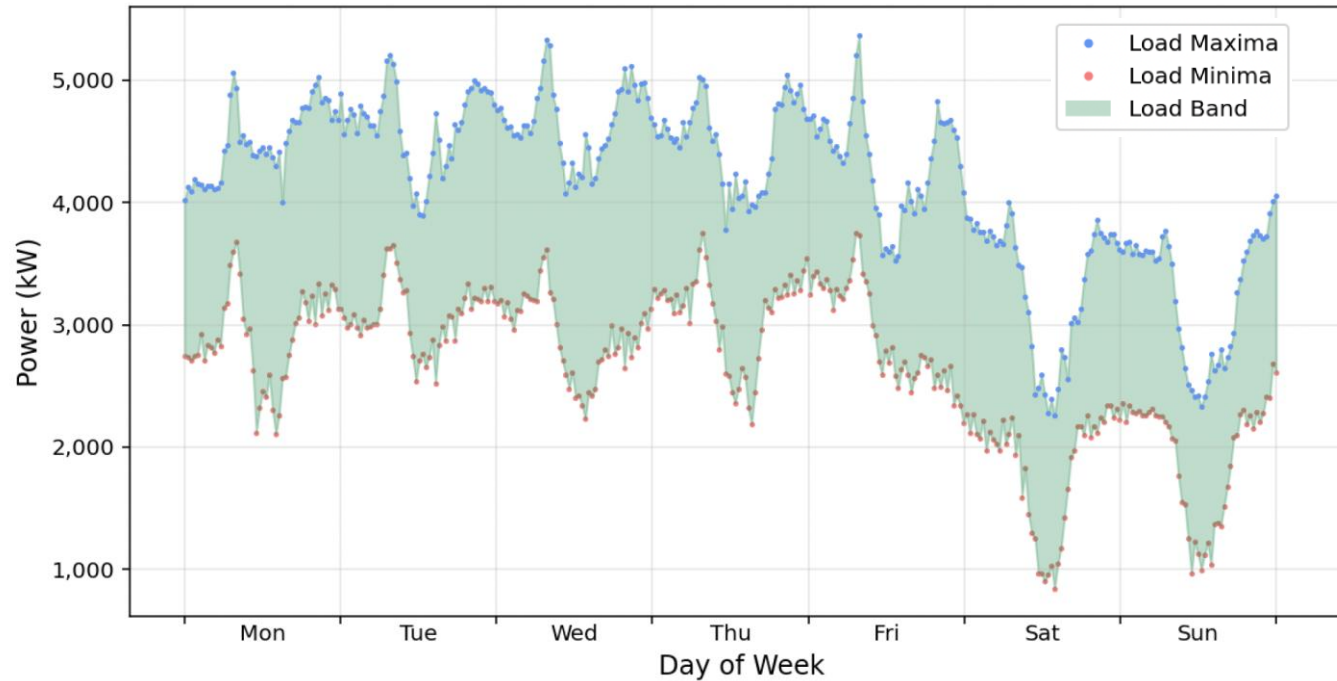
One operator found a critical failed steam trap just 2 weeks after an external inspection, avoiding about \$7K in annual loss. Fifteen reusable topics sustained learning.



TRANSFERABLE LESSON

Make action easier: give teams short, role-relevant resources, a trusted place to find them, and leaders who can coach the conversation. Adapt topics, language, and examples to local equipment and shifts.

Make invisible energy visible and set a target people can influence



Show when, where, and why energy is used.

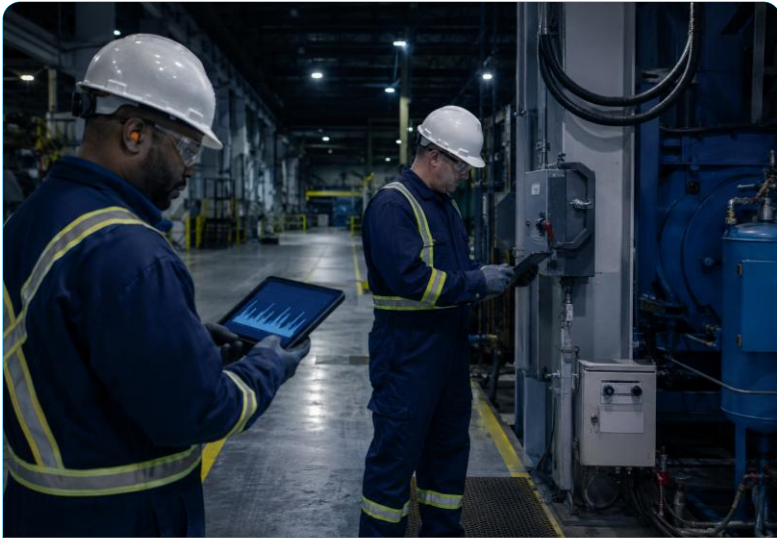
Turn visibility into smaller manageable targets

WEAK “Use less energy.”

STRONG Where are we using energy during the weekend? Can we reduce it?

- When am I using energy?
- How much am I using?
- Can I use less?
- How can I reduce energy use?

Armstrong Flooring: Zero-Kilowatt Challenge



ARMSTRONG FLOORING LANCASTER PLANT

SHUTDOWN DEMAND: 800 kW → 350 kW

50%+ LOWER SHUTDOWN DEMAND

Illustrative shutdown walkdown image

1 STARTING CONDITION

An audit found a 200 hp air compressor running over the weekend. Incomplete shutdown practices left avoidable loads operating while the plant was idle.

2 ENGAGEMENT MECHANISM

The Zero-Kilowatt Challenge gave everyone one clear goal: reduce or eliminate shutdown energy. Teams could see demand data and investigate every spike.

3 WHAT EMPLOYEES CHANGED

Plant teams updated shutdown procedures for equipment, lighting, and HVAC. They determined what had to stay on, assigned checks, and established shutdown audits.

4 RESULT + WHY IT LASTED

Demand fell from 800 to 350 kW, saving over 1.1M kWh annually. Saturday 11 p.m. demand was charted weekly and reviewed every Monday morning.



TRANSFERABLE LESSON

Choose a recurring condition that employees control. Set one visible baseline and target, publish the trend, and review misses with clear owners. Adapt for critical loads, safety, and production schedules.

Create the feedback loop

SIMPLE ACTION TRACKER

Action	Owner	Due	Status	Result
Weekend compressor shutdown	Utilities	May 15		Verified
Repair recurring steam leak	Maintenance	May 22		Open
Update oven startup standard	Operations	June 1		Verified
Meter paint-booth exhaust	Engineering	June 14		Barrier

Visible progress builds accountability—and gives people a reason to stay engaged.

REPORTING CADENCE



WEEKLY

Actions, barriers, next steps



MONTHLY

Progress against local targets + verified results



QUARTERLY

Program trends, stories, replication, recognition

Saint-Gobain Corporation: Compressed Air Challenge



SAINT-GOBAIN NORTH AMERICA

19 SITES • 22 TEAMS

837 LEAKS IDENTIFIED

Illustrative leak-detection image

1 STARTING CONDITION

Compressed-air leaks were dispersed across many facilities. Repair was often reactive, and sites lacked a consistent way to identify, quantify, and track the waste.

2 ENGAGEMENT MECHANISM

A company-wide challenge turned leak reduction into a friendly competition. Site teams found, tagged, quantified, repaired, and reported leaks—making progress visible.

3 WHAT EMPLOYEES CHANGED

Teams built leak lists, assigned repair ownership, completed fixes, and documented a repeatable compressed-air operating and management process for continued follow-through.

4 RESULT + WHY IT LASTED

About 48% of 837 leaks were repaired. Identified opportunities represented 26 GWh and \$2.5M in potential annual savings. Site ownership and tracking reduced backsliding.



TRANSFERABLE LESSON

Utilize time-bound challenge, visible scorekeeping, create ownership, and verification. Adapt the baseline, team structure, and incentives to each facility.

Employee Engagement

Culture eats strategy for breakfast.

Peter Drucker

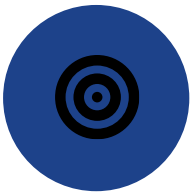
Move employees up the engagement ladder



Awareness is useful—but ownership and replication create durable value.

Why engagement works: A practical motivation model

People are more likely to act when five conditions are present:



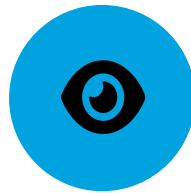
RELEVANCE

The issue connects to my work, risk, or priorities.



VOICE

My observation and operating knowledge are used.



VISIBILITY

I can see the condition, target, and progress.



RECOGNITION

The contribution is noticed and credited.



PEER PROOF

Respected peers show that the approach works.

Design engagement so employees can see their role, influence the work, and experience progress.

Employee engagement ideas

Encourage and enable employees to **shut down equipment** when not in use (from personal computers to production equipment)

Open forum for employees to suggest energy efficiency projects or solutions (email box, open discussions, etc.)

Team huddles at every shift to review assignments and discuss safety and energy efficiency topics

Contests among employees to save energy or identify projects

Surveys, questionnaires, or trainings to learn the workforce's knowledge and attitudes and to raise awareness

Posters, newsletters, and intranet sites to inform employees about your program and its successes



Give people more than one way to participate



Shift huddles

Review one energy condition with safety and work assignments.



Suggestion channels

Offer email, QR form, open discussion, or visual idea board.



Energy fairs + training

Use real equipment, plant examples, and short demonstrations.



Competitions

Compare shifts, departments, or sites using a clear and fair metric.



Posters + digital

Show targets, progress, wins, and the people behind them.



Focused improvement events

Conduct treasure hunts, Kaizen events, and shutdown reviews.

ArcelorMittal USA: Power of 1 Contest



ARCELORMITTAL USA POWER OF 1 CONTEST

25 U.S. FACILITIES • 12 STATES

15 PROJECTS • ~\$500K SAVINGS

Illustrative plant-knowledge image

1 STARTING CONDITION

Energy was about 15% of production cost, but capital was limited. The company needed low- and no-cost ideas rooted in how its plants actually operated.

2 ENGAGEMENT MECHANISM

The Power of 1 contest invited individuals and teams to propose plant-specific ideas. Entries were judged for cost-effectiveness, replicability, and creativity.

3 WHAT EMPLOYEES CHANGED

Employees used process knowledge to revise pump controls, stop compressed air between cycles, and identify natural-gas leaks during targeted walkdowns.

4 RESULT + WHY IT LASTED

Fifteen ideas delivered about \$500K in savings in 3 years. Baselines and savings were documented, whereas prizes and recognition kept ideas—and replication—flowing.



TRANSFERABLE LESSON

Ask the people closest to the process. Give ideas a simple path to review, implement, verify, recognize, and replicate. Adapt criteria to protect safety, quality, and operating reliability.

Make it fun—Energy Treasure Hunts



Energy Treasure Hunts

A 3-day training focused on:

- Low-cost/no-cost actions to reduce energy consumption
- Learning ways to continuously improve
- Cross-functional team brainstorming
- Teams identify, analyze, and evaluate energy savings opportunities
- Identified opportunities quantified

Observing the Idle Facility

- Energy Treasure Hunts usually start on Sunday or during periods of reduced production

Employee Engagement

- Cross-functional teams of employees conduct the Treasure Hunts and have ownership of the ideas/opportunities

Expert Facilitation

- Outside experts/participants are present to facilitate the process, generate discussion, and help quantify opportunities

Leverage Plant Personnel Knowledge

- Plant personnel will have insights into opportunities in their facilities and will take ownership of energy savings measures

Employees implement the Treasure Hunt process!



**Treasure Hunts:
Honda East Liberty Auto Plant**

Poll: Which engagement channel seems most doable to you?

Shift huddles

Suggestion
channels
(email/QR/board)

Energy fairs or
quick demos

Competitions
(leak hunts,
shutdown
challenges)

Posters + digital
updates

Focused
improvement
event (mini
treasure hunt)



Funding

An investment in knowledge pays the best interest.

Benjamin Franklin

Financing strengthens the sustainability business case

A strong funding structure changes the conversation from “Can we afford it?” to “How will the savings pay for it?”



Without a financing plan

Good project • high first cost • competes with production capital



With a financing plan

Lower net cost • stronger returns • protected capital • managed risk



Lower net first cost

Rebates, grants and eligible tax incentives reduce the amount management must approve.



Improve the return

A lower net investment can shorten payback and strengthen NPV and IRR.



Preserve capital

Loans, leases, and on-bill repayment can spread costs across the savings period.



Manage risk

ESCOs and performance-based structures can shift delivery and performance risk.



Present the project on **net cost, annual cash flow, and risk**—not on gross equipment cost alone.

Build a funding stack

Use the lowest-cost dollars first, then finance the remaining net project cost.

Potential funding stack



Utility, state, or program incentives

Reduce the project's first cost before financing.



Internal capital or dedicated energy fund

Retain ownership and the full stream of savings.



Loan, lease, or on-bill financing

Match payments to the period in which savings occur.



ESCO or efficiency-as-a-service

Combine capital, project delivery and performance support.

Match the mechanism to the project

Small, fast-payback



O&M budget/internal capital

Repeatable project pipeline



Dedicated or revolving fund

Equipment replacement



Loan/lease/on-bill

Large or complex project



ESCO/EaaS/
performance contract

Keep an implementation-ready list: scope • cost • savings • incentive status • owner • schedule

Engage early with utility provider for incentives

Utilities can be more than an energy supplier—they may offer technical support, incentives, and financing.



Common utility offerings

 Prescriptive equipment rebates

 Custom/calculated incentives

 Assessments and technical studies

 Strategic energy management/coaching

 Demand-response payments

 On-bill financing or repayment*

**Available only in some service territories.*

A five-step incentive workflow

1



Engage early

Contact the utility account manager or program implementer—and your Better Plants Technical Account Manager.

2



Screen eligibility

Confirm customer class, eligible measures, savings method, project timing, and incentive caps.

3



Secure approval

Submit the application and obtain any required preapproval or incentive reservation.

4



Implement and document

Retain equipment specifications, invoices, baseline data, and measurement-and-verification records.

5



Close out and collect

Complete inspection or verification, submit final documentation, and receive the incentive.



Confirm program requirements before ordering equipment or starting construction.

Finding Utility Programs: DSIRE + FEMP



Broad U.S. scan

BEST FOR

Finding renewable energy and efficiency incentives or policies that may apply at a U.S. facility.

SEARCH BY

State or ZIP code, incentive type, technology, implementing sector, and eligible sector.

[Open DSIRE - https://dsireusa.org/](https://dsireusa.org/)



U.S. DEPARTMENT
of ENERGY

Federal Energy
Management Program

Federal utility-program lens

BEST FOR

Finding utility programs that support federal energy goals, including DR, EV, renewables, resilience, and UESCs.

SEARCH BY

State, program category, availability, and GSA Areawide Contract status.

[Open the FEMP Navigator - https://www.energy.gov/cmei/femp/femp-utility-program-navigator](https://www.energy.gov/cmei/femp/femp-utility-program-navigator)

Recommended search routine

1

Define

Facility, utility, and project

2

Scan DSIRE

Broad incentive and policy search

3

Check FEMP

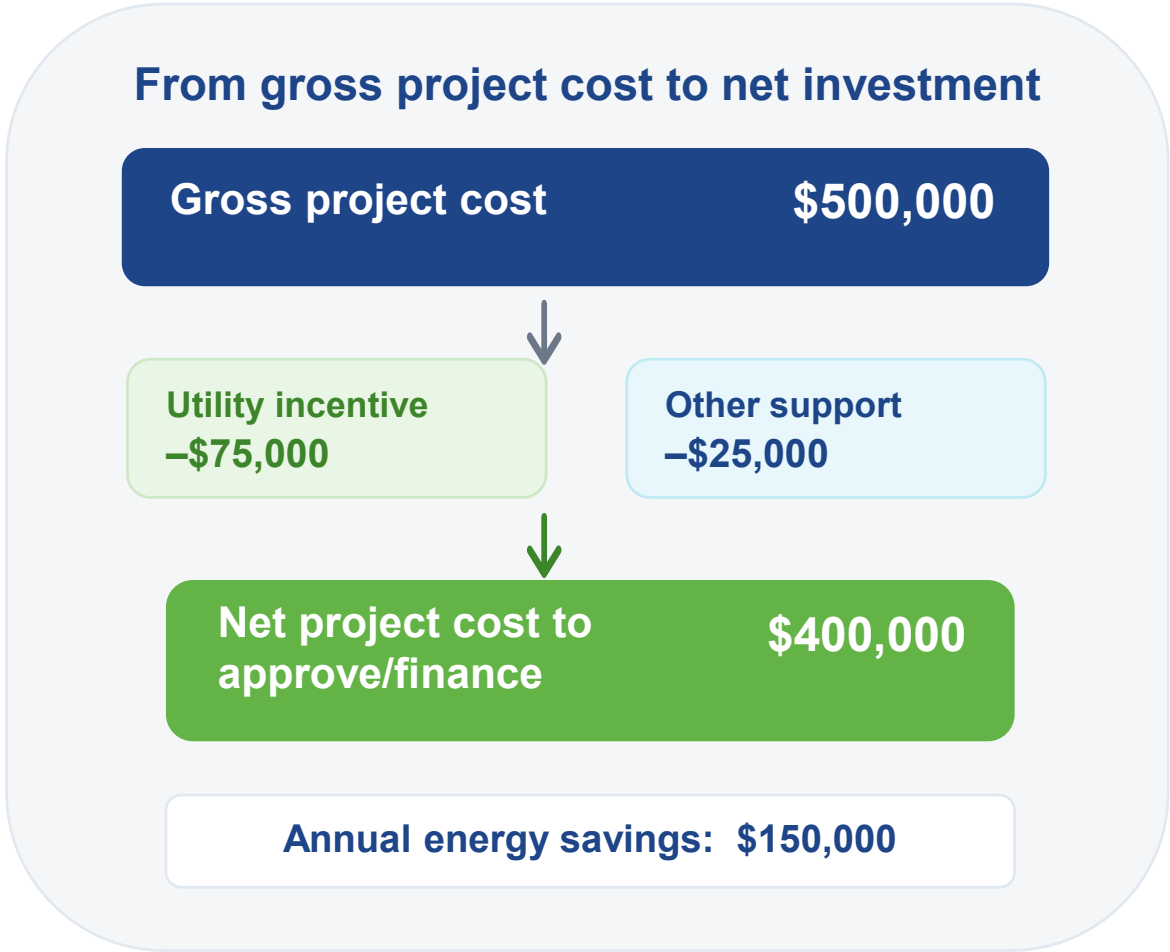
Federal sites and utility offerings

4

Verify

Confirm with the serving utility

Illustrative example: Incentives + financing improve approval metrics



Management-ready metrics

 **Simple payback**
3.3 → 2.7 years
after incentives

 **Annual savings**
\$150,000
estimated

 **Annual payment**
\$92K
5 years at 5%

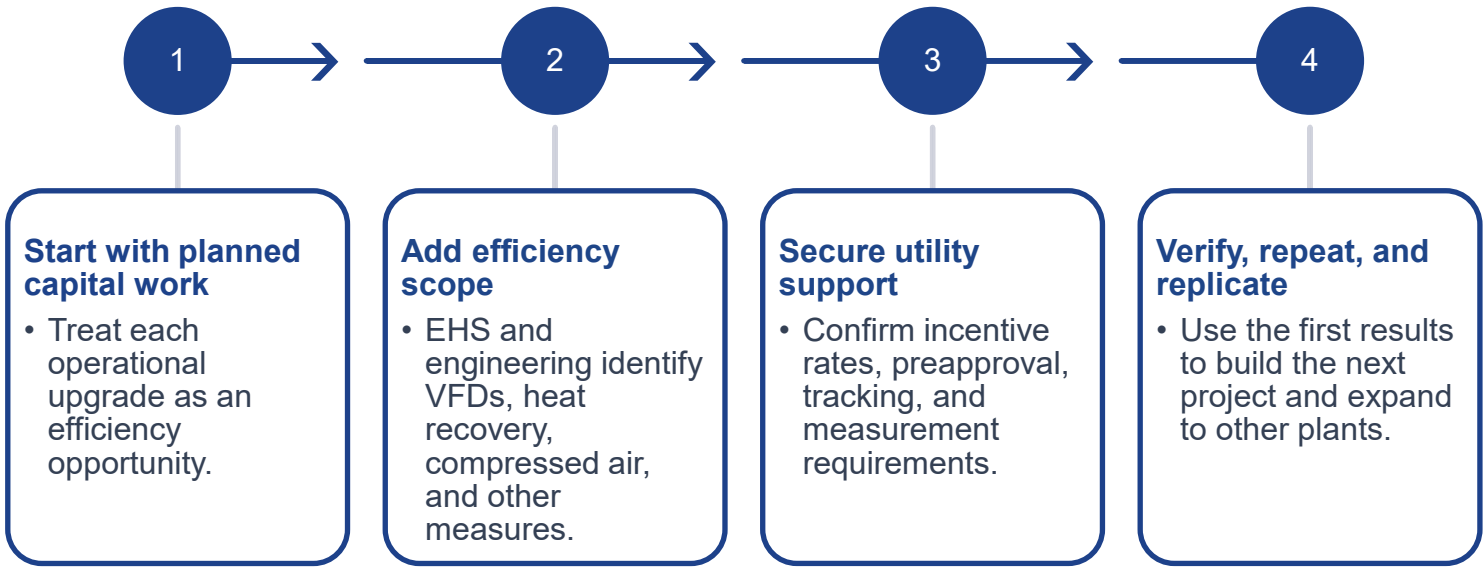
 **Year 1 cash flow**
+\$58K
savings less payment

 **Approve a \$400K net project that saves \$150K/year and is cash-flow positive in Year 1.**

Case study: From one incentive to a project pipeline

Flowers Foods combined planned capital upgrades, engineering review, and tiered utility incentives to create repeatable projects.

HOW THE MODEL WORKED



BATESVILLE RESULTS

13
efficiency projects

\$411,695
utility incentives

\$231,103/year
verified utility savings

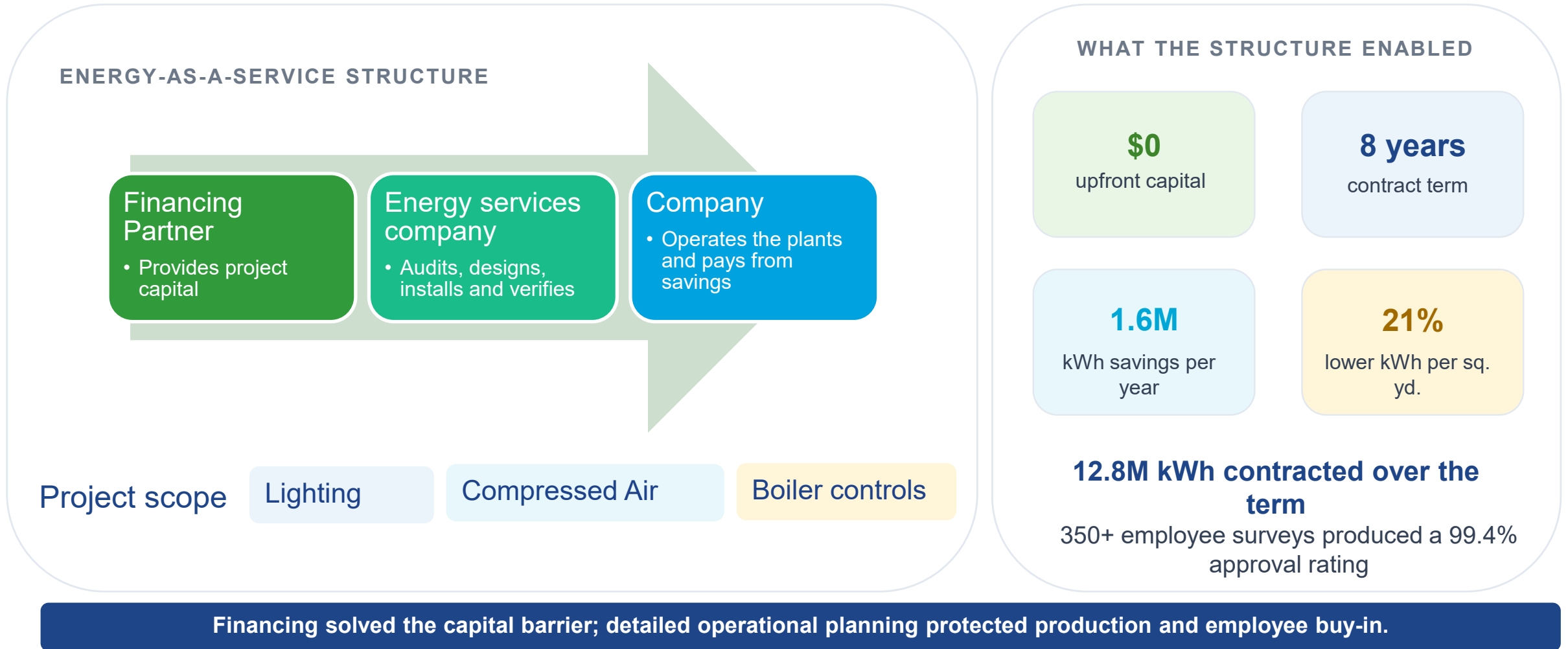
13,506
MMBtu saved

The lighting project saved 671,743 kWh and earned a \$100,761 utility incentive.

Replication signal: 30 additional Flowers Foods bakeries completed LED upgrades after the initial success.

Case study: Finance the retrofit from future savings

Bentley Mills used energy-as-a-service to deliver a project costing more than \$1.5 million with no upfront capital.



Recognition

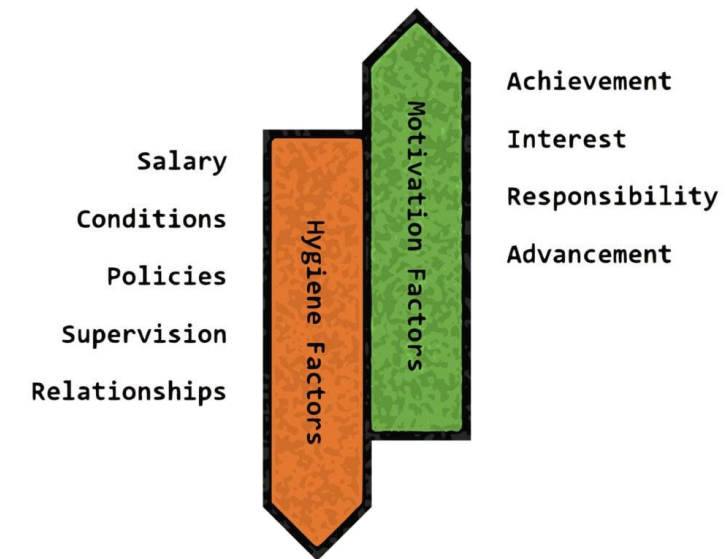
Nothing else can quite substitute for a few well-chosen, well-timed, sincere words of praise. They're absolutely free and worth a fortune.

Sam Walton

Recognition Motivates!

Herzberg's Two-Factor Theory Of Motivation

- Job satisfaction is influenced by two factors:
 - Motivators, like recognition and achievement, lead to higher satisfaction and motivation
 - Hygiene factors, such as salary and working conditions, prevent dissatisfaction but don't necessarily motivate
- Both sets of factors are needed to create a productive work environment



Recognize the behavior you want repeated

WHAT TO RECOGNIZE

 Implemented action

 Verified result

 Teamwork across functions

 Replication and teaching

 Monetary or nonmonetary—match the recognition to the achievement and culture.

HOW TO RECOGNIZE

 Leader thank-you

 Team spotlight

 Certificate/award

 Development opportunity



“Give credit away.”

Recognition is strongest when it is timely, credible, and connected to the accomplishment.

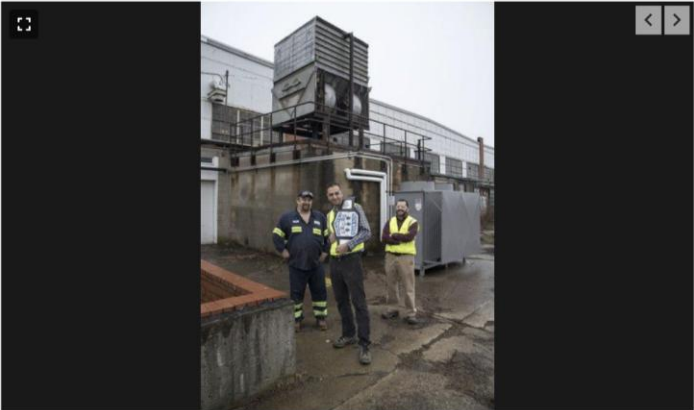
Make friends with communications groups

NIAGARA GAZETTE

Niagara Falls' Saint-Gobain plant claims WWE belt — in sustainability competition

Falls plant owned by French corporation wins top energy prize in North America

By Michele DeLuca michele.deluca@niagara-gazette.com Jan 23, 2017



PHOTOS BY James Neiss/staff photographerEkonal production operator Albert McKinney, Production Manager Ross Karipidis and Plant Manager Tim Vitorino pose with their "WWE" belt awarded for their efforts in reducing water consumption at the plant.

JAMES NEISS

A flashy WWE belt awarded recently to the Saint-Gobain plant on Walmore Road was not the prize from any wrestling match.

Massena Operations

The Memo

Planning for the Forests' Future

There are approximately 100,000 acres of forest land in the Adirondack Park, which is the largest protected area in the United States. The Forest Service is responsible for managing this land, and the Adirondack Park is a major source of timber for the region. The Forest Service is currently planning for the future of the forest, and the Adirondack Park is a major source of timber for the region.



Torrance Energy Kaizen Finds 6.4% Savings



A recently completed energy Kaizen at Alcoa Fastening Systems (AFS) in Torrance, California (USA) found 6.4% in savings that could be implemented quickly. The estimated savings add up to approximately \$125,000 per year, with very little capital expenditure for implementation.

In addition to Torrance employees, representatives from six Alcoa locations in the California cities of Fullerton, Newbury Park-Republic, Newbury Park-Van Petty, Simi Valley Distribution and City of Industry, as well as Tucson (Arizona, USA) took part in the Kaizen. Involving multiple locations brought new ideas to Torrance and also sent the team members back to their own facilities with blueprints for savings.

Participants divided themselves into two teams to find savings in Torrance's North and South buildings and focused on several energy resources:

Kaizen Series Takes Aim at Energy Reduction

It's all about the energy.

In June, representatives of Massena AFE, Massena West Primary, Massena East, Warrick Power Plant, Warrick Rolling Mill and the Quebec smelters were joined at the NYPA Visitor's Center at Hawkins Point by representatives of the Alcoa Global Energy Group, U.S. Department of Energy and outside companies to discuss ways to reduce electricity, natural gas, steam and compressed air usage. The event, an Alcoa Energy Workshop, included an energy reduction kaizen in AFE, which played host to the workshop.

"This is one of four regional energy workshops," said Alcoa Global Energy Efficiency Manager Walter Brockway. "We held an event in Brazil in January, we have another event planned in Europe, and we're hoping to do an additional session on the U.S. west coast."

Brockway said the events were focused on low-cost and no-cost energy reduction solutions that could be implemented quickly and easily.

"We have folks sharing what they've been doing at their local sites," Brockway said.

Continued on Page 2



Internal Example: 100% Implementation Completion Award



Leverage External Recognition Opportunities



Do not reinvent the wheel!



SAINT-GOBAIN: Smart Energy Management System

Saint-Gobain installed more than 180 energy meters integrated with a smart energy management system (EMS) at its gypsum wallboard plant. Within three months, the EMS helped identify several opportunities to reduce energy usage and enabled the plant team to scope process changes and projects to address them.

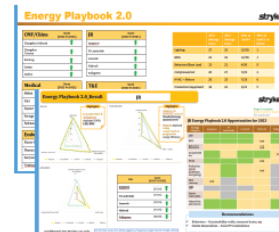
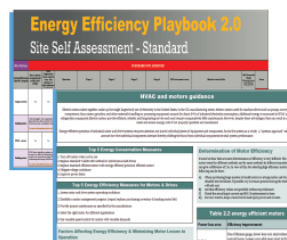
- ✓ Developed a customized EMS solution that contextualizes energy used per product SKU number and monitors energy consumption during plant downtimes and during the start-up and shut down periods
- ✓ Enables the plant team to set targets and highlight the lowest energy use production runs using a 24-hour live energy performance indicator dashboard
- ✓ Includes an alert system to notify users of substantial energy increases



STRYKER: Corporate Energy Playbook 2.0

Stryker updated and rolled out an Energy Playbook to drive a pipeline of future energy and emissions-reduction projects, resulting in more than 45 Stryker sites participating in the Energy Playbook self-assessment process and over 60 projects implemented in 2022.

- ✓ Defines Stryker's energy standards and provides guidance on 10 priority categories
- ✓ Accompanies a financing structure for projects with less than a 7-year payback to accelerate implementation
- ✓ Includes replicable case studies of successful projects by Stryker sites along with guidance, graphics and rules of thumb for specific energy systems



EASTMAN CHEMICAL COMPANY: Integrating Energy Management with Broader Sustainability Goals

Eastman developed an organizational structure for its sustainability program that integrates the energy management and sustainability teams, which has resulted in a more than 12% improvement in energy intensity since baseline year with over 70 active energy efficiency projects valued at over \$20 million.

- ✓ Leveraged Eastman's energy management experience and elevates the importance of energy efficiency as a subgoal for process improvement projects
- ✓ Set up working groups focused on carbon and climate, energy efficiency, water stewardship, and waste management
- ✓ Developed metrics with projected greenhouse gas emissions savings that are tracked across the energy management and sustainability teams



Better Buildings Solution Center

More than 3,000 solutions are available publicly in the Better Buildings Solution Center

Showcase Projects:

- Successful energy savings case studies

Implementation Models (Playbooks):

- Overcome barriers: finance, data, energy management, staff training, partnering with utilities, and more
- Multifaceted and applicable across sectors

Technology Focus Area Pages

- 13 focus areas, from compressed air to renewables
- DOE tip sheets and publications, software tools, webinars, and contact information for a subject matter expert

Additional Resources, Toolkits, Case Studies



energy.gov/bbsc

THANK YOU!

Questions?

Homework: Map Your Facility's Current Energy Program Cycle



Identify your place in the cycle:
team creation, energy use review,
major users, opportunities, action
plan, implementation, verification



Highlight where momentum
commonly stalls

Homework: Clarify Energy Ownership & Roles



SKETCH YOUR STRUCTURE:
SPONSOR, SITE ENERGY LEADER,
TEAM, AREA OWNERS, ALL EMPLOYEES



IDENTIFY TWO GAPS OR MISSING
ROLES



BRING DIAGRAM TO SESSION 2

Homework: Write One Role-Specific WIIFM Message



Pick a role: operators, maintenance, engineering, supervisors



Write a 2–3 sentence WIIFM message



Use it with a colleague

Homework: Brainstorm One Engagement Mechanism for your Company

Choose

Choose one topic: huddles, suggestion forms, scoreboards, competitions, etc

Brainstorm

Brainstorm the idea(s) with a colleague and make it relevant to your company

Record

Record reactions, lessons learned, and needed 'enablers'

Homework: Does your local utility offer any programs for you?

Investigate

Check out DSIRE, FEMP Utility Program Navigator, or your Utilities Website

Take Note

List out the programs for which you may be eligible to participate

Connect

Bonus Points – Find out who your utility account manager is and reach out to them!!