Finding the right energy management information system (EMIS) entry point

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By the end of this workshop, you will be able to:

Assess your current state and desired end state for EMIS adoption

Identify key gaps and opportunities relative to the desired end state

Develop a practical pathway with a feasible entry point

Follow along in the Participant Workbook!

Have the workbook open or printed out

Where to find the workbook:

- Click the link in the chat

- Download a copy to your computer

- Open and follow along

Watch for this icon to help follow along
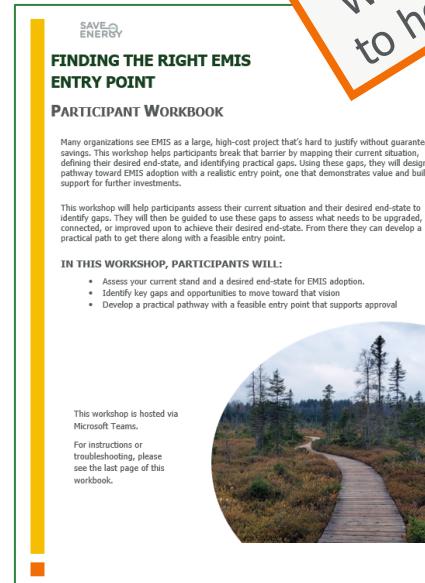
FINDING THE RIGHT EMIS ENTRY POINT

PARTICIPANT WORKBOOK

Many organizations see EMIS as a large, high-cost project that's hard to justify without guaranteed savings. This workshop helps participants break that barrier by mapping their current situation, defining their desired end-state, and identifying practical gaps. Using these gaps, they will design a pathway toward EMIS adoption with a realistic entry point, one that demonstrates value and builds support for further investments.

This workshop will help participants assess their current situation and their desired end-state to identify gaps. They will then be guided to use these gaps to assess what needs to be upgraded, connected, or improved upon to achieve their desired end-state. From there they can develop a practical path to get there along with a feasible entry point.

IN THIS WORKSHOP, PARTICIPANTS WILL:

- Assess your current stand and a desired end-state for EMIS adoption.
- Identify key gaps and opportunities to move toward that vision
- Develop a practical pathway with a feasible entry point that supports approval

This workshop is hosted via Microsoft Teams.

For instructions or troubleshooting, please see the last page of this workbook.

Why finding the right entry point matters

Same destination, different starting points

Building momentum starts with understanding where your organization is ready to act.

Case 1: full EMIS installation

- High potential, high resistance

- Comprehensive EMIS design

- Full facility integration, dashboards, analytics

- Estimated cost: $500,000

- Projected savings: uncertain at proposal stage
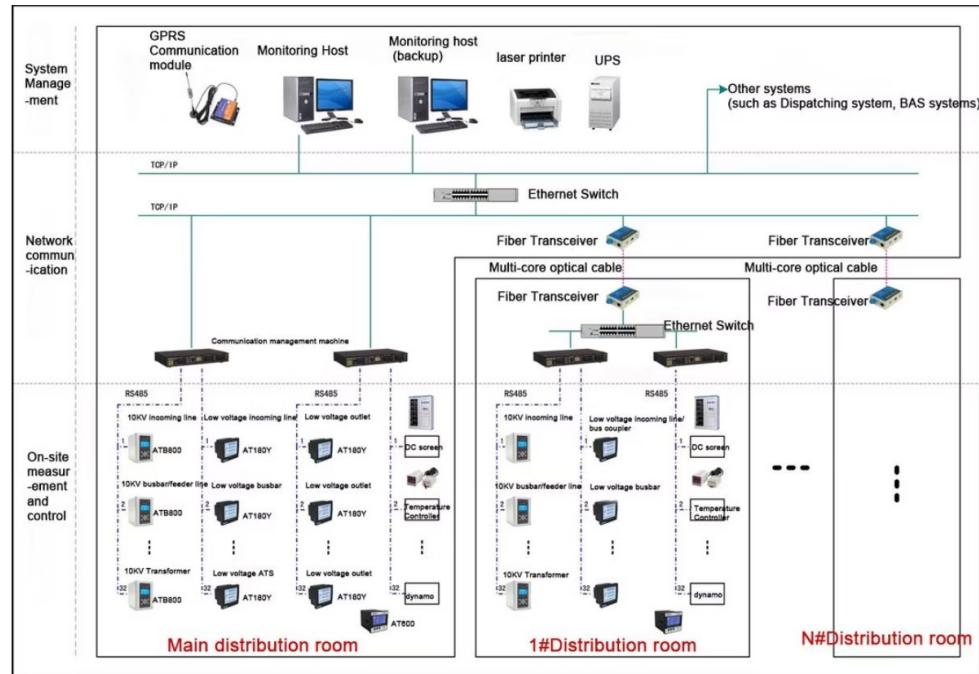
Image source: HANGZHOU ANTIN Technology

Case 2: limited submetering as a strategic first step

- Targeted loggers of significant energy users

- Investment: $10,000

- Manually collecting data

Image source: AEMC Instruments

Two different paths, same destination

Full EMIS approach

- Broad scope and high cost

- May face pushback if return on investment (ROI) uncertain

- Immediate full visibility

- Early discovery of energy savings and non-energy benefits

- High implementation complexity

- Strong executive mandate

Entry point approach

- Focused scope, lower cost

- Easy approval due to clear purpose

- Phased visibility that grows with success

- Low risk, fast to show value

- Builds mandate through proven results

Mapping your EMIS maturity to determine your current state

EMIS maturity spectrum

You
are
here(?)

| Manual | Partial | Integrated | Automated |

The five aspects of EMIS

Metering

Data collection

Analysis

Reporting

Communication

Rate your current state

Current state

Metering

Data collection

Analysis

Reporting

Communication
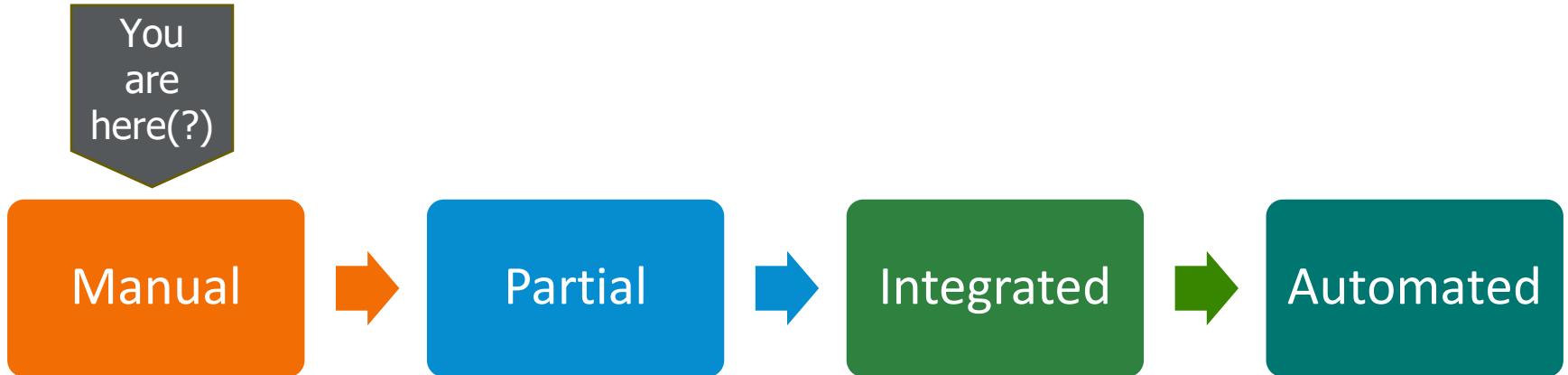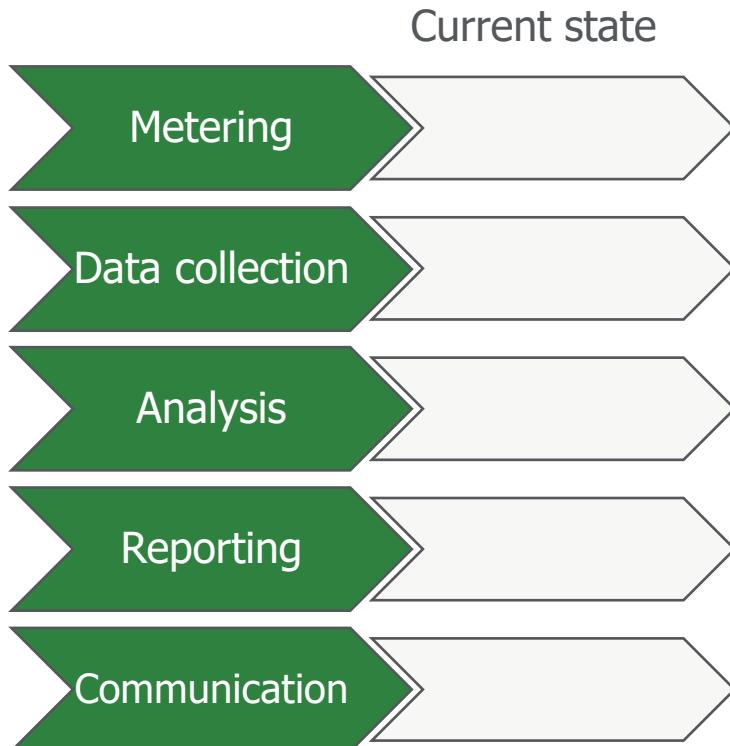
Define desired end-state vision

Desired end-state vision

Current state → Desired end state

EMIS vision should support your organization's priorities

- What features do you want?

- What impact should it have?

- How will it be aligned with organizational goals?

Financial

Operational

Strategic

Compliance

ESG

Organizational priorities

What does an EMIS vision look like in practice?
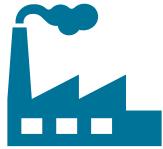
- Identify efficiency opportunities
- Improve reliability by supporting predictive maintenance
- Support ISO 50001 compliance

- Integrate with a building automation system (BAS) to maintain comfort
- Verify performance of efficiency measures like setbacks, occupancy controls, etc.
- Automatically report performance to management

- Track energy intensity of all buildings
- Support maintenance efforts
- Engage staff and students and integrate with academia

Example of current and desired end state

	Current state	Desired end state
Metering	One main utility meter	Submeters on all major energy systems
Data collection	Monthly manual entry	Automated daily uploads
Analysis	Spreadsheet trend checks	Built-in performance analytics
Reporting	Ad-hoc Excel reports	Standard dashboards for all departments
Communication	Informal updates	Structured monthly reviews with actions

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Your desired end state across the five aspects

|	Current state			Desired end state
Metering				
Data collection				
Analysis				
Reporting				
Communication				
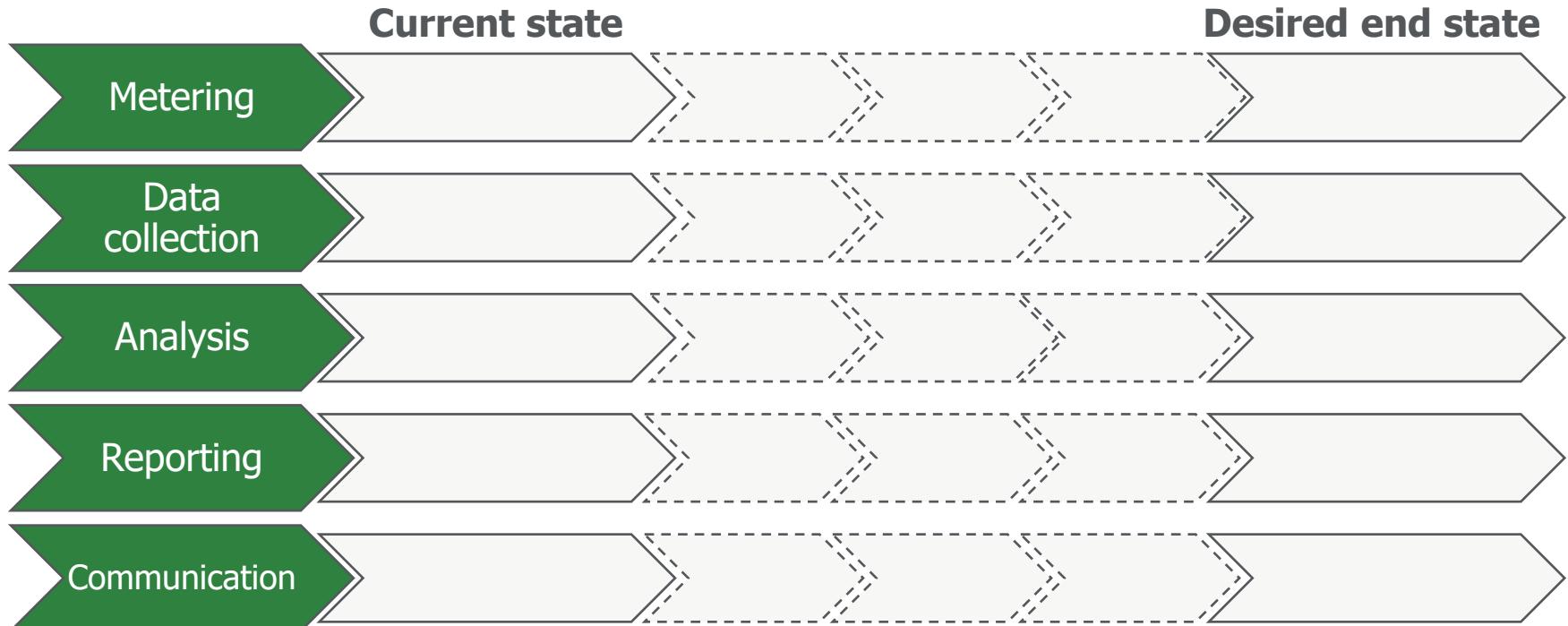
Identifying and prioritizing gaps

Three types of EMIS gaps

Gaps to be addressed to reach
desired end state

| Current state | Upgrade infrastructure | Connect systems | Improve processes | Desired end state |
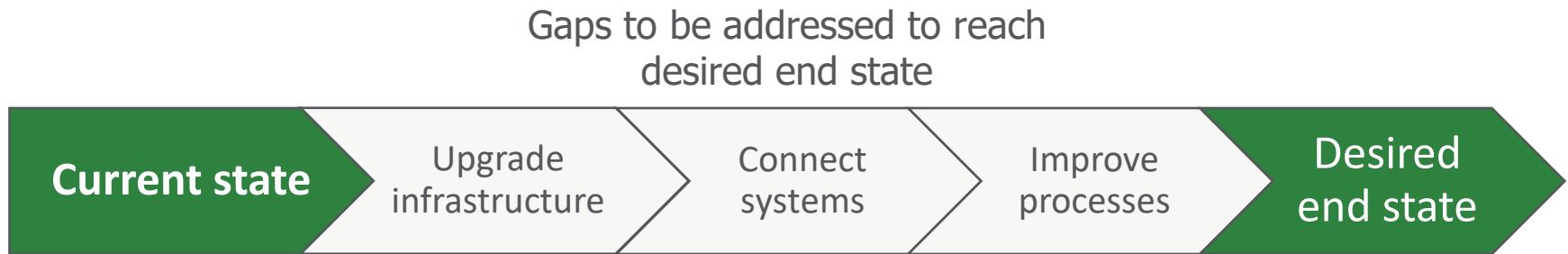
Visualizing gaps - example

	Upgrade infrastructure	Connect systems	Improve processes
Metering	Add submeters on significant energy users (SEUs)	Integrate with data gateway	Standardize naming conventions
Data collection	Add data loggers	Link data feeds to EMIS	Define data review schedules
Analysis	Use analytics software	Connect production + energy data	Train staff in data interpretation
Reporting	Add dashboard tools	Auto-generate performance reports	Improve format and clarity
Communication	Display results on site	Share across teams	Add regular review meetings

Visualizing gaps

	Upgrade infrastructure	Connect systems	Improve processes	Desired end state
Metering				Desired end state
Data collection				Desired end state
Analysis				Desired end state
Reporting				Desired end state
Communication				Desired end state

Prioritizing which gaps to address first
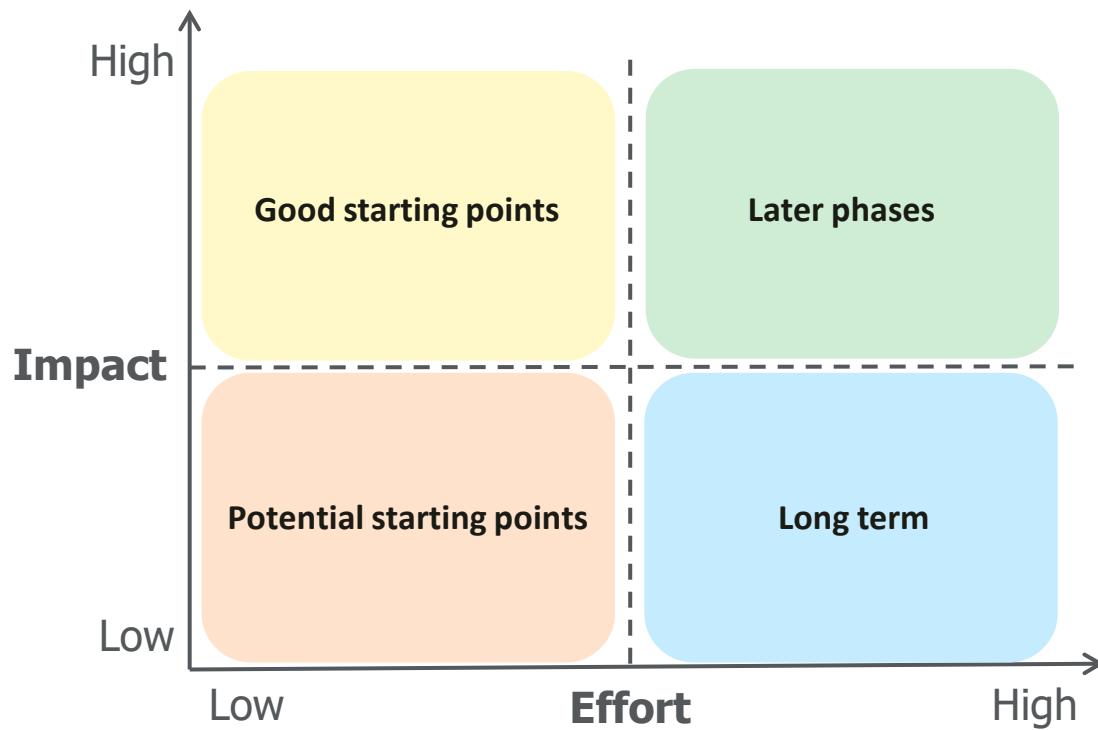
Feasible entry point projects to overcome barriers

What makes a strong entry point project
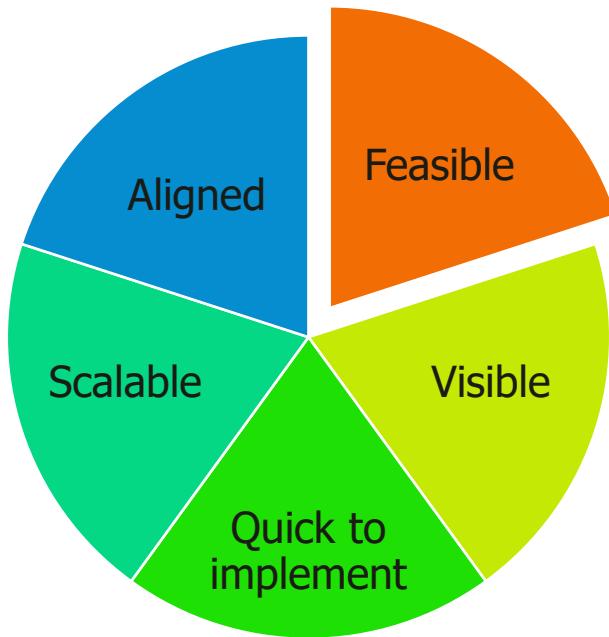
Evaluate your entry point project options

	Yes	No
Can it be implemented with a limited budget?	☐	☐
Does it support existing priorities?	☐	☐
Does it build toward the desired end state?	☐	☐
Will it quickly deliver noticeable results?	☐	☐
Is it likely to get buy-in?	☐	☐

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Leverage incentives to strengthen your case

Expanded Energy Management Program

Energy management information systems (EMIS): Industrial facilities can receive funding up to $250,000 for the installation of an energy management system.

Case study: Automotive manufacturing facility

EMIS pathway

Progressing toward desired end state

Linking systems for shared data and automated trend reporting

Manual	Partial	Integrated	Automated

Basic data collection and reporting, perhaps expanding submetering

Real-time dashboards, alerts and performance analytics
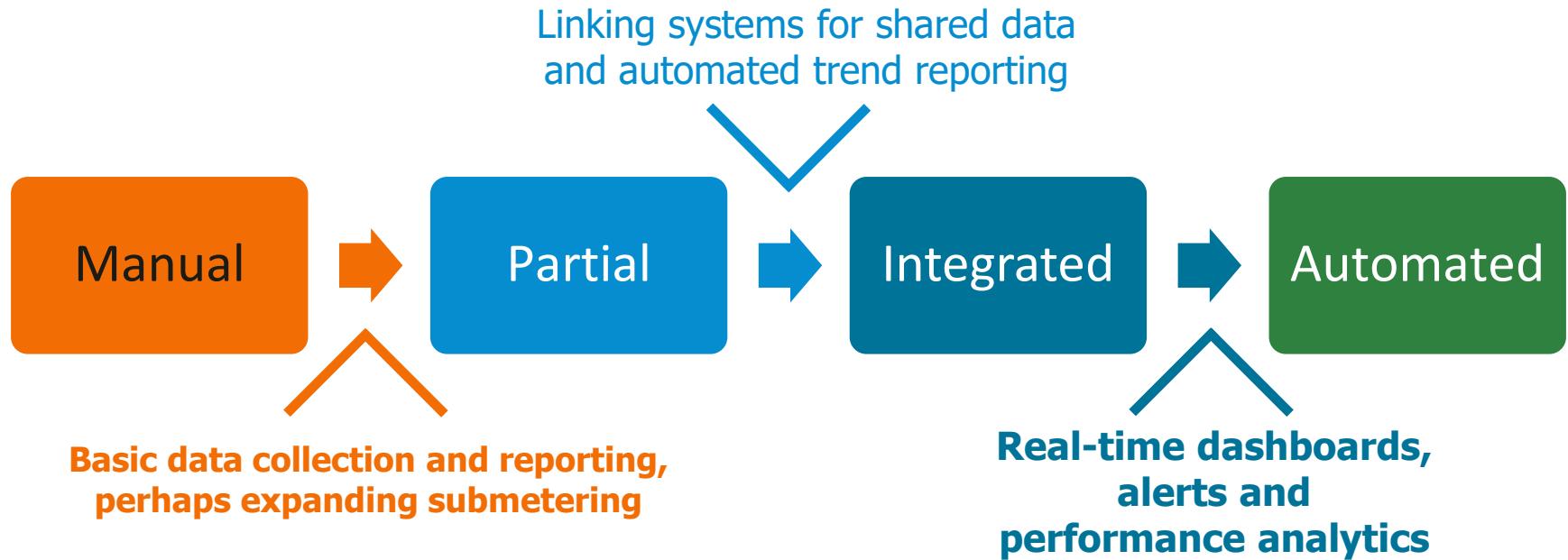
Futureproofing your pathway - 1

Metering
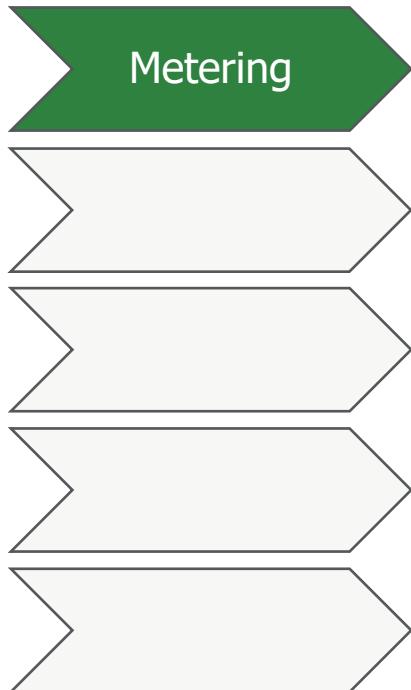
- Choose meters that support one or more open, widely supported communication protocols

- Select meters with expandable/upgradeable features:

  - Multiple parameters
  - Upgradeable communications
  - Onboard logging

- Standardize device naming

Futureproofing your pathway - 2

Data collection

- Design your communications backbone now
- Plan for a central data-collection layer
- Coordinate early with your IT team
- Keep detailed records

Futureproofing your pathway - 3

Analysis

- Store data locally (until cloud EMIS is chosen)

- Choose consistent intervals (e.g. 15 second or 1 minute) and synchronize all devices via Network Time Protocol/UTC time stamps

- Archive raw interval data and aggregated data

- Collect all necessary data to achieve desired outcomes

- Implement data quality flags

Futureproofing your pathway - 4

Reporting

- Set up standard reports for different audiences

- Develop reporting plans that detail audience, frequency, report format and responsible persons

- Avoid closed or proprietary systems

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Futureproofing your pathway - 5

Communication
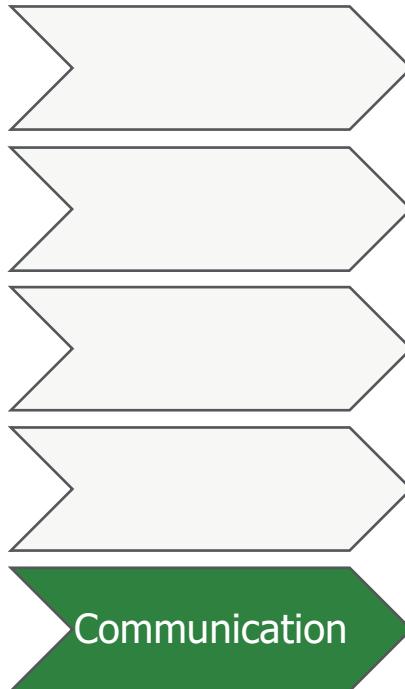
- Plan how insights will drive action

- Identify desired actions and the data and analysis needed to support them

- Get input from stakeholders on what would be useful to them as the system grows

Success factors for scaling

Avoid closed or proprietary systems

Involve IT early

Implement strong documentation and ownership

Ask vendors about integration options early

Include future connectivity in your request for proposal (RFP) language
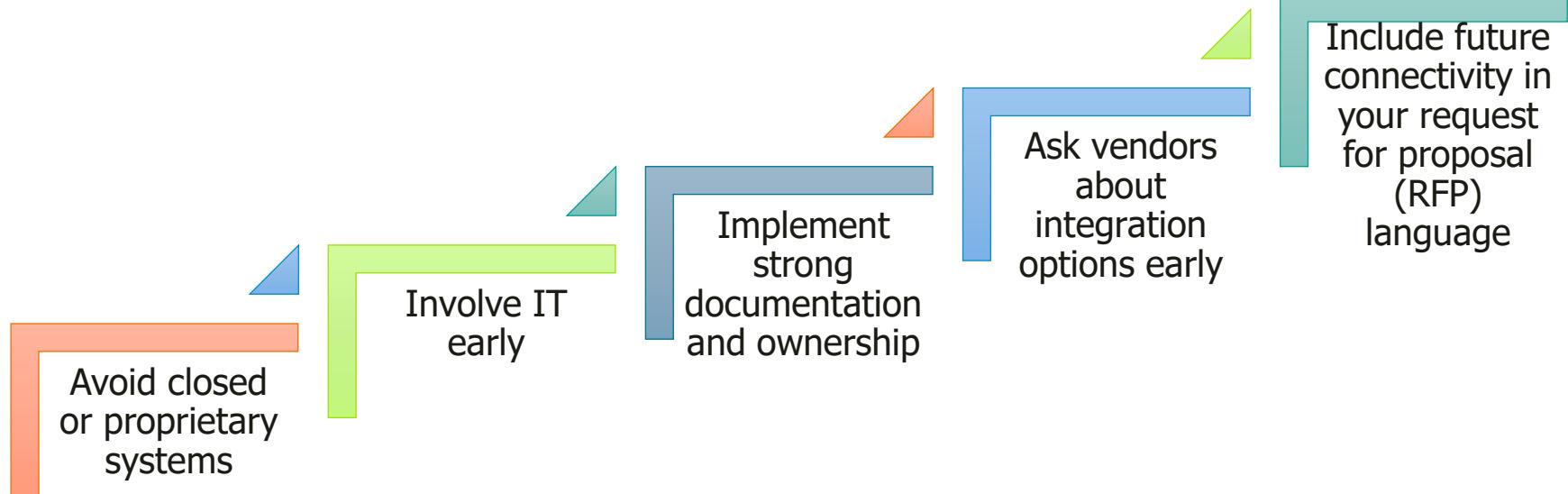
Building support

Identify key decision-makers and champions

Tailor your message: finance cares about ROI, operations care about uptime, executives care about visibility

Use simple visuals to communicate progress (e.g. maturity diagrams or dashboards)
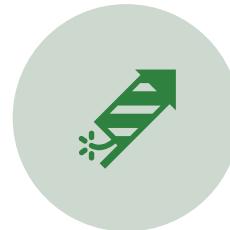
Celebrate pilot successes to build buy-in

Call to action

Start small. Align big. Scale smartly.

What is one specific action you'll take in the next 30 days to move your EMIS forward?

Stay connected with tools and resources

- Virtual one-on-one coaching: <u>post-webinar support intake form</u> for tailored support for organizations to manage energy resources effectively

- Monthly bulletin: <u>sign up</u> to receive monthly training updates on all Save on Energy training and support for new tools and resources

- <u>Live training calendar</u>: visit this page to easily register for upcoming events and workshops

- <u>Training and support webpage:</u> visit this page to access all training and support materials

Energy management information system (EMIS) incentives

✓ Industrial facilities can receive funding of up to $250,000 for the installation of an EMIS.

✓ An EMIS is designed to provide organizations with energy-related data and insights to effectively manage energy use.


EMIS incentive *

Benefits of participating in a program that funds EMIS
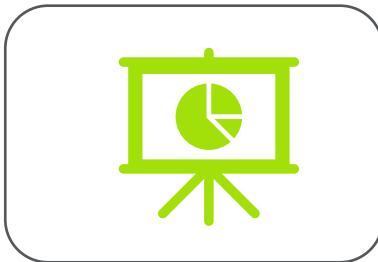
50% of project costs

- Equipment
- Third-party installations
- Prepare project measurement and verification (M&V) plan

Reducing energy costs

- Improve budgeting and forecasting
- Identify areas of cost reduction

Improving performance

- Improve target setting
- Enhance analytics capability
- Identify energy waste

Accountability

- Increase awareness of energy consumption
- Monitoring performance against benchmarks and key performance indicators (KPIs)

Join the energy management community!

Get access to:

- **Online training**, courses and other resources to learn how to improve energy management practices

- An **online discussion forum** to connect with peers and experts

- **Peer discussion groups** and meet-ups to share experiences and discuss challenges

- **Small group coaching** sessions to get guidance from experienced energy coaches

Registration is free!

For more information:
trainingandsupport@ieso.ca

THE
ENERGY
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PLAYBOOK

"I was listening to an episode on my way home from work and I had to turn it off because I was getting too many ideas that I wanted to listen to it at home where I could take notes."

-Allison

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