NOVEMBER 4, 2025

Save on Energy Business Program Suite
2025 Fall Webinar Series

Overview of the business program suite

Aja Staples

Advisor, Custom Business Program Performance

Power System Development

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SAVE ON ENERGY POWER WHAT'S NEXT

SOE Business Program Suite: Province-wide Programs

	All Businesses			Medium to Large Businesses			Small Businesses	
	Retrofit Program	**Instant Discounts Program (IDP)**	**Energy Performance Program (EPP)**	**New Industrial Program**	**Existing Building Commissioning Program (EBCx)**	**Expanded Energy Management Program (EEM)**	**Peak Perks Program**	**Small Business Program (SBP)**
Offer	Incentive	Point of Sale Discount	Incentive	Incentive	Incentive	Incentive + training	Incentive	Direct Install
Benefits	• Incentives for upgrades covering ≤50% of eligible project costs	• Discounted lighting upgrades at point of sale	• Performance Incentives: • $0.15/kWh for summer peak savings • $0.04/kWh for off-peak savings	• up to $15 million Incentives for each large industrial project	• Investigation incentives ≤$0.06/sq ft • Implementation incentives ≤$0.03/kWh • Persistence incentives ≤$0.03/kWh	• EM Training • $0.02/kWh Saving Incentives • ≤$5,000 Milestone Incentives • ≤$100k/year for hiring Energy Manager • ≤$250k to install EMIS	• $75 prepaid virtual Mastercard® upon enrolment • Additional $20 virtual prepaid Mastercard® each year of participation	• ≤$3,000 in lighting upgrades • ≤$2,500 in non-lighting upgrades

Existing Building Commissioning Program (EBCx)

Eligibility

- At least 12 consecutive months of energy data
- Annual electricity use of at least **750,000 kWh**
- Up to **$150,000** in incentives for hiring qualified providers to recommission buildings
- Must use authorized Commissioning Provider

How it works The program includes 3 incentive phases:

Investigation	Implementation	Persistence
• Up to **$0.06/sq ft**, max $50,000 or 75% of costs	• **$0.03/kWh** of confirmed energy savings, up to 30% of annual use or $50,000	• **$0.03/kWh** of persisting savings, up to 30% of annual use or $50,000

Program Website

Commercial

Government / Institutional

Industrial / Manufacturing

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Energy Performance Program (EPP)

A comprehensive program for customers managing their energy use actively; rewards businesses for achieving measurable energy savings over time.

Ideal for organizations that want flexibility in how they save energy, and who are ready to track those savings at the facility level.

Program Website

Benefits

- EPP portal: customer no longer has to develop baseline energy model and annual savings report
- incented for the savings **each year over 3 years**
- **$0.15/kWh** incentive for electricity savings during summer peak hours and **$0.04/kWh** for off-peak

Commercial

Government / Institutional

Industrial / Manufacturing

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Retrofit Program

Businesses can upgrade equipment with financial incentives to help reduce energy use and costs and improve productivity.

Program Website

Benefits

- Covers up to **50% of eligible project costs**
- **Prescriptive Stream:** streamlined incentives for commonly used products suitable for typical equipment upgrades (e.g., lighting controls, HVAC, solar PV)
- **Custom Stream:** $1,800/kW or $0.20/kWh for complex, non-standard projects

Key Measures

- Variable speed drives, compressed air, motors

Agricultural

Commercial

Government / Institutional

Industrial / Manufacturing

Multi-family Building

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Retrofit Program – Solar DER Rooftop Solar PV

Now Available Across Ontario

Prescriptive incentives covering up to 50% of eligible project cost for load displacement-only Solar Photovoltaic (PV) rooftop generation including:

1. **Micro-generation** projects up to **10 kW**-DC are eligible for **$1,000/kW-DC**
2. **Small/medium** generation projects greater than **10 kW-AC up to 1 MW**-AC are eligible for **$860/kW-AC***

*Projects > 1 MW-AC are eligible, but the incentive is capped at 1 MW-AC

Instant Discounts Program (IDP)

Receive upfront discounts from participating distributors on the purchase of energy-efficient lighting products.

Program Website

Benefits

- Instant, point-of-sale discounts on energy-efficient lighting
- No paperwork or waiting — just buy and save

Key Measures

- High/Low Bay Fixtures, Linear Fixtures, Lighting Controls

Agricultural

Commercial

Government / Institutional

Industrial / Manufacturing

Multi-family Building

Expanded Energy Management Program (EEM)

This program is offered by Save on Energy with financial support for industrial facilities from Natural Resources Canada (NRCan) as part of its Green Industrial Facilities and Manufacturing Program.

Benefits

Commercial, Institutional and Industrial Customers

- Energy Manager support: Up to **$100,000/year** toward hiring an Energy Manager
- Strategic Energy Management (SEM): Training and coaching to embed energy management practices, performance incentives up to **$100,000 /year**
- Energy Management Information Systems (EMIS): Receive funding up to **$250,000** for the installation of an energy management system

Program Website

Agricultural

Commercial

Government / Institutional

Industrial / Manufacturing

Industrial Energy Efficiency Program

WHAT WE HEARD	WHAT'S CHANGED
Make application process faster/easier	Single sign-off application, first-come-first-served intake
Raise caps for large projects	Incentive cap increased from $5M to $15M/project (+ option for more via business case)
More time to deliver	Completion window extended from 3 to 5 years
Support early project scoping	Feasibility study funding (50% up to $100K)
Lower participation threshold	Minimum size reduced from 2,000 MWh/year to 600 MWh/year
Continue M&V support	Retained M&V support with optional Technical Reviewer

NOVEMBER 4, 2025

Getting started with pinch analysis: understanding opportunities

Amanda Galusha- Energy Skills Coach
Emily Thorn Corthay- Thorn Associates
Nawfel Bouzayani- Thorn Associates

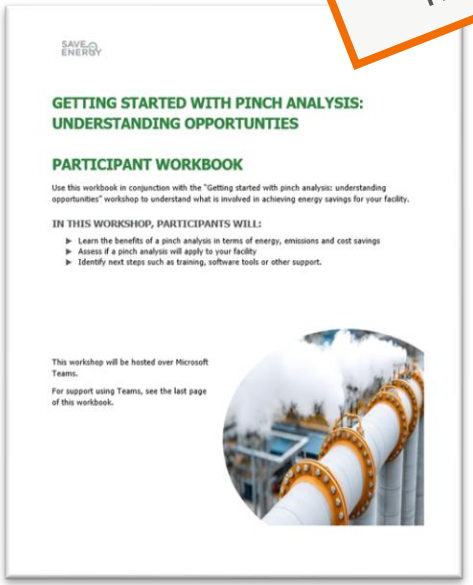
Follow along in the Participant Workbook!

Have the workbook open or printed out

Where to find the workbook:

- Included in the invitation
- In the chat

Watch for this icon to help follow along


SAVE ON ENERGY

GETTING STARTED WITH PINCH ANALYSIS: UNDERSTANDING OPPORTUNTIES

PARTICIPANT WORKBOOK

Use this workbook in conjunction with the "Getting started with pinch analysis: understanding opportunities" workshop to understand what is involved in achieving energy savings for your facility.

IN THIS WORKSHOP, PARTICIPANTS WILL:

- Learn the benefits of a pinch analysis in terms of energy, emissions and cost savings
- Assess if a pinch analysis will apply to your facility
- Identify next steps such as training, software tools or other support.

This workshop will be hosted over Microsoft Teams.

For support using Teams, see the last page of this workbook.

Learning objectives

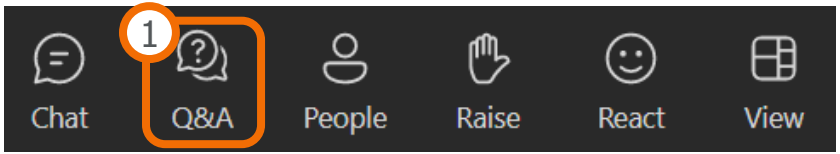
Emily and Nawfel, pinch analysis experts

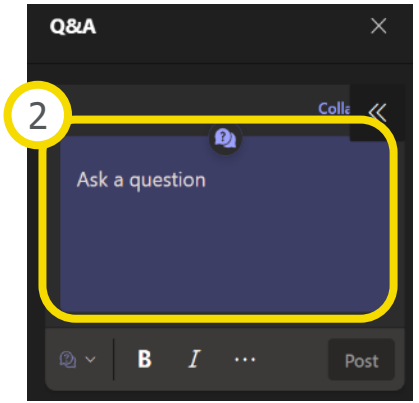
Emily Thorn Corthay,
Thorn Associates

Nawfel Bouzayani,
Thorn Associates

Question and answer

Use the Q&A function to type out your questions.



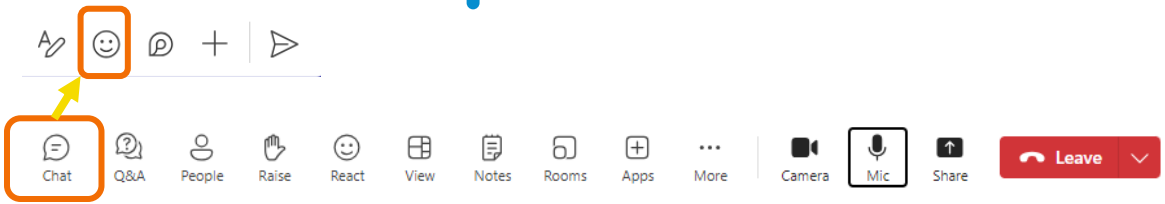


Icebreaker activity: hot side versus cold side

Step 1: what do you interact with most?

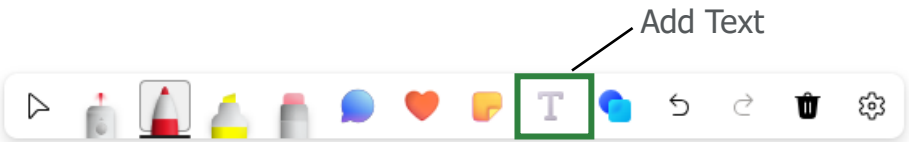
In the chat, drop a snowflake emoji for cold side or a fire emoji for hot side.

OR



Step 2: identify processes and systems

Heating

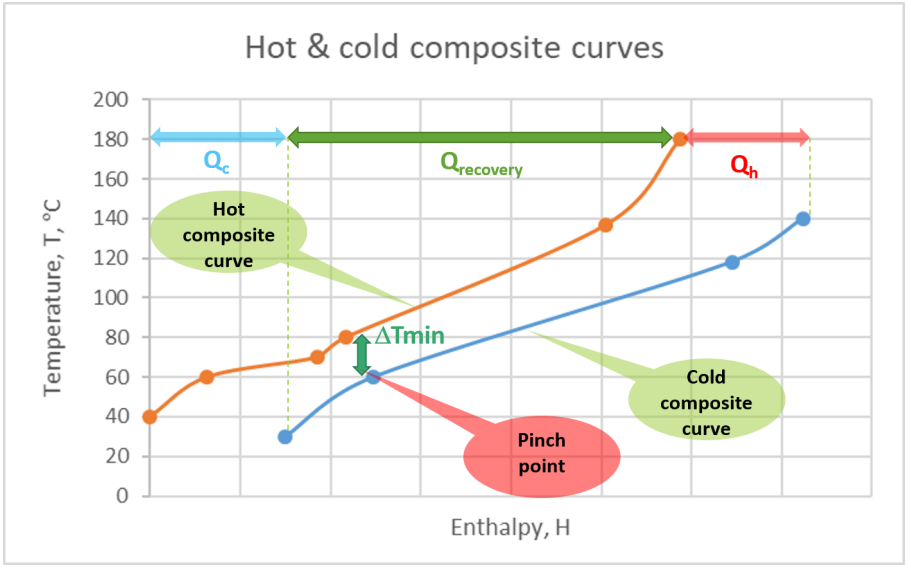


Use the **Text** tool in the **Annotate** bar

Cooling

What is pinch analysis?

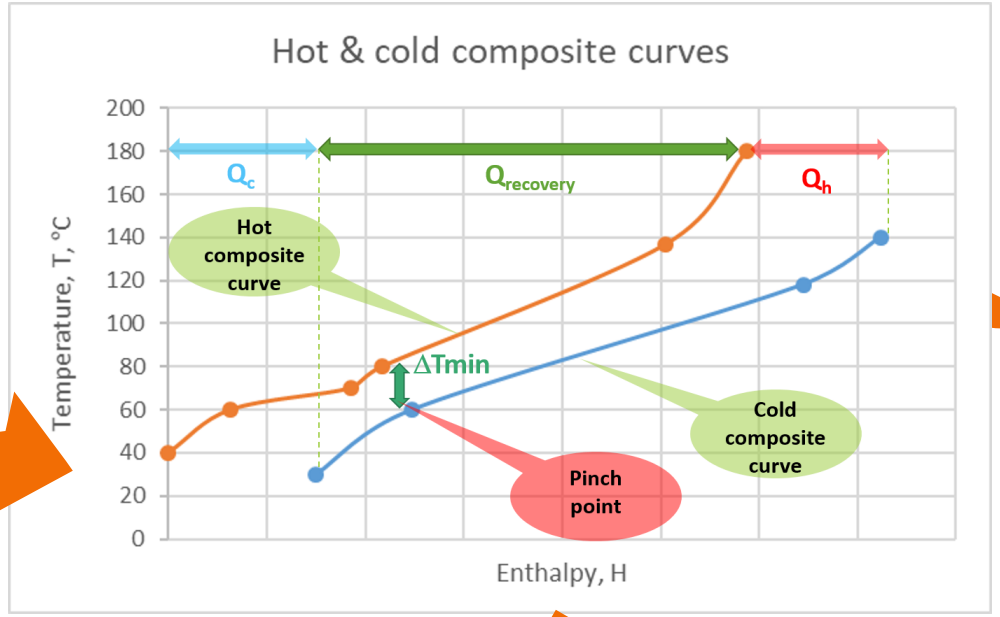
- Systematic method for heat integration and energy recovery at facility scale
- Uses composite curves (hot and cold) to visualize heat flows and interactions
- Identifies the pinch point where constraints are highest; drives minimum utility targets
- Enables strategic design of heat exchanger networks and prioritization of investments



Source: Simulate Live

A closer look at what is happening at the facility level

The orange curve is all the **hot streams** that need to be cooled down.



The blue curve is all the **cold streams** that need to be heated up before use.

This represents the amount of **heat energy** transferred.

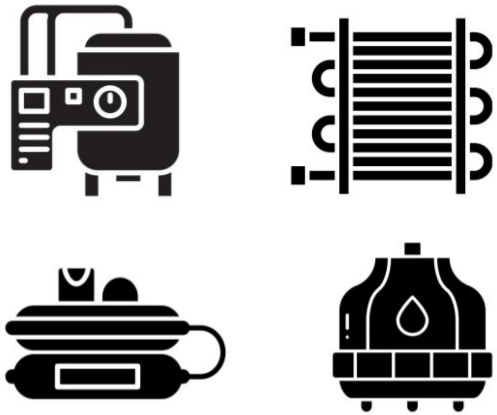
Why is holistic energy management important?

Reduces **total energy use** by addressing inter-stream interactions, not just isolated inefficiencies

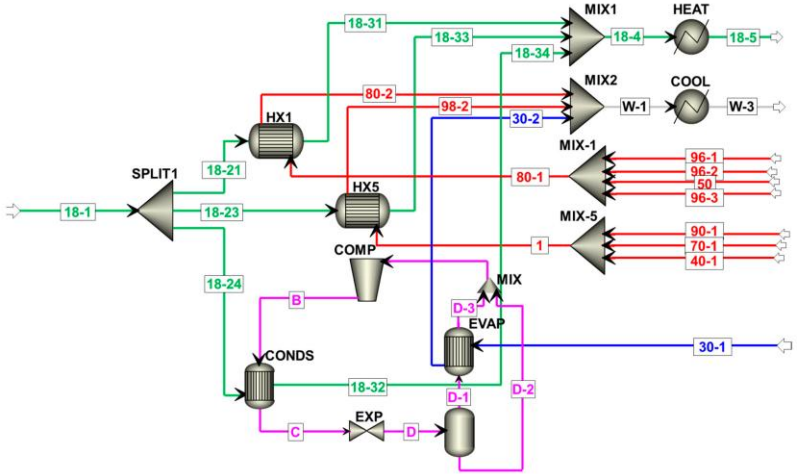
Cuts **operating costs** by recovering waste heat, reducing fuel/electricity demand and deferring capital investment

Guides **investment priorities** toward measures that maximize whole-facility impacts rather than incremental component gains

From equipment upgrades to system-level optimization



VS.



Traditional efficiency upgrades

Isolated improvements → limited total savings

System-level optimization

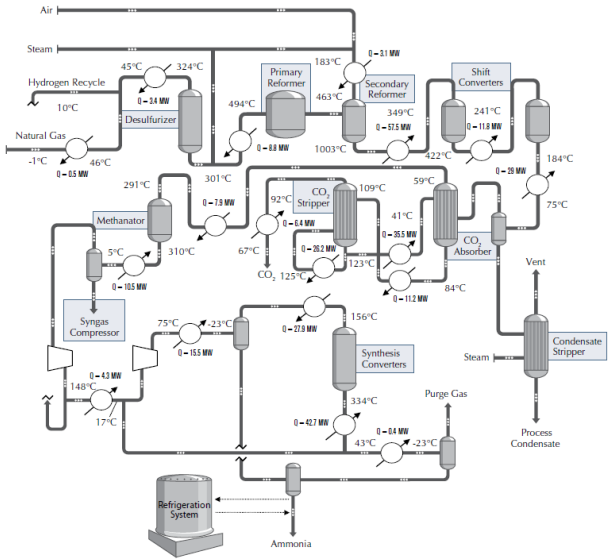
Whole-system optimization doubles or triples achievable savings.

Source: Mdpi.com

Case study: energy recovery in an ammonia plant

The problem

- 1,000 t/d ammonia plant with high fuel and steam costs
- Significant heat losses from multiple processes including reformer flue gas
- Inefficient steam generation → reliance on auxiliary boilers

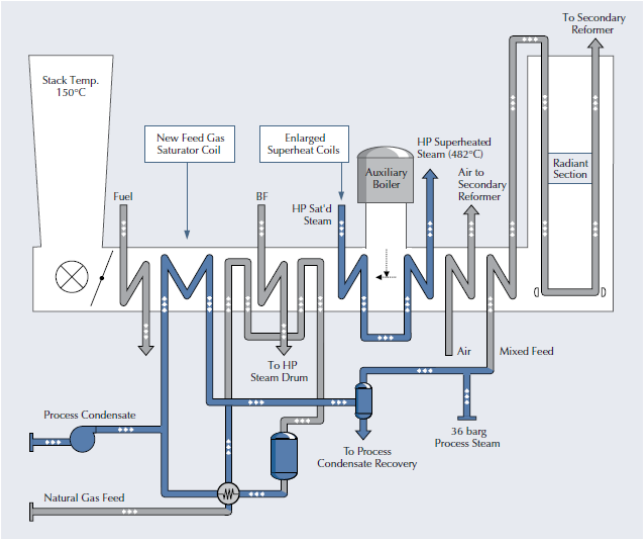


Source: NRCan

Case study: energy recovery in an ammonia plant (1)

The intervention

- Pinch analysis identified key integration options:
  - Increased high-pressure steam superheat
  - Installed feed gas saturator to recover waste heat
- Optimized process-utility interface without major redesign



Source: NRCan

Case study: energy recovery in an ammonia plant (2)

The impact

- 30 t/h steam reduction
- Energy savings: 2 GJ/t ammonia
- Cost savings: CAN $3.75M/year
- CO_2/NO_x reduced by ~11%
- Payback period: ~1.5 years
- Package boilers decommissioned

Source: NRCan

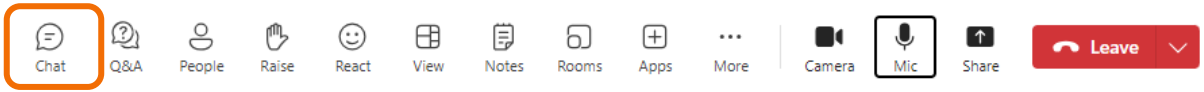
Live chat

What barriers might prevent facility managers from adopting the whole system approach?

Pinch analysis demystified

True or false?

1. You can do pinch analysis in your head.
2. Pinch analysis applies to one system or process.
3. Pinch analysis is too complicated to even start the process.



Uncovering the truth

Myth	Reality
"You can do it in your head."	Software modelling is needed to handle multiple streams.
"It only applies to one system."	It is a whole-facility integration method.
"It is too complicated."	Screening tools and simple audits serve to quickly flag opportunities.

Case study: lessons learned from an ammonia plant

"You can do pinch analysis in your head."

- The plant team assumed they had already optimized their process heat recovery.
- Structured pinch analysis uncovered **11% additional energy savings** that had been missed by using intuition alone.

Lesson learned: *even experienced engineers underestimate integration potential without quantitative composite curves and data-driven targeting.*

Source: NRCan

Case study: lessons learned at a pulp and paper mill

"It only applies to one piece of equipment or process."

- Operators targeted a **dryer section** and **evaporators** individually for efficiency upgrades.
- Full mill analyzed using pinch methodology demonstrated that **cross-process integration** was far more effective than optimizing single units.
- Steam demand dropped by 15-20% across the facility.

Lesson learned: *pinch analysis is a **whole-facility optimization tool**, not a unit-level one. It is about the network, not just the equipment.*

Source: NRCan

Case study: lessons learned from a refinery

"It is too complicated."

- The facility team assumed pinch analysis was too data heavy and resource intensive to justify for an operating site.
- Even with limited data, the team identified **multiple feasible retrofit options** that yielded substantial savings and short payback periods.

Lesson learned: *even **screening-level pinch analysis** can flag viable opportunities quickly without full-scale modelling.*

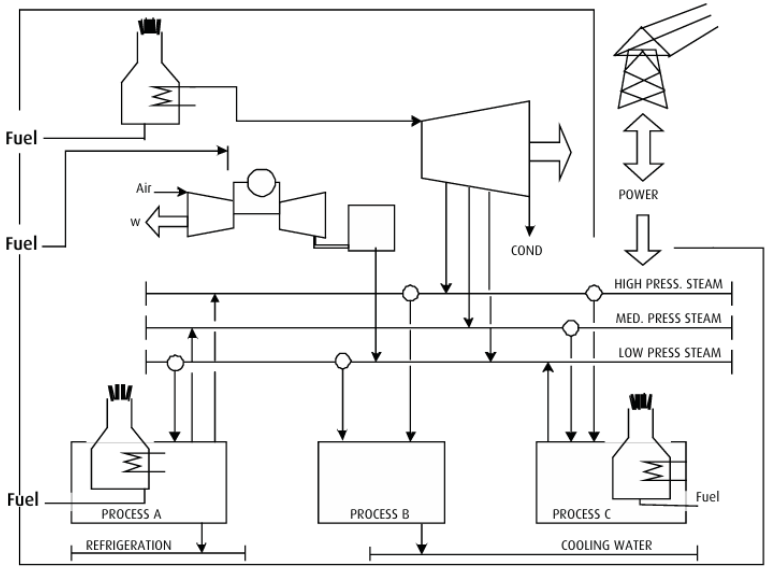
Source: NRCan

Reflection question

How might misconceptions affect decisions to get started with pinch analysis or adopt a more holistic approach to energy efficiency at your facility?

What makes a good candidate?

- High heating and cooling demand levels
- Multiple process streams at different temperatures
- High fuel or steam use
- Simultaneous heating/cooling cycles



Source: NRCan

Sector examples with potential

Industry

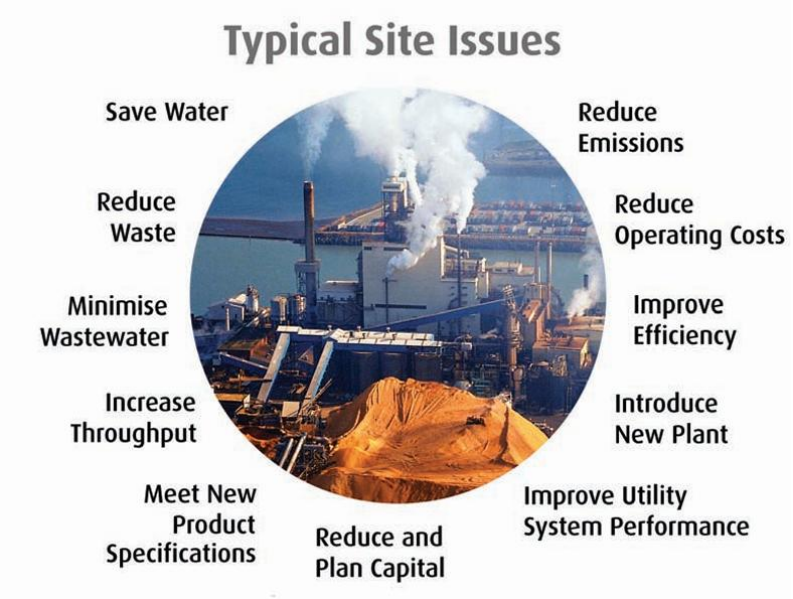
- **Pulp and paper** → Multiple steam levels and overlapping heating/cooling (drying, washing, evaporation)
- **Food processing** → Simultaneous pasteurization (heating) and chilling/freezing (cooling)
- **Chemical manufacturing** → Complex reaction, separation and distillation systems with high heat loads

Institutional

- **Hospitals** → Simultaneous heating (domestic hot water, sterilization) and cooling (air conditioning)
- **Universities** → Central energy plants with variable loads across buildings
- **District energy** → Networked steam and chilled water plants serving mixed-use zones

Case study: why a pulp and paper mill was a strong candidate

- ☑ Multiple heating and cooling loops
- ☑ Continuous thermal processes
- ☑ High-temperature waste heat streams
- ☑ Existing energy constraints
- ☑ Complex but stable operations



Source: NRCan

Is pinch analysis right for you?

Key indicators:

- High overall energy use (e.g. >100,000 GJ/year or $500k+ annual energy cost)
- Both heating and cooling systems operating year-round
- Multiple process streams with heat exchange potential
- Observable waste (e.g. cooling towers, vents, heat rejection)

Workbook activity: quick screening steps

Take two to three minutes to fill in the screening worksheet in real time:

- Estimate annual energy use (GJ/year or $ spent)
- Identify major heating/cooling systems
- Count number of hot/cold processes (approximate)
- Note signs of waste (simultaneous heating/cooling, vented heat, cooling towers, etc.)

Reflection question (2)

How many of you think your site *might* be a good candidate? What made you say yes or no?

Where do you go from here?

LEARN
Training/learning resources

TRY
Software tools (free or licensed)

SCALE
Expert/consulting support

SEEK SUPPORT
Explore funding incentives

Case study: ACME food processing

Context:
A mid-sized food processing facility with high steam and refrigeration use wanted to identify low-cost ways to reduce its fuel consumption.

STEP 1: TRY

Used **Excel-based screening worksheet** to map heating and cooling streams - found **over 40% of the heating load overlapped** with cooling demand.

STEP 2: SCALE

Engaged **external consultants** to complete **a full pinch analysis** using specialized software, identified **3.2 GJ/tonne of product** recoverable energy.

STEP 3: SEEK SUPPORT

The facility applied to **NRCan** under the Industrial Energy Management program for co-funding on the **engineering design and heat exchanger installation.**

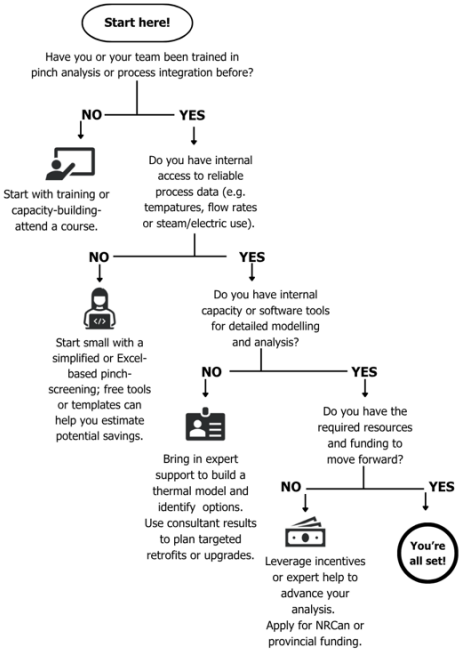
STEP 4: LEARN

Two facility engineers attended **introduction to pinch analysis training** to build internal capacity for future optimization.

Workbook activity: complete the decision tree

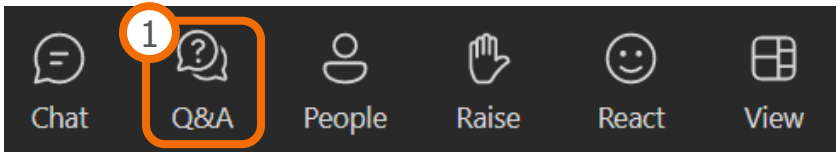
Take two to three minutes to fill in the decision tree in real time:

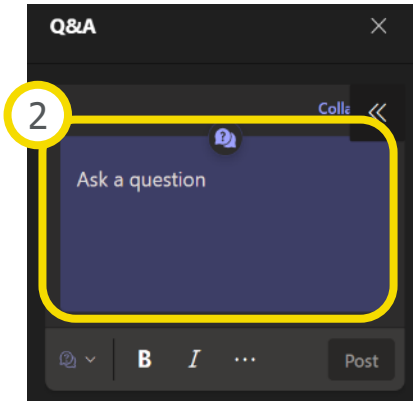
- "I need to learn more"→ seek training
- "We need to screen to see if we are a candidate" → use a free or demo tool
- "We have a complex system"→ consult an expert
- "We have screened and know it is the right fit, but we lack some resources"→ explore incentive options



Question and answer with Emily and Nawfel

Use the Q&A function to type out your questions.





Feel free to turn on your camera to ask questions as well!

THE ENERGY MANAGER'S PLAYBOOK

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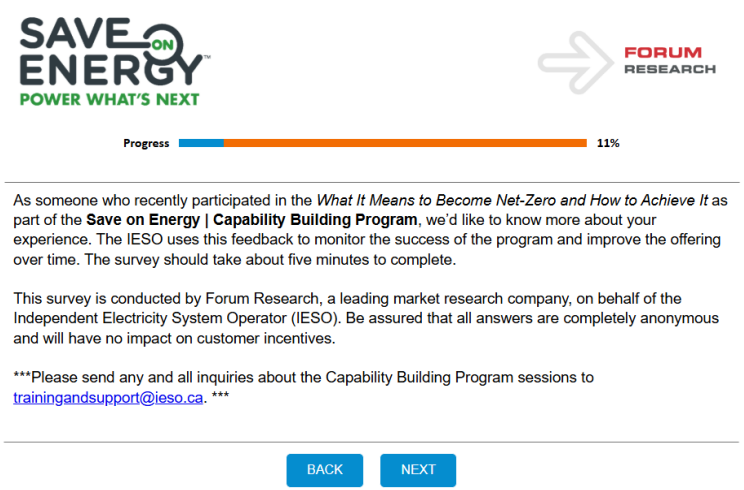
SAVE ON ENERGY POWER WHAT'S NEXT

Stay connected with tools and resources

- Virtual one-on-one coaching: post-webinar support intake form for tailored support for organizations to manage energy resources effectively
- Monthly bulletin: sign up to receive monthly training updates on all Save on Energy training and support and new tools and resources
- Live training calendar: visit this page to easily register for upcoming events and workshops
- Training and support webpage: visit this page to access all training and support materials

Upcoming survey: we want your feedback!



- Check your email! A survey is coming your way soon.
- Why? Help us improve our training programs.
- Who? Conducted by Forum Research on behalf of the IESO.
- Time? Takes only five minutes to complete.
- Confidentiality: Your responses are anonymous and won't impact participation or incentives.

The survey will be sent from:
surveyinfo@forumresearch.com

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Thank you!

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