

Accelerating Energy Management in Manufacturing

February 20th, 2020



Presenters



Scott McNeil-Smith

Excellence in Manufacturing
Consortium



Iain Robertson

Save On Energy



Nathaniel Magder

Partners in Project Green,
Toronto and Region
Conservation Authority

Agenda

Scott McNeil-Smith
Excellence in Manufacturing
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Issues Affecting Manufacturing

Iain Robertson
Save On Energy

Energy Management and Monitoring &
Retrofit Program Updates and Benefits

Nathaniel Magder
Partners in Project Green

Small-to-Medium Manufacturers
Energy Management Consortium

Issues Affecting Manufacturing

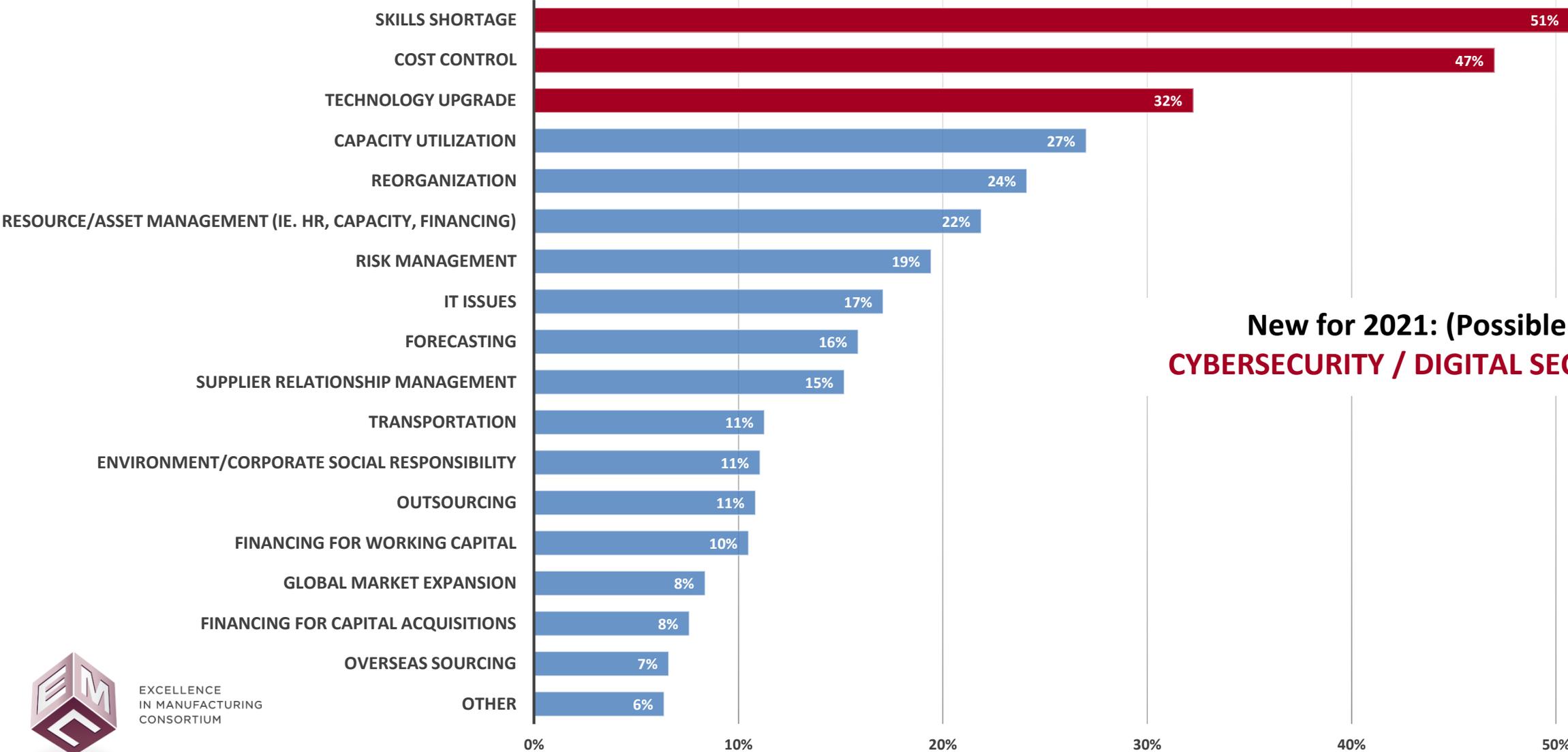
Top Challenges for 2020

- **Skills and Labour Shortages**
- **Increasing Cost of Manufacturing**
 - Energy Costs, in particular: Low-Carbon Economy and Legislated Costs on Energy
 - HR and Labour Costs
 - Cost of Regulation
- **Increased Competition (Canada, USA and Global Markets)**
- **Finding New Customers and Access to Markets**



Issues Affecting Manufacturing

Most Significant Plant Management Issues for 2020

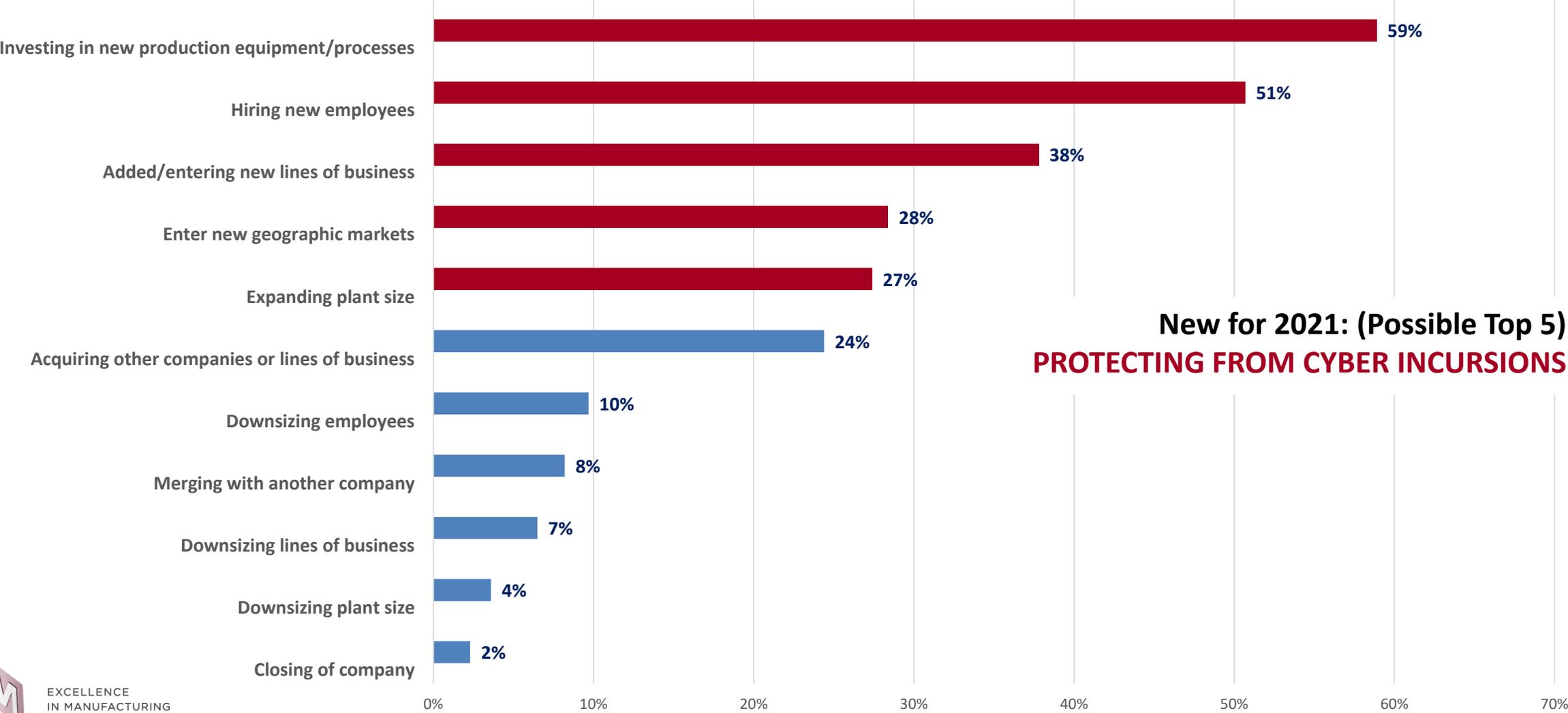


New for 2021: (Possible Top 5)
CYBERSECURITY / DIGITAL SECURITY



Issues Affecting Manufacturing

Changes Anticipated by Plant Management Over Next 5 Years (2019-2023)



Energy Issues

Energy is a Top Industry Concern... Also One of the Biggest Opportunities

- **More than **HALF of Canadian manufacturers** surveyed said:**
 - Energy costs equal to or greater than cost of payroll;
 - Energy costs range from 15 to 70% of production/unit costs;
 - **Over 30% of manufacturers responding indicate no energy procurement strategy.**
- **Over 85% of Ontario manufacturers responding indicated high total energy costs are impacting competitiveness:**
 - Global Adjustment represents largest portion of industry electricity costs
 - Carbon Tax is creating a ripple effect on power, fuel and other manufacturing costs



Global Adjustment – Average HOEP plus Average GA

How to Calculate Your Bottom Line

For Class B customers paying the hourly price

December 2019 (¢/kWh)

Hourly Ontario Energy Price
weighted average

2.19

+

Global Adjustment
actual

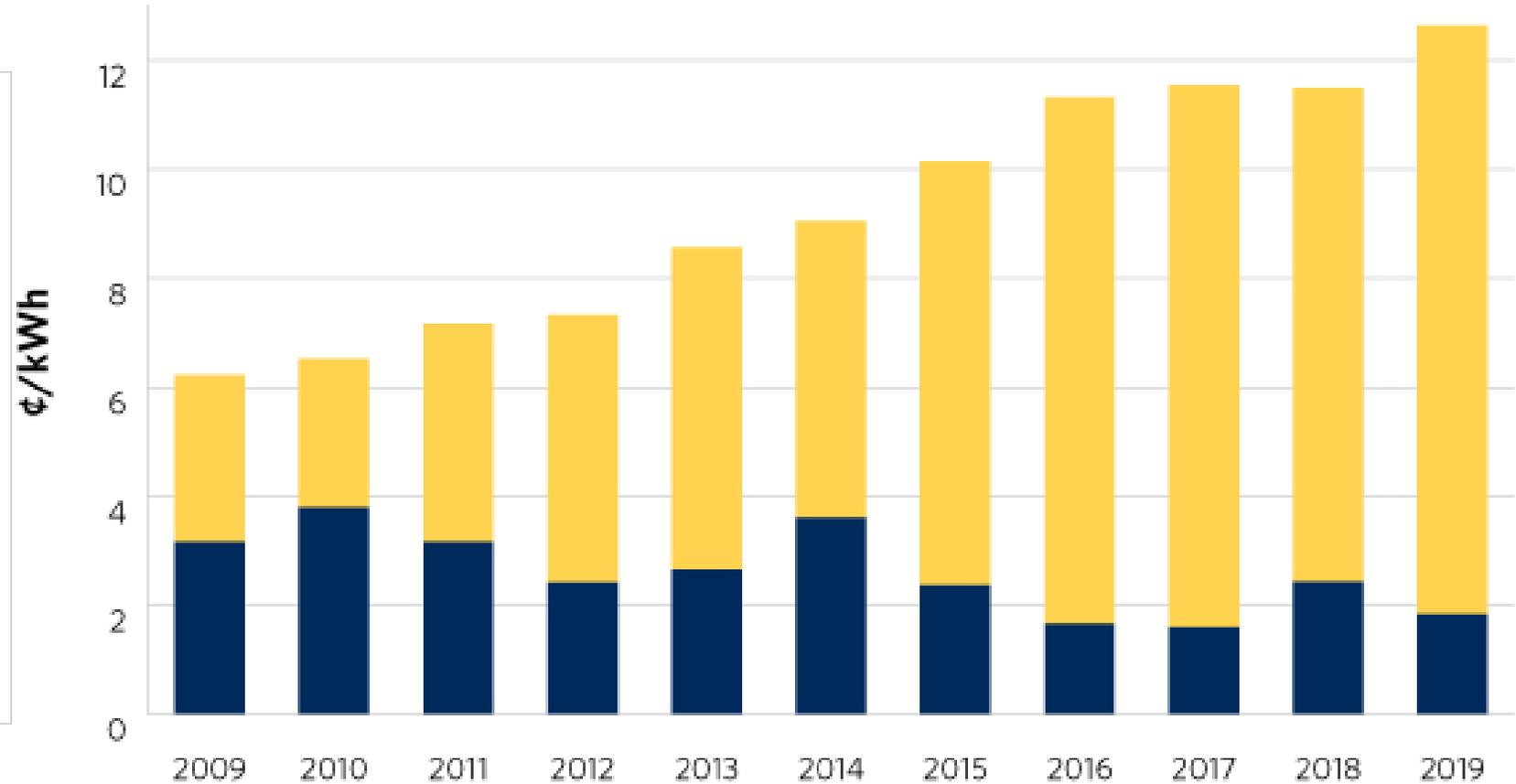
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Your Bottom Line

11.51

Avg HOEP + 1st Est. Feb. 2020: 13.97 ¢/kWh
(Class B 1st Est. GA Only = 12.45 ¢/kWh)



■ Average Global Adjustment

■ Average weighted Ontario Energy Price (kWh)

Source: IESO

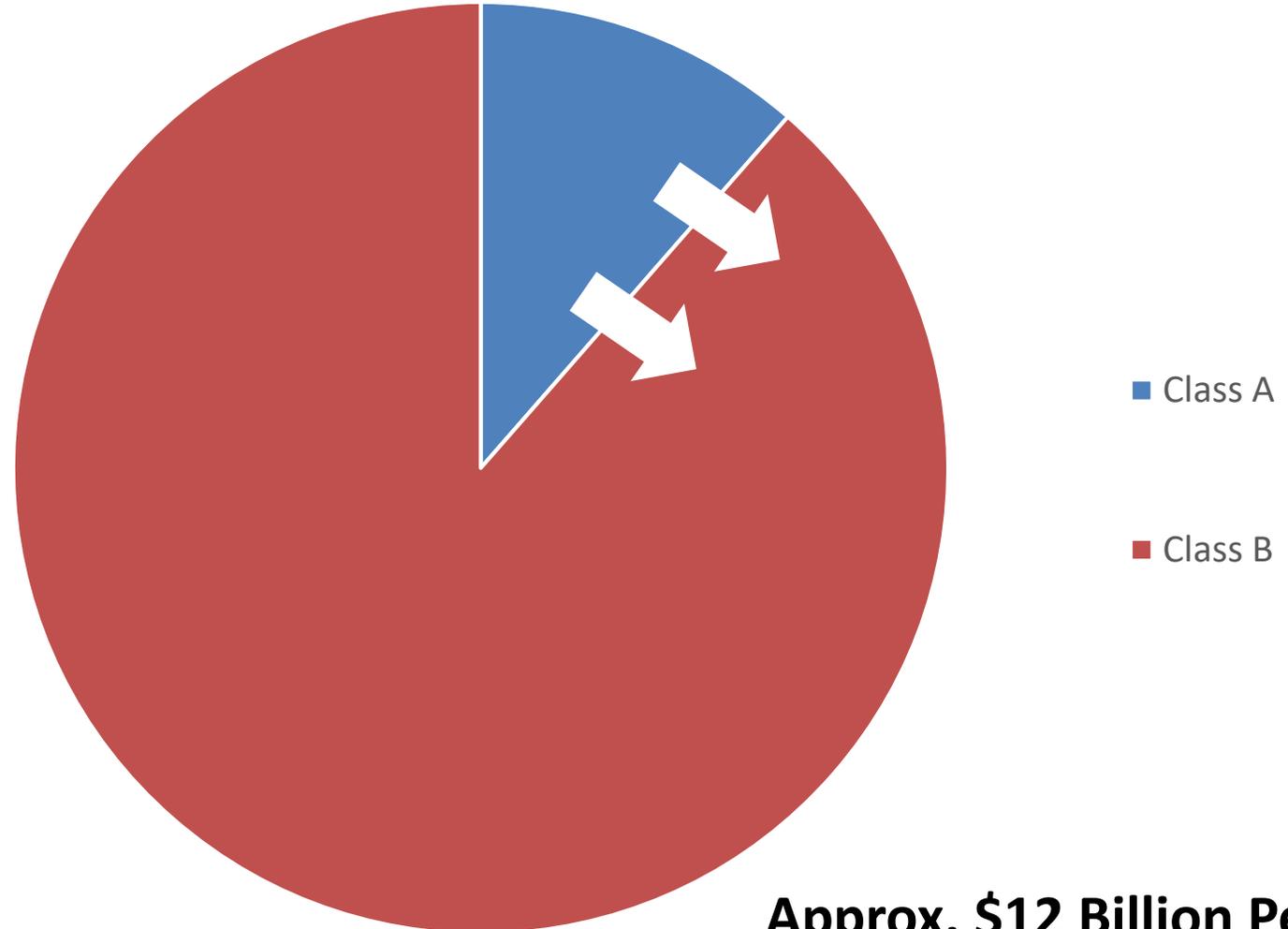


EXCELLENCE
IN MANUFACTURING
CONSORTIUM

Global Adjustment – Class A vs. Class B

For every peak hour that you hit/miss of the top five it was worth up to \$100,000 / MW in the last Class A period.

An opportunity for Class A to reduce electrical costs more than any other program in the market today.



Approx. \$12 Billion Per Year

Why Focus on Efficiency & Sustainability?

- Competitive companies operate in a global market that is facing increasing demands for sustainability and environmental responsibility (i.e. Europe);
- **CARBON is becoming one of the most significant catalysts:**
Costs to Business, Society, Environment and the Economy;
- Business strategies based on sustainability can drive opportunity, innovation and perceived added value for customers;
- Sustainability model can increase competitiveness and profits;
- **If you measure it, you can manage and improve it!**

Save on Energy

Energy Management and Monitoring & Retrofit Program Updates and Benefits

Iain Robertson

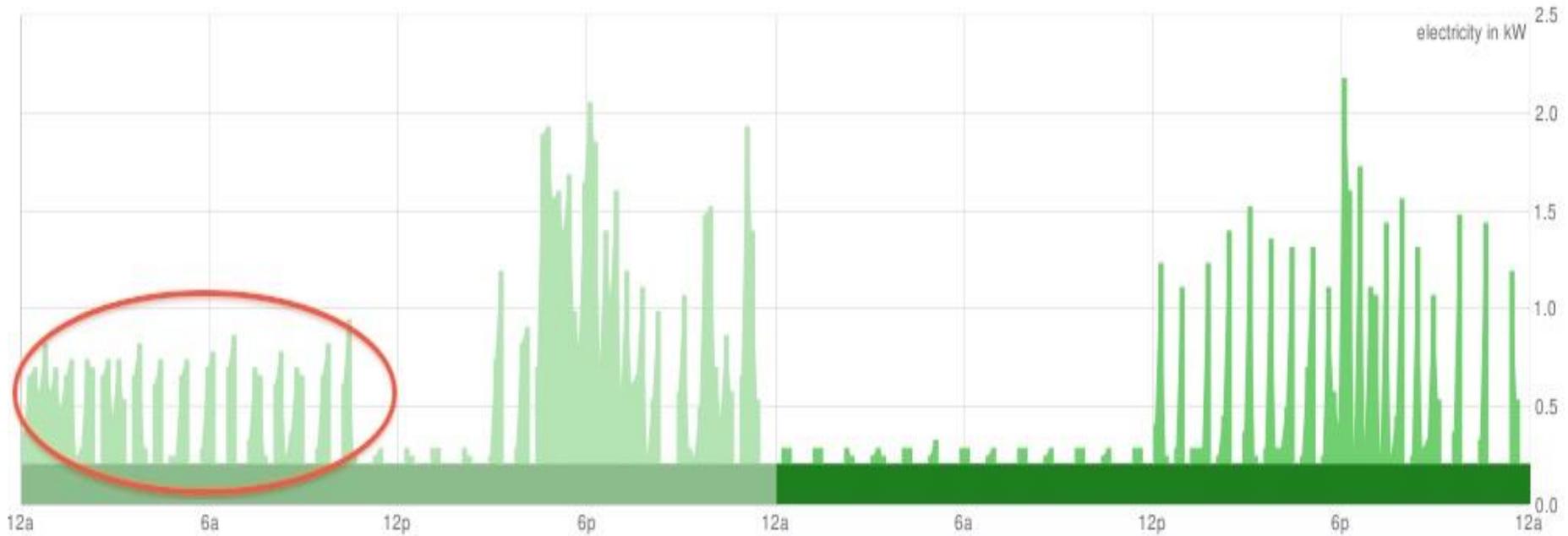
647-339-8582

iain.robertson@retrofitprogram.ca

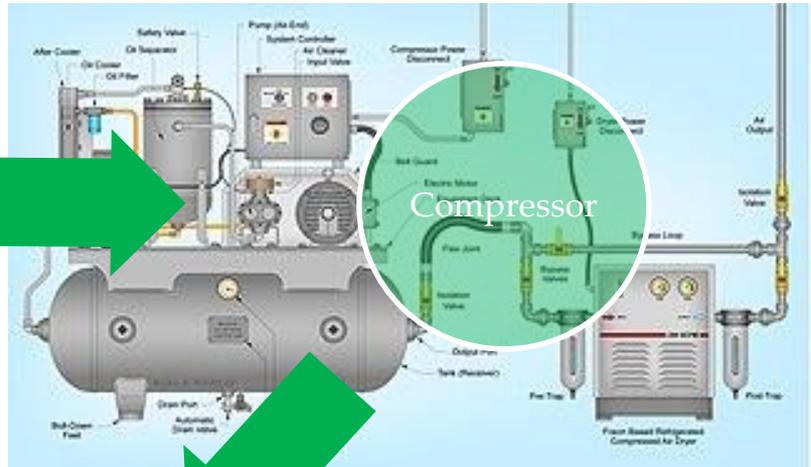


**DELIVERY
PARTNER**

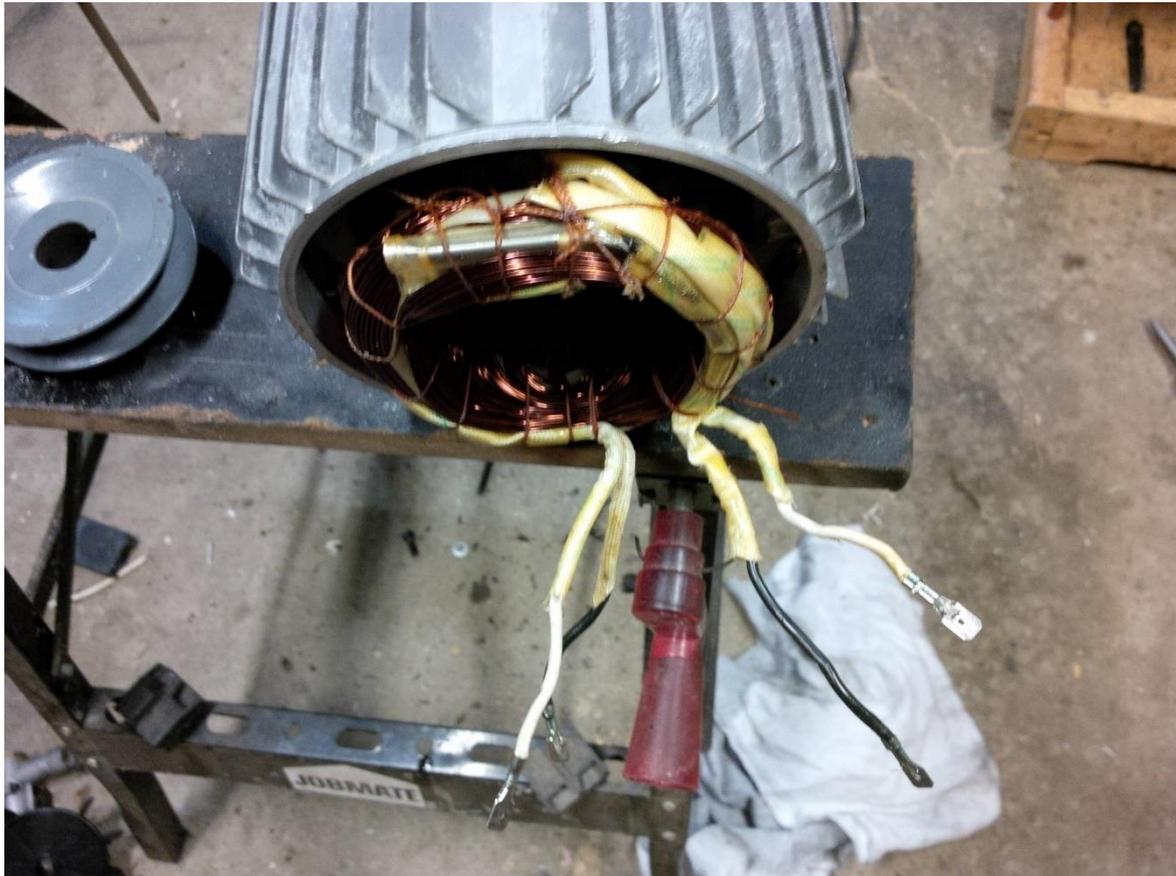
Accelerating Energy Management Through Monitoring



Accelerating Energy Management Through Monitoring



Accelerating Energy Management Through Monitoring



Save on Energy Retrofit Program

What You Need to Know



**DELIVERY
PARTNER**

Energy-Efficiency Programs

- Ontario businesses, large and small, continue to have access to incentives for retrofits and other energy-efficiency projects to see lowered energy costs.
 - Retrofit Program
 - Small Business Lighting
 - Process and Systems Upgrades
 - Energy Manager Program
 - Energy Performance Program
- Available to December 31, 2020, and delivered with support of Save on Energy service providers

Retrofit Program

- Incentives for energy-efficiency upgrades for customers of all sizes
- Recent prescriptive changes:
 - New LED tube options
 - Engineered nozzles for compressed air
 - Reductions to incentive levels for existing lighting measures (with the exception of exit signs and lighting controls)
 - Removal of older lighting technologies, such as medium bay T8 and medium and high bay T5 fluorescent fixtures
- Projects must be pre-approved before project start – or customer assumes risk



Retrofit Program Support

- Save on Energy representatives are available across the province
 - Identifying energy-efficient opportunities
 - Providing advice on how to proceed with eligible energy-efficient projects
- Provide assistance with the application process
- Technical review of applications
 - Support in ensuring all necessary paperwork and documentation is complete



Retrofit – New Applications

- Questions about Retrofit program? retrofit@ieso.ca or **1-844-303-5542**
- Retrofit support line can also connect you with a **Save on Energy Account Manager**
- Visit the [retrofit portal](#) to access how to videos and tips

Retrofit Portal Sign Up

First Name

Last Name

Email

If you have any questions about signing up, please contact Retrofit@ieso.ca or **1-844-303-5542**.

Application Resources

Use our Top Tips document to ensure your Retrofit application has a smooth ride through its technical review.

**TOP TIPS FOR A
SMOOTH APPLICATION**

PDF



Have a question about QA/QC? We have you covered. Download our guide to learn more about the QA/QC process.

QA/QC GUIDELINES

PDF



Read our best practices on taking and submitting photos for your Retrofit application.

PHOTO REQUIREMENTS

PDF



Save on Energy Program Deadlines

Pre-Approval:

Dec. 31st, 2020

Pre-Approved Project In-Service:

Dec. 31st, 2021

Save on Energy Online Resources

- Support Guides:
 - Application Tips
 - QA/QC Guide
 - Application Step Chart
 - Portal User Guide
 - How-To Videos
 - Program Webinars

- FAQ's



Save on Energy Customer Benefits



Improve Productivity and Reliability

- Less downtime, increased output, lower maintenance costs
- Improved product quality, less waste



Support Customers' Corporate Sustainability Goals

Greater Trust in Contractors and the Save on Energy Retrofit Program



- Persistent savings materialize
- Proven solutions to repeat across the company, as multi-site or chains



Verified Savings by Third Party and Shortens Payback of Capital Projects

Save on Energy

Thank you

Iain Robertson

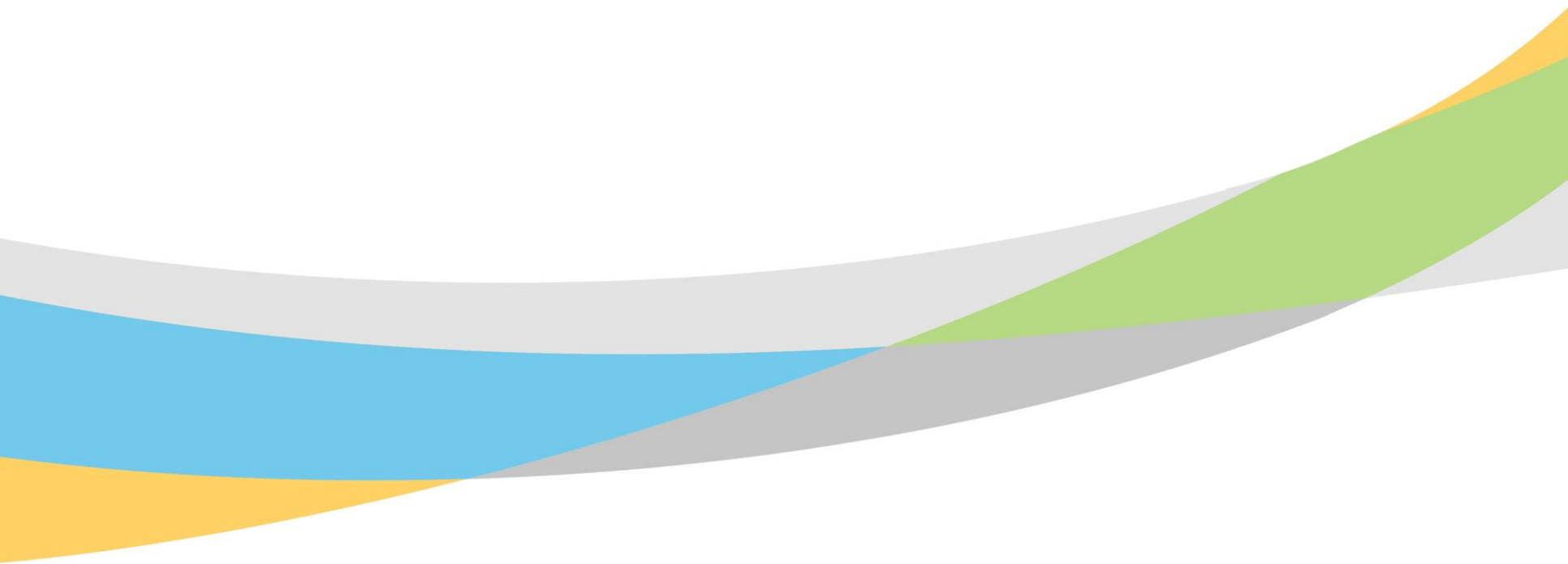
647-339-8582

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**SAVE
ON
ENERGY**™

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PARTNER**

Small-to-Medium Manufacturers Energy Management Consortium



Who We Are



“Guard and enhance the health and well-being of watershed communities through the protection and restoration of the natural environment and the ecological services the environment provides.”



“A community of leaders advancing environmental action and economic prosperity across the Greater Toronto Area.”

Project Background

- The SME Challenge
- Need for Data
- Program Design



This project was made possible through the financial support of the Independent Electricity System Operator

Eligibility

Requirements:

- Manufacturers with a facility located within Peel, York, Durham or Toronto
- Less than 500 employees total (including other Canadian and international employees)
- Class B electricity rate customer

The Consortium Group Model

Peer-to-Peer: Learn from others in similar roles at similar businesses

Guest Experts: Technical and management topics

Events for: Both Executive and Operations staff



Technical Resources

Toolkit + Guidance from Co-Leads

Toolkit includes:

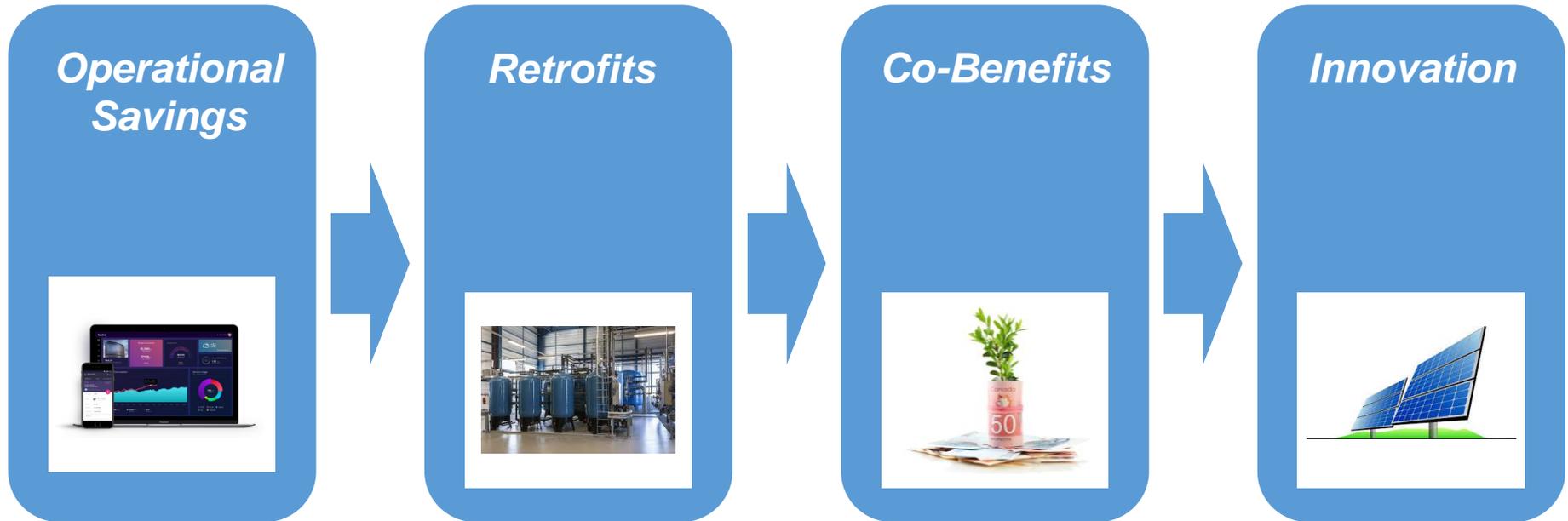
- *Draft Letter of Commitment to Strategic Energy Management*
- *Key Performance Indicators (KPIs) and Measurement and Verification (M&V)*
- *Energy mapping*
- *Metering gap analysis*
- *Tips for procurement of energy monitoring equipment*
- *Energy dashboarding and reporting*
- *Identifying and capitalizing on energy savings*
- *Additional resources/guides to energy management*

Financial Support

\$15,000 for Energy Monitoring Equipment and Energy Management Services



Outcomes



Contributions from Participants

Requirements:

- \$1,500 per year for two years (total \$3,000)
- Letter of commitment to energy management signed by executive
- Staff resources to undertake energy monitoring project(s)
- Attend Consortium group meetings
- Share with TRCA/IESO how funds were spent
- Share with TRCA/IESO any achieved savings
- Willingness to share outstanding success stories publicly

Application Process

Application Deadline:

March 6th 2020

Complete Application Form (pdf) and submit to:

admin@partnersinprojectgreen.com

Q+A



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Thank you!



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