

SUSTAINABILITY IN MANUFACTURING



QUINTE MANUFACTURERS ASSOCIATION

SHARING AND LEARNING SERIES PANEL DISCUSSION

November 28, 2024

The Quinte Manufacturers Association (QMA) hosted a panel discussion on sustainability in manufacturing as part of its Sharing and Learning Series. Moderated by experts from Loyalist College, the event featured insights from local manufacturers and an energy professional, covering best practices, challenges, and the economic impact of sustainable manufacturing initiatives. This sharing and learning series was hosted at Loyalist College and coordinated by Loyalist Training and Knowledge Centre's Steve MacKinnon.

Moderators

- **Erin Bickle** – Manager, Planning and Sustainability, **Loyalist College**
- **Greg Dickson** – Professor, Academic Coordinator of Environmental Technicians and Technologists, Applied Science, Computing & Technology, **Loyalist College**

Panel Members

- **Spencer Kull** – Site Manager, **Beclawat**
- **Lisa O'Hara** – Quality EH&S, **Hanon Systems**
- **Roger LeBlanc** – SHEQ Manager (Safety, Health, Environmental, Quality), **Schuetz**
- **Mike McLeod** – Energy Consultant, **Advisory Services**

Key Themes and Takeaways

Sustainability Goals and Initiatives

Panelists shared a range of sustainability strategies, highlighting emissions reductions, renewable energy adoption, and integration of sustainable practices into everyday operations. Key examples included:

Hanon Systems:

- Committed to reducing Scope 1 and Scope 2 emissions by 50% and Scope 3 emissions by 55% by 2030, with further reductions of 90% across all scopes by 2040 and achieving net-zero emissions by 2050.
- Implemented air compressor heat recovery for HVAC systems and plans to transition HVAC systems from natural gas to electric when replacements are needed.

Schuetz:

- Installed 2,913 solar panels, achieving a 5.4-year payback period and a 777% ROI. This project, supported by tax incentives, is one of the largest commercial solar installations in Ontario.
- Reduced material usage in products by redesigning components to use less plastic and metal.
- Expanded ISO certifications to include FSC 22000, ISO 45000, and ISO 50001.

Definitions of Scope 1, 2 and 3 Emissions – Greenhouse Gas Protocol

Scope 1: Direct Emissions

Definition:

Emissions directly generated by activities or operations that are owned or controlled by an organization.

Examples:

- Fuel combustion in company-owned vehicles (e.g., delivery trucks or company cars).
- Emissions from on-site heating or cooling systems (e.g., boilers, furnaces).
- Industrial processes (e.g., manufacturing emissions).

Responsibility:

These are emissions over which the organization has direct control.



Scope 2: Indirect Emissions from Purchased Energy

Definition:

Emissions associated with the generation of electricity, heating, cooling, or steam that an organization purchases and consumes.

Examples:

- Electricity purchased from the grid.
- Purchased district heating or cooling systems.

Responsibility:

While the organization doesn't generate these emissions directly, they are a result of the energy the organization uses.



Scope 3: Other Indirect Emissions (Value Chain)

Definition:

Emissions that occur in the value chain of an organization, both upstream (supply chain) and downstream (product use and disposal), but are not directly controlled by the organization.

Examples:

Upstream: Raw material extraction, supplier emissions, transportation and distribution, employee commuting, and business travel.

Downstream: Product use, product disposal, and customer emissions (e.g., energy used by products sold).

Responsibility:

These are often the largest and most difficult to measure but are critical for achieving meaningful reductions.

Challenges and Opportunities

Panelists acknowledged the difficulty of balancing long-term sustainability goals with financial pressures. While initial projects often yield quick returns, future efforts require higher investments. Sustainability efforts are increasingly tied to financial opportunities, such as:

- Expanding customer bases by meeting sustainability expectations.
- Differentiating from competitors through Ontario’s low-carbon energy advantages.
- Streamlining operations to achieve efficiency and cost savings.

Market and Consumer Influence

Sustainability is no longer optional for many manufacturers as customers increasingly demand data on emissions and compliance with environmental standards. Companies noted how sustainability is becoming a key factor in market differentiation, particularly in industries like electric vehicles.

Ontario’s Low-Carbon Energy Advantage

Ontario’s electricity grid is predominantly powered by low-carbon sources such as nuclear and hydroelectric energy, providing a competitive advantage for manufacturers. This makes it easier for companies based in Ontario to achieve sustainability goals and attract environmentally conscious customers.

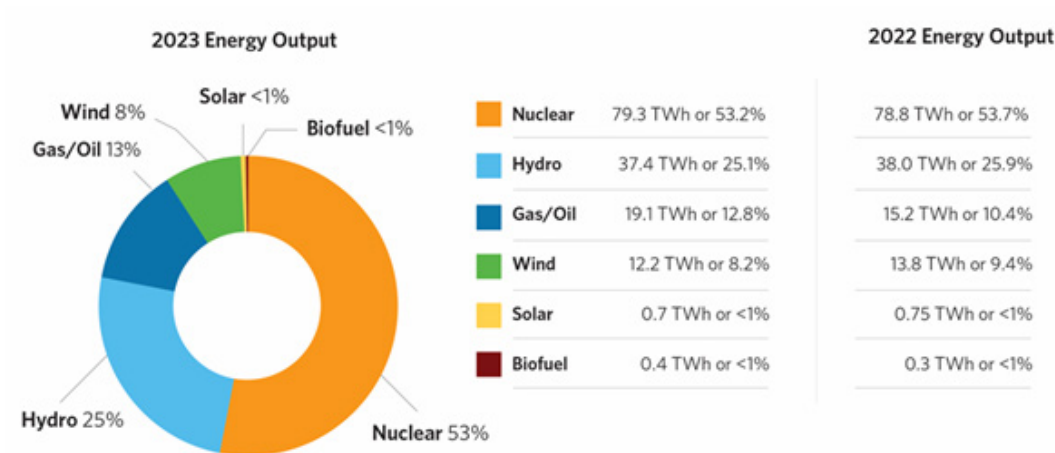


Figure 1: Ontario’s energy output by source for 2023 and 2022. Low-carbon sources such as nuclear, hydro and wind account for over 87% of the energy mix.

Avoiding Greenwashing

The panel cautioned against greenwashing—making claims about environmental responsibility without meaningful action. Authentic efforts, backed by measurable progress, are critical for maintaining trust and meeting customer expectations.

Role of Education

Basic sustainability education for employees and students was identified as a useful foundation for faster implementation of sustainability initiatives within companies. This knowledge helps organizations integrate sustainable practices more efficiently. Many operational initiatives include a sustainability component, making it beneficial to highlight these aspects when discussing overall objectives.



Conclusion

This panel discussion underscored the growing importance of sustainability in manufacturing. Companies are increasingly viewing these initiatives as both an operational necessity and a strategic advantage in a competitive market.



Additional Sustainability Resources in Our Community

Our community offers a variety of resources to support sustainability efforts. Below are some key examples:

Quinte Manufacturers Association (QMA)

Contact the Quinte Economic Development Commission to access QMA’s “Member Needs Help” program. This program allows you to leverage the collective knowledge and resources of QMA members to address challenges like waste stream management and other sustainability requirements. info@quintedevelopment.com

Business Development Bank of Canada (BDC)

BDC provides a range of documents, tools, and programs to support sustainability assessments and implementation. Learn more by visiting their [Climate Action Centre](#).

Loyalist College

Loyalist College offers resources to help support your sustainability journey. For more information, connect with Brian Pennell, Industry Outreach Officer, at bpennell@loyalistcollege.com.

Ontario Ministry of Economic Development, Job Creation and Trade (MEDJCT)

MEDJCT offers access to various programs and resources designed to support sustainability initiatives. Contact Kent Fitzhugh, Senior Business Advisor. kent.fitzhugh@ontario.ca

These resources provide valuable support to businesses and organizations working toward sustainable