



Hon. Stephen Lecce  
Minister of Education  
5<sup>th</sup> Floor, 438 University Avenue  
Toronto, ON M5G 2K8

July 26, 2021

**RE: Air Quality and the September 2021 Return to the Classroom**

Dear Minister Lecce,

The Ontario Society of Professional Engineers (OSPE) is the advocacy body and voice of the engineering profession. Ontario currently has more than 85,000 professional engineers, 250,000 engineering graduates, 6,600 engineering post-graduate students and 37,000 engineering undergraduate students.

Since the pandemic began, engineers and other experts have been calling for the government to address the airborne transmission of COVID-19, particularly in indoor settings where people gather for long periods of time, such as schools.

With children preparing to return to classrooms, and post-secondary institutions on track to fully re-open without capacity limits of physical distancing requirements this fall, engineers know if we are going to combat the Delta and future variants and a potential fourth wave, the need for proper ventilation and filtration of indoor air is paramount. While investments like the Ontario Together Fund to develop new technologies are welcome, a transparent plan to prioritize and conduct assessments and upgrades to heating, ventilation and air conditioning (HVAC) systems in schools, colleges, universities, and other buildings where people gather indoors for long periods of time, is needed now.

**OSPE is calling on the Ontario government to consult with engineers, scientists, HVAC specialists and other experts immediately to adequately address this issue before more outbreaks occur.**

OSPE endorses the work of our colleagues at the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), who have released [extensive resources](#) detailing how to conduct overall improvements to HVAC systems to properly mitigate virus transmission. ASHRAE's [Building Readiness Guide](#) includes [checklists](#) for re-occupancy of schools, including a recommendation to *"consider consulting with a local professional engineer to determine the appropriate minimum RH levels based on local climate conditions, type of construction and age of the building under consideration."*

The Centre for Disease Control and Prevention also references the ASHRAE guidelines, and outlines the following tools to improve ventilation in buildings to prevent the spread of COVID-19:

- Increase the introduction of outdoor air

- Use fans to increase the effectiveness of open windows
- Ensure ventilation systems operate properly and provide acceptable indoor air quality for the current occupancy level of each space
- Rebalance or adjust HVAC systems to increase total airflow to occupied spaces when possible
- Turn off any demand-control ventilation (DCV) controls that reduce air supply based on occupancy or temperature during occupied hours
- Improve central air filtration by increasing it, ensuring that filters are properly sized and within their recommended service life, and inspect filter housing racks
- Ensure restroom exhaust fans are functional and operating at full capacity when the building is occupied
- Use portable high-efficiency particulate air (HEPA) fan/filtration systems to enhance air cleaning
- Generate clean-to-less-clean air movement by evaluating and repositioning as necessary, the supply louvers, exhaust air grilles, and/or damper settings
- Use [ultraviolet germicidal irradiation \(UVGI\)](#) as a supplemental treatment to inactivate SARS-CoV-2 when options for increasing room ventilation and filtration are limited
- Run the HVAC system at maximum outside airflow for two hours before and after the building is occupied

Public Health Ontario's *Focus on Heating, Ventilation and Air Conditioning (HVAC) Systems in Buildings and COVID-19* report dated March 2021 should be updated to include the guidelines noted above.

Engineers know that air quality is bigger than COVID-19. Indoor Air Quality (IAQ) affects how many sick days Ontarians take off work, how happy we are, and how long we live. Ontario has the opportunity and technology to make the air in buildings where we live and work cleaner than the air outside, which is becoming more important as wildfires rage across the country. The cost of investment is small compared to the benefits we will reap in finance, health and wellness.

As always, engineers at OSPE are ready and willing to meet with you to discuss these recommendations further to ensure all young people in this province are protected as we continue to re-open the economy.

Sincerely,



Mark Frayne, P.Eng.  
President & Chair  
Ontario Society of Professional Engineers



Sandro Perruzza  
Chief Executive Officer  
Ontario Society of Professional Engineers

**CC:**

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Hon. Doug Ford, Premier of Ontario  
Hon. Jill Dunlop, Minister of Colleges and Universities  
Hon. Christine Elliott, Minister of Health