Better Plants®
U.S. DEPARTMENT OF ENERGY

Communicating the Business Case: Presenting to Decision-Makers



Make energy projects easy to understand, easy to approve, and easy to execute

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U.S. DEPARTMENT of ENERGY

What you will be able to do

Think like a decision-maker

See the proposal through the plant manager's, finance team's, and senior leader's priorities.

Translate energy into value

Move from technical units to dollars, production terms, risk, reliability, and controllable cost.

Build a decision-ready case

Present the selected action, net cost, return, operational benefits, risks, owner, and timing.

Deliver a 60-second pitch

Lead with benefits, give credit, use business language, close with facts, and make one clear ask.

Secure a clear next step

Leave the conversation with a decision, owner, due date, and agreed review point.

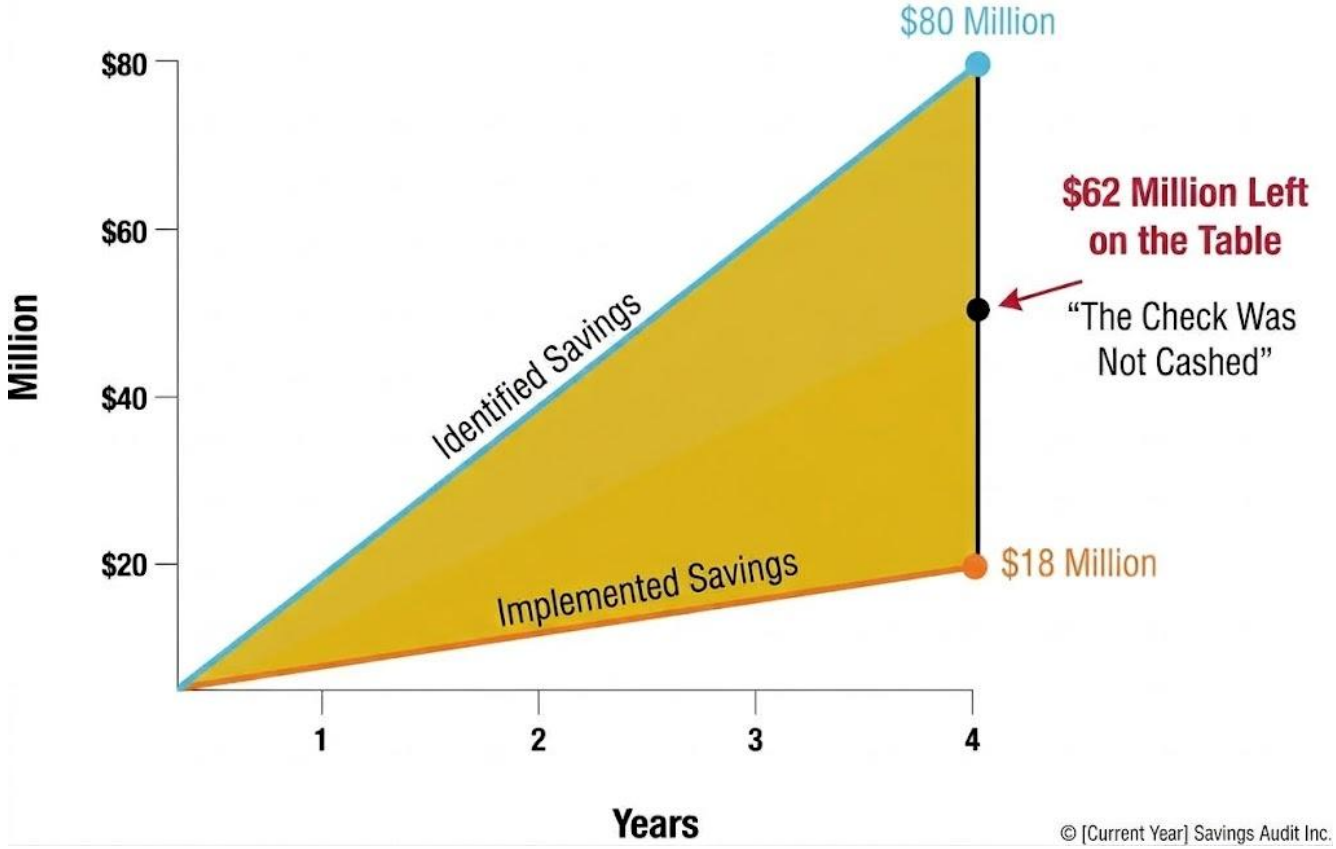
Why energy projects do not get implemented

Assessments create potential savings.

Implementation converts them into real dollars.

Why the gap happens

- No clear owner
- Capital and people constraints
- Benefits not sold
- Operational risk concerns



Implementation barriers from DOE surveys

- Unattractive evaluated return on investment
- **Lack of true sponsorship** from management
- Lack of manpower or **personnel changes**
- **Change in policy** or funding for energy reduction
- Process-related **limitations**
- Concerns regarding **operational changes**
- **Limitations** of current available technology
- Red **flags by the employees**
- **Political** issues



Are we in control of our decisions?



Scenario: One project—four valid reactions

PROPOSED ACTION: Lower the compressed-air header setpoint by 10 psi after a controlled test.

PLANT MANAGER	FINANCE / CFO	ENGINEER	OPERATOR / MAINTENANCE
"Will production, quality, or uptime be affected?"	**"What is the cash impact—and the downside?"**	**"Show the pressure profile, assumptions, and safety margin."**	**"What changes on my shift—and what if tools slow down?"**
Protects output and accountability	*Protects capital and financial credibility*	*Protects technical integrity*	*Protects workable execution*

Who is resisting? **No one**

Each person is protecting a different outcome.

The first communication task is to identify the audience's WII-FM—not to repeat the same technical pitch louder.

Potential savings is not cash



Management evaluates the path to results, not the size of the opportunity list.

The check is cashed only after implementation and verification.

The Words We Use

Words are, of course, the most powerful drug used by mankind.

Rudyard Kipling

How people evaluate the project



People evaluate a story about the project - formed under time pressure, uncertainty, prior experience, and organizational incentives.

Current state feels safer

Existing settings, routines, and approvals already survived yesterday.

Near-term cost is vivid

Downtime and staff effort happen now; future savings feel abstract.

Prior beliefs filter evidence

People notice information that fits what they already expect.

Uncertainty favors “wait”

An estimate with unknowns can make no-action feel defensible.

Different leads look for different value

WII-FM



Plant Manager
- Throughput
- Reliability
- Operating cost
- Available people

Engineer
- Data
- Project Design
- Operation Consideration

Finance
- Cash flow
- Financial risk
- Payback
- Net Present Value
- Incentives

Corporate Leadership
- Strategic value
- Scale
- Recognition
- Replication

How a plant manager sees the proposal

Time already spent



I committed people, production access, and management attention.

Potential is not cash



I cannot spend an estimate. What becomes a real, verified result?

Value to this plant



How does this help cost, reliability, throughput, safety, quality, or risk?

Limited resources



Who will do the work, when can it be done, and what will it disrupt?

What a manager wants to hear

How do we measure up?



Current performance, trend, benchmark, and the size of the issue.

What did you investigate?



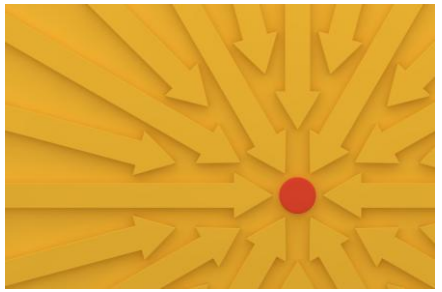
Show that alternatives were screened

Which opportunities matter?



Bring the one to three priorities that should move now.

What will it take?



Value, cost, timing, risks, people, production access, owner, and next steps.

What Does Finance Want to Hear

Simple payback

When is the investment recovered?

Net project cost ÷ annual cash savings

Return on investment

How large is the annual return?

Annual benefit relative to investment

Net present value

What are future cash flows worth today?

Uses the company discount rate

Internal rate of return

What return does the project generate over time?

Compare with company requirements

Hurdle rate/cost of capital

What threshold must the project meet?

Use the company's approved criteria

Net capital and lifecycle cost

What will the company actually spend?

Include incentives, maintenance, and operating cost

Same compressed-air project—four audience languages

ONE FACT BASE: Controlled 10-psi setpoint test • $8,000 implementation cost • ~$120,000 annual savings • verified stop rules

PLANT MANAGER

Validate savings without rising production.

Lead with uptime, trial window, owner, stop rules, and schedule.

FINANCE/CFO

Avoid about $10,000 per month with an $8,000 staged action.

Lead with cash impact, payback, downside, and verification.

ENGINEER/TECHNICAL REVIEWER

Pressure profiles show margin above critical end-use requirements.

Lead with data, assumptions, ranges, method, and controls.

OPERATOR/MAINTENANCE

Reduce leaks and noise while keeping tools stable.

Lead with shift impact, standard work, escalation path, and feedback.

Crisp Messaging

I didn't have time to write a short letter, so I wrote a long one instead.

Mark Twain

Manage common objections

We have no capital.

Separate no/low-cost actions. Show net cost after incentives. Keep a ready-project list for available capital.

We have no staff.

Define the actual hours, phase the work, use contractors or corporate resources, and name the owner.

Production risk is too high.

Use a pilot, operating limits, a rollback plan, and a production-approved installation window.

I heard it didn't work in the other facility.

Show how this is different from the other facility, how you accommodate for the change, and how are you going to mitigate the risk.

The savings are uncertain.

Show the baseline, assumptions, range, acceptance test, and measurement-and-verification plan.

Energy is not core business.

Connect the project to operating cost, reliability, safety, quality, capacity, or business risk.

The payback is too long.

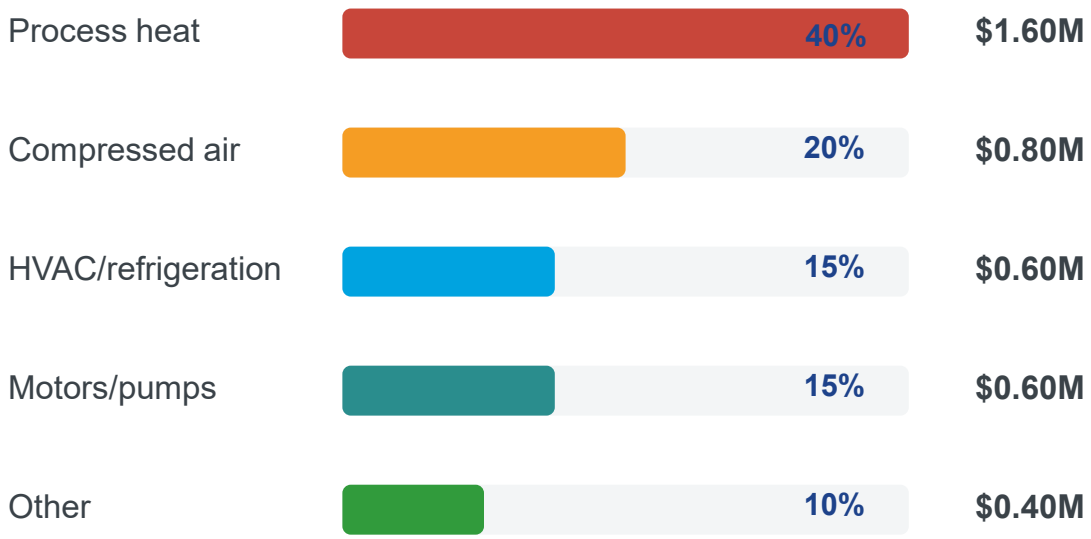
Validate the company threshold, improve the design, sequence phases, include life cycle value, or park the project.

Listen for the real concern before defending the project.

Speak company language and show the energy map

ILLUSTRATIVE PLANT ENERGY MAP

$4.0M annual energy spend



Start with the biggest controllable cost areas.

TRANSLATE THE SAME OPPORTUNITY

1	**Technical units**	kWh, MMBtu, flow, pressure, temperature
2	**Dollars per year**	Annual cost, avoided cost, net savings
3	**Core-business terms**	$ per unit, equivalent sales, controllable cost
4	**Operating value**	Reliability, throughput, safety, quality, capacity
5	**Management decision**	Approve, validate, fund, schedule, or assign

Lead with benefits not features

FEATURE-FIRST



“Install a 250-hp variable-speed compressor, a sequencer, and a 2,000-gallon receiver.”

Accurate—but the audience must work to infer why it matters.

BENEFIT-FIRST



“Cut annual compressed-air cost, stabilize pressure at critical users, reduce unnecessary runtime, and improve reliability.”

Relevant first; technical features follow as evidence.

Benefits create attention! Features create confidence.

Show the “Prize”

ANNUAL ENERGY SPEND

$4.0M

Current electricity + fuel cost

TARGET OPPORTUNITY

8%

Screened, supportable potential

ANNUAL GOAL

$320k

$4.0M × 8%

Equivalent sales at an 8% margin

$320k ÷ 8% = $4.0M in sales

Cost of waiting

$320k ÷ 12 = ~ $26.7k per month

Loss aversion: Make the cost of delay visible

SAME PROJECT • SAME VERIFIED FACTS

GAIN FRAME

“This project can save $240,000 per year.”

COST-OF-DELAY FRAME

“Every month we wait, about $20,000 in avoidable energy cost leaves the plant.”

$240,000/year savings = $20,000/month <u>lost</u>

Use loss framing to reveal the consequence of delay—not to claim that every person or every decision will respond the same way.

Research: Kahneman & Tversky (1979, 1981)

Improve the decision, not merely the “yes” rate

DO

- Keep facts, assumptions, and uncertainty consistent.
- Make both action risk and inaction risk visible.
- Use pilots, ranges, stop rules, and verification.
- Ask how the audience wants the information sequenced.
- Give credit to plant participants and subject-matter experts.

DON’T

- Use fear or urgency that the data do not support.
- Stereotype a person because of role or assumed style.
- Hide operational tradeoffs or overstate certainty.
- Bury decision makers in detail—or remove detail they need.
- Claim peer consensus or savings that have not been verified.

Make it Visual

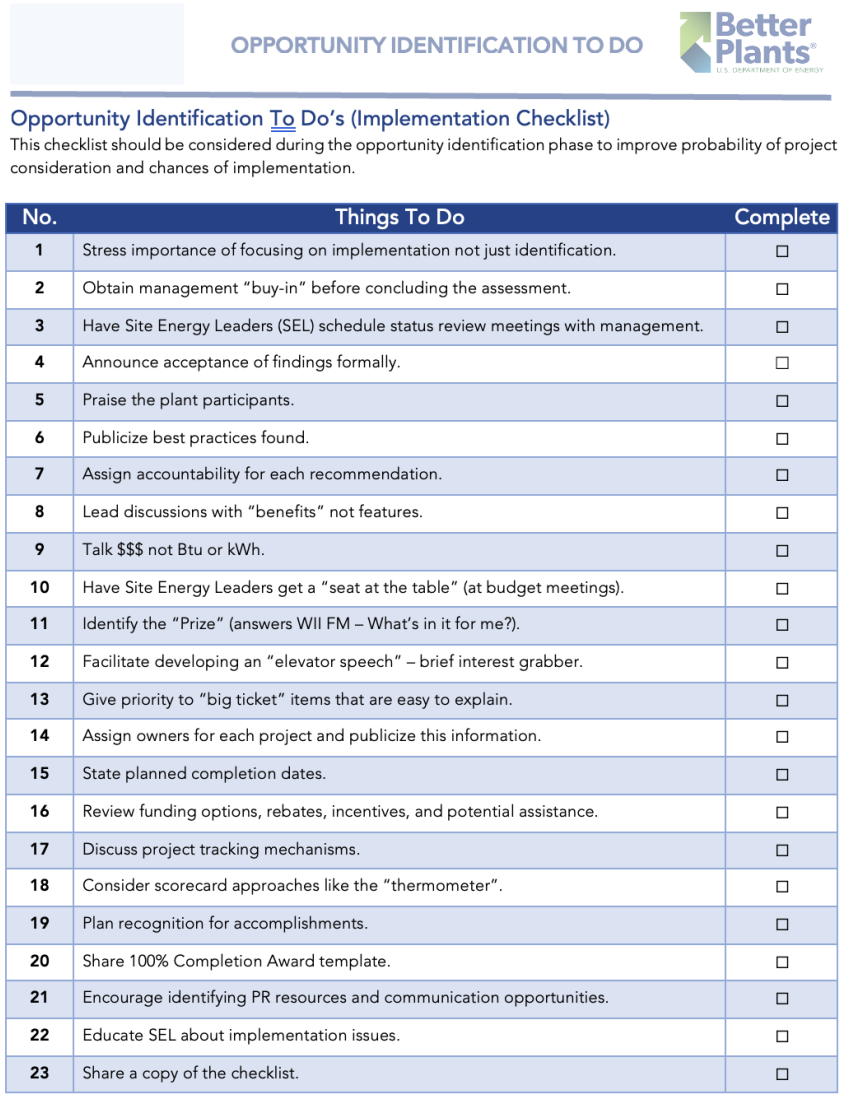
Visuals are processed 60,000 times faster than text by the human brain and 90% of information transmitted to the brain is visual…. Images act like shortcuts to the brain: we are visual creatures, and we are programmed to react to visuals more than to words.

— **Ekaterina Walter**


Stop using
bullet points
— and start
visualizing
TED

Example Resource: Implementation Checklist

- Review the checklist before and after assessments
- Complete the checklist with team & Site Energy Leader



OPPORTUNITY IDENTIFICATION TO DO

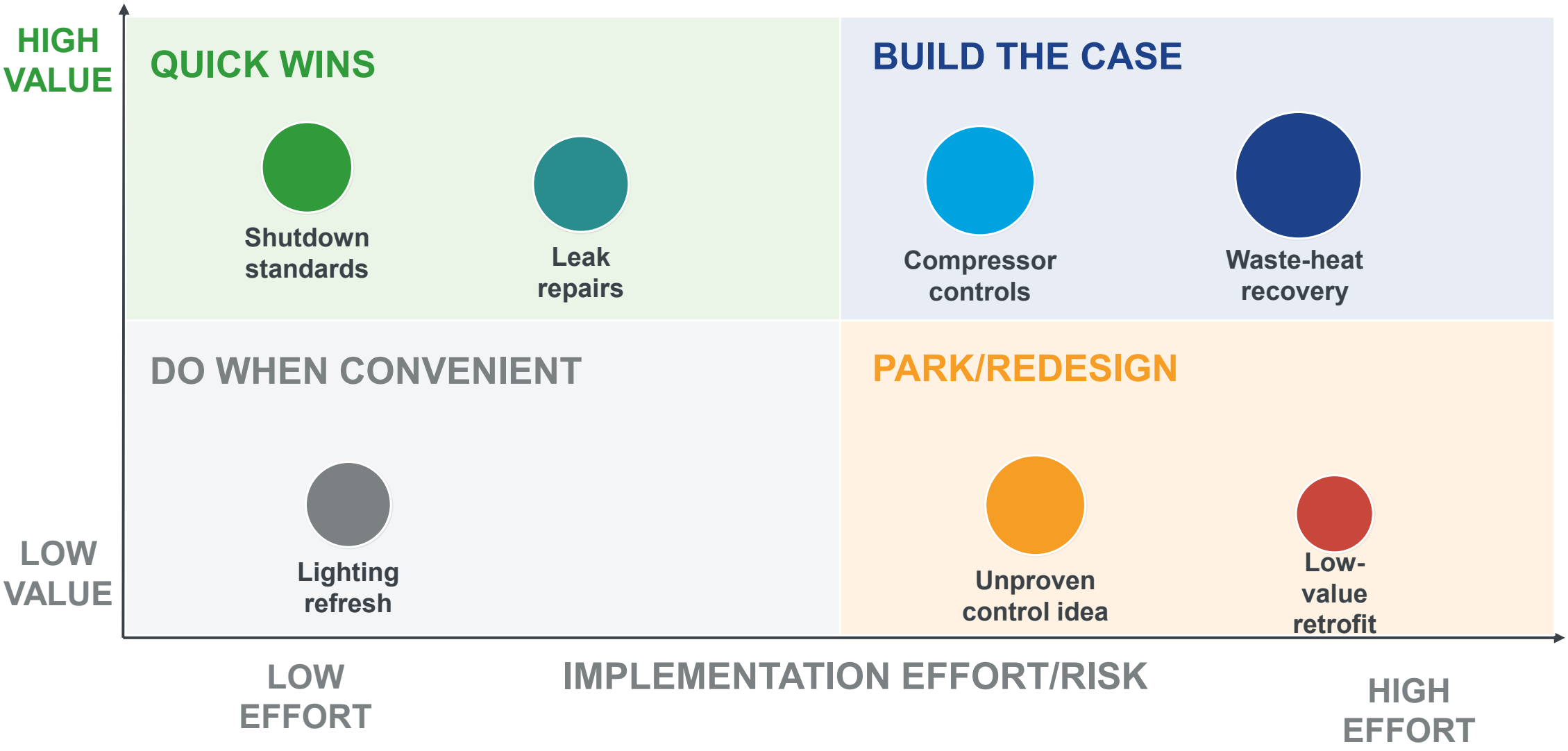
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Opportunity Identification To Do's (Implementation Checklist)

This checklist should be considered during the opportunity identification phase to improve probability of project consideration and chances of implementation.

No.	Things To Do	Complete
1	Stress importance of focusing on implementation not just identification.	☐
2	Obtain management "buy-in" before concluding the assessment.	☐
3	Have Site Energy Leaders (SEL) schedule status review meetings with management.	☐
4	Announce acceptance of findings formally.	☐
5	Praise the plant participants.	☐
6	Publicize best practices found.	☐
7	Assign accountability for each recommendation.	☐
8	Lead discussions with "benefits" not features.	☐
9	Talk $$$ not Btu or kWh.	☐
10	Have Site Energy Leaders get a "seat at the table" (at budget meetings).	☐
11	Identify the "Prize" (answers WII FM – What's in it for me?).	☐
12	Facilitate developing an "elevator speech" – brief interest grabber.	☐
13	Give priority to "big ticket" items that are easy to explain.	☐
14	Assign owners for each project and publicize this information.	☐
15	State planned completion dates.	☐
16	Review funding options, rebates, incentives, and potential assistance.	☐
17	Discuss project tracking mechanisms.	☐
18	Consider scorecard approaches like the "thermometer".	☐
19	Plan recognition for accomplishments.	☐
20	Share 100% Completion Award template.	☐
21	Encourage identifying PR resources and communication opportunities.	☐
22	Educate SEL about implementation issues.	☐
23	Share a copy of the checklist.	☐

Do not dump a list on management - PRIORITIZE



Make opportunities actionable

ILLUSTRATIVE PROJECT PIPELINE

Project/action	Annual value	Net cost	Payback	Owner	Next milestone	Status
Weekend shutdown standards	$42k	$5k	0.1yr	Operations	Pilot one area	GREEN
Compressed-air controls	$95k	$120k	1.3yr	Utilities engineer	Validate demand	YELLOW
Boiler O_2 trim and tuning	$68k	$90k	1.3yr	Maintenance	Firm quote	YELLOW
Waste-heat recovery study	$180K	$700k	3.9yr	Process engineer	Feasibility gate	RED

Named owner | Scheduled milestone | Net cost and value | Visible status | Next decision

Project Implementation Scorecard

Assessment Project Implementation Scorecard

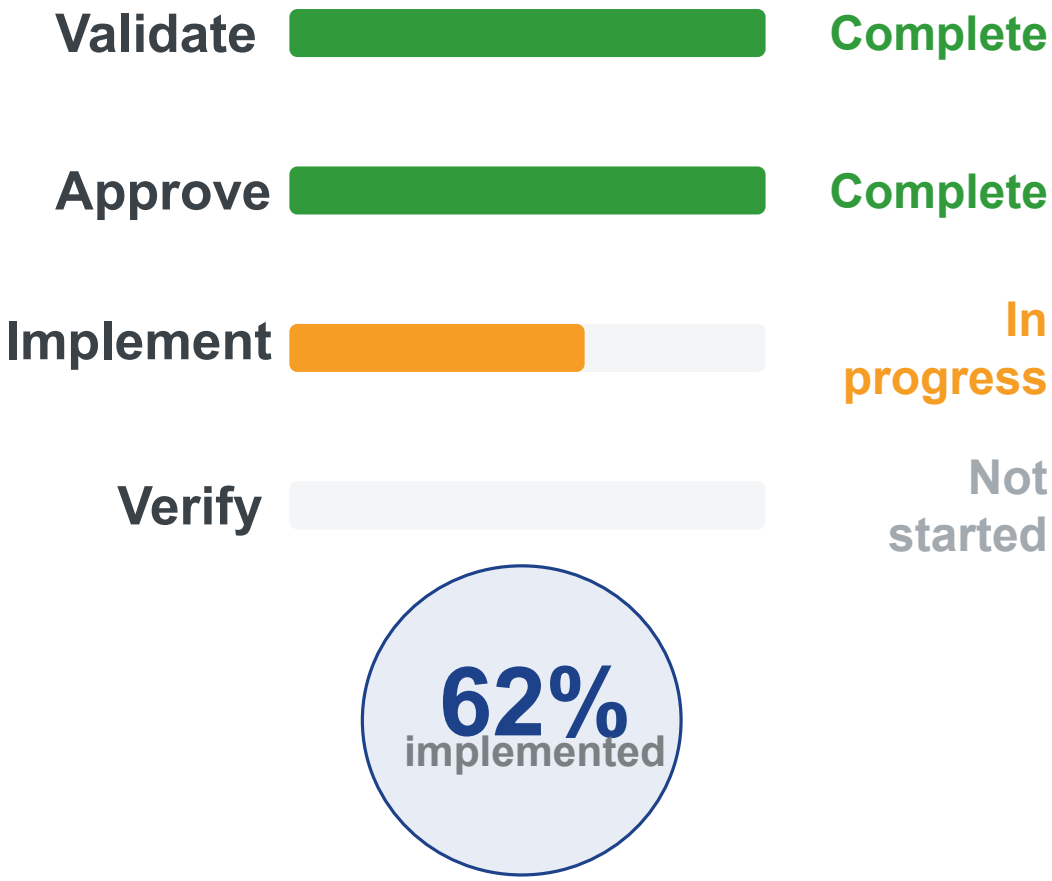
Key:

ON TIME	GRACE PERIOD (DAYS)	LATE
	10	

Project Description	Subtask	Project Manager	STATUS: Initial Assesment Due/Completed	Project Submitted Due/Completed	Project Implemented Due/Completed	Project Follow-Up and Verification Due/Completed
Steam System Repair		Joe Low	9/1/2009	10/1/2009	12/31/2009	1/31/2009
			9/12/2009	10/3/2009	10/4/2009	10/5/2009
			10/6/2009	10/3/2009	10/4/2009	10/5/2009
			10/10/2009	10/14/2009	10/12/2009	10/13/2009
			10/10/2009			
			10/10/2009	10/11/2009	10/12/2009	10/13/2009
			10/10/2009	10/11/2009	10/12/2009	10/13/2009

Track, report, and keep the topic hot

SIMPLE PROJECT TRACKER



REPORTING CADENCE

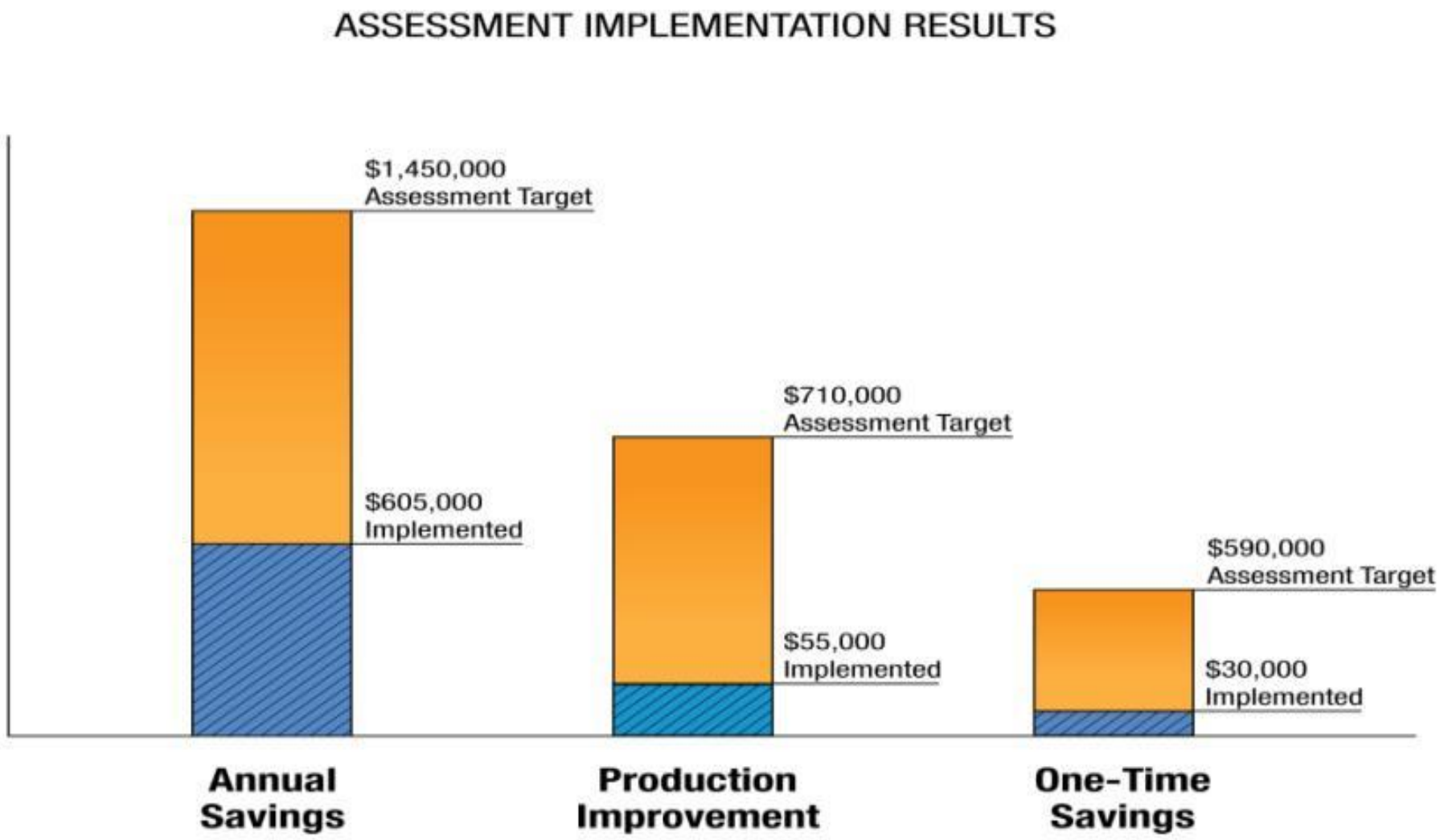
WEEKLY
Actions, barriers, decisions, and next milestones

MONTHLY
Financial status, implementation status, and verified results

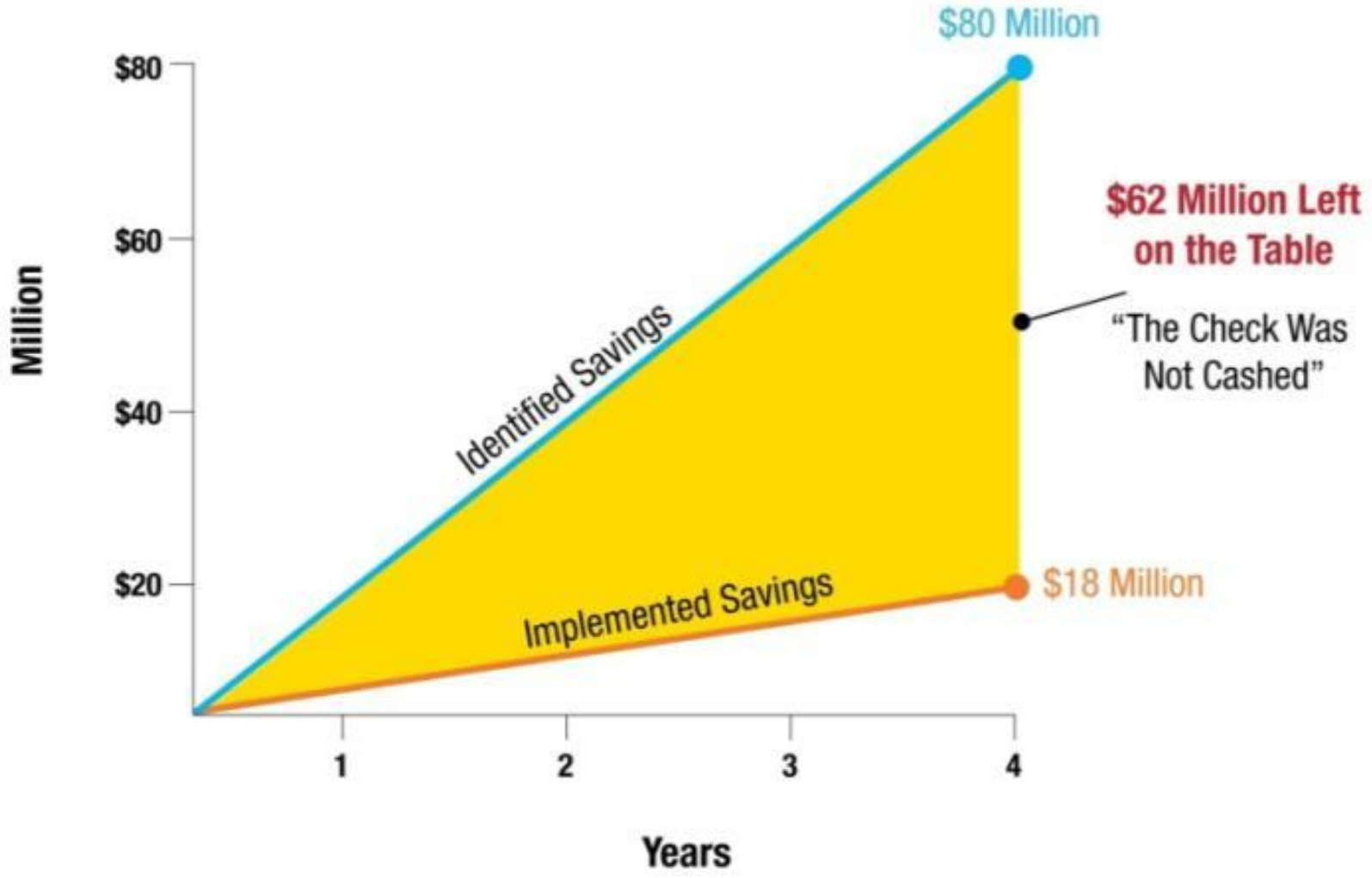
QUARTERLY
Cumulative value, lessons, recognition, and replication

"Publish or perish." Report implemented value and give credit.

Project Implementation Thermometer Graph



Leaving Money on the Table



100% Implementation Completion Award



Building the Case

FEAR = Funny Emotion Around Risk

Anatomy of a Decision-Ready Business Case

Problem/ opportunity

What operating or cost condition should change?

Recommended action

What should the organization do—and why this option?

Value and return

Annual value, net cost, payback, and company financial measures.

Operational benefits

Reliability, throughput, safety, quality, capacity, or risk.

Risks and mitigations

What can go wrong—and how will the team control it?

Owner and resources

Named owner, labor, contractor, production access, and support.

Schedule and milestones

Target dates, decision gates, and installation window.

Verification and ask

How results will be accepted—and the decision needed now.

Get Others in the Boat

- Finance
- Operations
- Procurement
- IT/ Cybersecurity
- Health and Safety
- Communications
- Maintenance
- Corporate Leadership



A business case is stronger when non-energy groups help write it.

One-Page Business Case Template

ENERGY PROJECT BUSINESS CASE

Decision requested: _____

1 BUSINESS PROBLEM/OPPORTUNITY

Current condition • cost/risk • why it matters now

2 RECOMMENDED ACTION

Selected option • scope • why this option

3 VALUE AND FINANCIALS

Annual value • net cost • payback/NPV/IRR • incentives

4 OPERATING BENEFITS

Reliability • throughput • safety • quality • capacity • risk

5 RISKS AND MITIGATIONS

Production • technical • safety/quality • savings uncertainty

6 OWNER, RESOURCES, SCHEDULE

Owner • people/contractor • milestones • production window

7 VERIFICATION + NEXT DECISION DATE:

_____

ONE-PAGE BUSINESS CASE Example

Compressed-air controls optimization

LOSS AVOIDANCE / SAVINGS
$95,000 / year

SIMPLE ROI
79% / year

ENERGY PROJECT BUSINESS CASE

DECISION: APPROVE $120,000 NET INVESTMENT

1 BUSINESS PROBLEM / OPPORTUNITY

Six-week logging found 115 psig pressure and a 12-second trim band associated with artificial demand. Excess runtime adds cost and can destabilize pressure at critical users.

2 RECOMMENDED ACTION

Optimize sequencing and reset pressure to the minimum validated for production. Match supply to demand while maintaining critical-user requirements.

3 VALUE AND FINANCIALS

Savings: $95,000/year.
Gross cost: $140,000 less assumed $20,000 incentive = $120,000 net.
Payback: 1.26 years (~15 months). **Simple ROI: 79%/year. NPV: +$517,000**.*

4 OPERATING BENEFITS

Expected: **steadier critical-user pressure**, lower compressor runtime, and improved reliability. **Safety and quality** limits stay unchanged. No throughput or capacity value is claimed before verification.

5 RISKS AND MITIGATIONS

Operations/Maintenance review complete.
Production: approved window + rollback.
Pressure: minimum limits + alarms.
Savings: normalize 30-day post-install power/flow against the six-week baseline.

6 OWNER, RESOURCES, SCHEDULE

Owner: Utilities Engineer | Support: Operations, Maintenance, controls contractor

IMPLEMENTATION TIMELINE

- Wk 1–2: PO + design
- Wk 3–6: build + test
- Wk 7–9: install in approved window
- Wk 10–12: tune + verify

7 VERIFICATION + NEXT DECISION DATE

Trend pressure, flow, and compressor kW for 30 days after startup; confirm savings with Finance. Next decision: release PO by [date]. **Review results in 2 months.**

*Illustrative training estimates. NPV assumes a 10-year life, 8% discount rate, level year-end pretax savings, and no residual value.

Make it Count

Don’t fear the C-suite…

How will your idea make it easier to manage the organization and make it more valuable?

Opening Scenario: You have 60 Seconds with the Plant Manager

An assessment identified 18 opportunities. You want approval to validate one compressed-air project.

A Technical first

The system runs at 115 psig, and the sequencer has a 12 s trim-band response with significant artificial demand.

B Vague opportunity

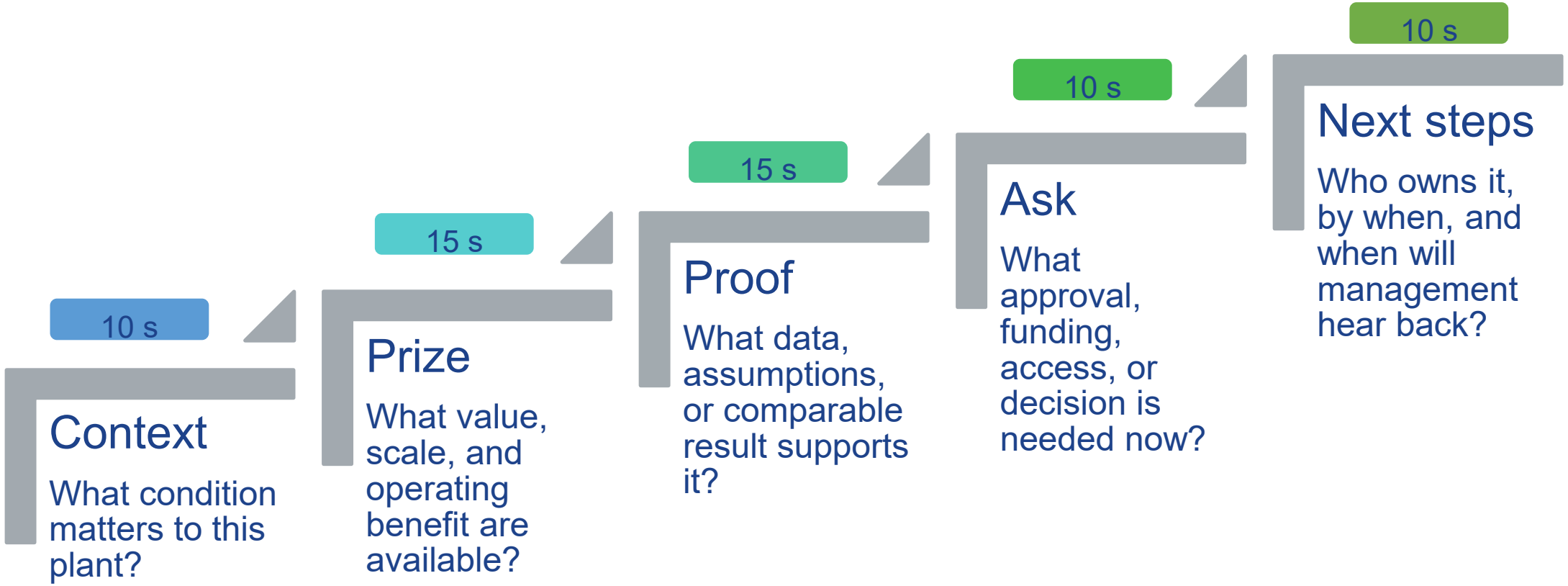
The assessment found significant savings in compressed air. We should probably do something about it.

C Decision ready

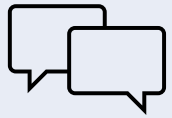
One low-risk project can save about $95k per year, needs about $120k net investment, and has an estimated 79% ROI. We need approval for a 2-week validation.

Which opening earns another 5 minutes—and why?

Build the 60 second elevator speech



A 60 second pitch: compressed-air pressure optimization



"Operations and maintenance identified a compressed-air pressure and control opportunity during the plant assessment. Based on 6 weeks of logged demand and current utility rates, the project is expected to save about $95,000 per year and reduce pressure variability at critical users. The estimated net cost after the available incentive is $120,000, giving a 79% return on investment. We are asking for approval to complete a 2-week production-risk review and obtain a firm quote. [Name] will own the next step and report back by [date]."

Credits the team
No "what I did."

States the value
Annual savings, net cost, and payback.

Shows evidence
Logged data, rates, and operational benefit.

Manages risk
Requests a production-risk review.

Closes with action
One approval, one owner, one date.

Practice: Build an audience-fit 60-second message

1. **AUDIENCE/WII-FM**
   What outcome are they responsible for protecting?

2. **VERIFIED LOSS**
   What is the credible cost of waiting or continuing?

3. **BENEFIT IN THEIR LANGUAGE**
   Cash, uptime, quality, workload, risk, or reliability?

4. **PROOF + RISK CONTROL**
   What evidence, pilot, range, owner, and stop rule?

5. **SPECIFIC ASK**
   What decision or next step is needed now?

Choose one real project and write the first 60 seconds for one audience.

Audience and protected outcome: _____

Cost of delay/continuing loss: _____

Benefit in their language: _____

Proof and risk control: _____

Specific ask: _____

ONE PROJECT • ONE FACT BASE • MULTIPLE VALID ENTRY POINTS

Utilize Peer Proof, Feedback, and Recognition

PEER PROOF **“A plant in Georgia did this safely.”**

Reduces uncertainty and makes the desired action feel normal and credible.

VISIBLE FEEDBACK **“We can see progress every week.”**

Turns an abstract annual target into a short-cycle operating signal.

RECOGNITION **“This is the behavior the organization values.”**

Signals priority, gives credit, and helps successful practices spread.



Recognition becomes a visible social signal.

It tells employees which outcomes and behaviors are worth repeating—and gives peers a credible example to follow.

Caution: Do not normalize waste by allowing “It’s always been done this way.” Normalize the desired behavior and recognize it.

Research: Schultz et al. (2007)

NOW—Will you cash the check?

How much is on your table?



Thank you!

Better Plants website:

http://betterbuildingssolutioncenter.energy.gov/better-plants

https://bptraining.ornl.gov/

Homework - Practice the conversation and leave with a next step

10 MINUTE PRACTICE

1. Select one project that needs a management decision.
2. Complete the one-page business case.
3. Deliver the 60s pitch to a partner.
4. Partner challenges one assumption or risk.
5. Revise the ask, owner, and next date.

MANAGEMENT CONVERSATION

BEFORE

- Know the audience and approval criteria
- Validate value, risk, owner, and ask

DURING

- Lead with benefits and one to three priorities
- Listen, answer the real concern, and confirm the decision

AFTER

- Document owner, next date, and required evidence
- Update the tracker and communicate the result

One project. One decision. One owner. One next date.

BETWEEN NOW AND OUR FINAL SESSION

Homework Capstone: share one project

Choose an energy project or opportunity from your facility and prepare a short slide deck to share what you have learned.

THE ASSIGNMENT

Bring one project from opportunity to a clear management decision.

A FEW IDEAS TO INCLUDE

1 The project

- What is the opportunity or problem?
- Why does it matter to your facility?
- What change are you considering?

2 The value

- Energy and other expected benefits
- A simple estimate of cost and savings
- Next steps, questions, or feedback you would value

Use ideas from the series where they help: corporate energy programs, JUSITIFI for multiple benefits, and simplified techno-economic analysis.

FOR NEXT WEEK

A simple 6–8 minute presentation

Share your project, the value you see, and what you are still thinking through.

ONE POSSIBLE FLOW

01	**The project**	What is the opportunity and where does it fit?
02	**The benefits**	What energy savings and other business benefits are expected?
03	**The numbers**	What cost savings and other business benefits are expected?
04	**Making it happen**	What next steps, ownership, timing, and what risks are you considering?
05	**Your takeaway**	What would you like the group to understand or help you think through?

A few friendly reminders

- Your project does not need to be fully designed.
- Estimates are fine. Say what you assumed.
- Use JUSITIFI or financial tools where useful.
- What could prevent implementation, and how would you manage it?

We'll have about 6–8 minutes for each presentation, with time to learn from one another.