

THE STATE OF THE INDUSTRY



POWERING THE CARBON-NEUTRAL VISION

It wasn't long ago when carbon-neutral buildings were considered more of a pipe dream than a possibility. Now, thanks to changing mindsets and evolving HVAC technologies, the building community is making real progress towards reducing its carbon footprint.

“When I first moved from Europe to Canada in 2002, there was minimal talk about energy efficiency in the built environment, and very little incentive among asset owners to look for savings in terms of kilowatts or emissions,”

Dermot McMorro, Vice-President and General Manager with Mitsubishi Electric Sales Canada Inc.'s HVAC Division, adding, “Fast-forward to now and it's an entirely different story.”

The shift towards a more sustainable and innovative mindset has been steady. Over the last two decades, industry stakeholders have adopted carbon-friendly designs, embraced energy-saving technologies, and taken meaningful steps towards reducing their reliance on fossil fuels. More importantly, a growing number of Canada's HVAC partners have taken the lead in introducing greener, more resource-efficient technologies to help meet ambitious climate change goals.

“Today, we’re seeing concepts like net-zero energy and carbon-neutral operations being taken seriously,” adds McMorrow. “We have more and more owners, developers, and asset managers realizing they don’t need or want fossil fuels in their building, and that they can reduce their footprint in a way that makes financial sense.”

Betting Heat Pumps and Beyond

Heat pumps are among the more promising HVAC technologies in the race for greener operations. Yet while heat pump technologies have enjoyed wide-spread applications in other countries for years, the rate of uptake has been relatively slow in Canada.

“At the time I came to Canada, heat pumps had been used in Europe as a cleaner and more energy-efficient means of heating and cooling buildings for years,” explains McMorrow.

“In contrast, when I first worked here, I noted the heat pump adoption rate in the construction industry was much lower than in Europe connected somehow to a reduced focus on building energy savings and less experience of working with heat pumps in more challenging climates.”

“As we know now,” he continues, “heat pumps are just as effective in Canada as anywhere else.”

For more than a decade, McMorrow has worked with his colleagues at Mitsubishi Electric to raise awareness of greener technologies like high-performance heat pumps. The company has aligned with industry leaders such as HRAI, ASHRAE, CSA, and CAGBC to promote carbon-friendly technologies and address the regulations, codes, and industry misconceptions that have slowed their adoption. Moreover, Mitsubishi Electric has partnered with the building community itself to apply innovative technologies like this to real-world applications.

For example, McMorrow says, “We just worked with the Cora Group out of Kitchener, Waterloo, on a building called evol^v1, which is the first commercial office building to receive the **Zero Carbon Building-Design Certification from the CaGBC**. It’s a significant space at over a hundred thousand square feet, and the team succeeded in using heat pumps, solar, and other smart technologies on the market to meet its HVAC requirements.”

Overcoming Reluctance

While appetites for carbon-neutral buildings have risen, many remain reluctant to leave fossil fuels behind.

“We’re still breaking down barriers in terms of understanding the feasibility of widespread electrification and true potential for heat pumps technology as the primary source of heating and cooling,” notes McMorrow. “That’s why we see it as our responsibility to help support the industry’s transition towards this exhilarating phase of decarbonization and help deliver smart buildings that don’t have to impact the environment without recreating the wheel.”

Certainly, old habits can be hard to break. And given the financial, logistical, and cultural changes required to fully break free of fossil fuels, it’s likely that a majority of buildings will continue to pursue hybrid solutions as they slowly make the transformation.

The good news is that industry players such as Mitsubishi Electric Sales Canada are introducing a wider range of heat pump technologies and formats to support industry taking the required steps.

“The technology is already there. It’s just a matter of desire. There is a path there for us to deliver more buildings with minimal environmental impact, and that’s something we’re very passionate about leading.”

Ontario has come a long way in its goal to reduce the province’s carbon footprint. Its progress is owed to several factors, not the least of which being technology leaders, HVAC professionals, and forward-thinking asset owners who are pushing buildings closer to a carbon-neutral future.



Changes for the Better

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