

June 11, 2021

The Honourable Seamus O'Regan,
Minister of Natural Resources
House of Commons, Ottawa, ON K1A 0A6
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Dear Minister O'Regan

RE Canada's new Greener Homes Program: A missed opportunity to address preventable radon exposure-related lung cancer, the leading cause of lung cancer after smoking.

We applaud the Canadian government for introducing the Canada Greener Homes Grant as an important measure for addressing home energy efficiency and climate change mitigation. We think it will have a lasting and significant impact.

However, solid evidence confirms that energy retrofits can inadvertently make worse another pressing national problem—the problem of radon gas exposure. Radon is a naturally occurring odourless and colourless radioactive gas that results from the breakdown of uranium in the soil. It can accumulate in homes and other buildings and when breathed in it increases the risk of lung cancer. Canada has exceptionally high radon levels, with recent research estimating one in six homes in the Western Prairies are over the Canada Radon Guideline of 200 Bq/m³.¹

Health Canada's National Radon Program has been working hard since 2007 conducting important research and monitoring programs, enabling updates to the National Building Code, supporting the training and certification of radon mitigation professionals. Above all, it is helping to spread awareness of radon, trying to get the message out that radon gas exposure in homes is the leading cause of lung cancer after smoking, killing over 3000 people a year.² The Canada Greener Homes Grant needs to be coordinated and integrated with Health Canada's existing work, and include measures to address elevated radon.

Since the 1980s when residential radon was first discovered, it has been understood that in energy efficient homes there can be decreased ventilation. When there is no way

¹ Stanley, F., Irvine, J. L., Jacques, W. R., Salgia, S. R., Innes, D. G., Winqvist, B. D., Torr, D., Brenner, D. R., & Goodarzi, A. (2019). Radon exposure is rising steadily within the modern North American residential environment and is increasingly uniform across seasons. *Scientific reports*, 9(1), 18472.

² Health Canada, 2020. Radon: What You Need to Know. Available at <https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/radon-what-you-need-to-know.html> accessed May 28, 2021

for radon to leave the home radon levels can increase to hazardous levels.³ Since then many studies have confirmed the problem.⁴ There are easy solutions to radon, and radon professionals can assess homes (including ones that have been retrofitted and are more airtight), usually installing sub-slab depressurization systems in one to two days. Health Canada has worked to set up the Canadian National Radon Proficiency Program to certify and maintain standards for radon mitigation professionals.

Energy retrofit programs that ignore radon are likely to increase lung cancer rates and premature death. However, they can also be designed to spread education and awareness on radon and lead to overall reductions of radon exposure across the country. A case in point is the recent expansion of Saskatchewan's Renovation Tax Credit to include radon reduction measures.⁵

We ask that the Canada Greener Homes Grant ensure that:

- The Grant program and its funded energy advisors and retrofitters make clear to the public the need to twin energy efficiency retrofitting with attention to radon
- After any energy retrofit, there is a test for radon.
- Any grants and subsidies for home energy efficiency also cover radon mitigation as part of the energy efficiency process.

Including radon testing as part of the Canada Greener Homes grant can also have the spin off effect of massively improving knowledge of radon levels through the country. In 2012, Health Canada's Cross Canada Survey of Radon Concentrations in Homes was able to sample 18,000 homes but this left many parts of our expansive country without good local sample sizes. Researchers, lung associations, and professional mitigators are working hard to improve Canada's databases of radon readings. If the Canada Greener Home Grants specifies that test results be shared with public databases, this would dramatically increase our understanding of radon in homes.

³ United States General Accounting Office, 1986. Indoor Radon Air Pollution. GAO/BCED-S6-170 available at <https://www.gao.gov/assets/150/144501.pdf> accessed May 28, 2021 at page 12.

⁴Arvela, H., Holmgren, O., Reisbacka, H. and Vinha, J., 2013. Review of low-energy construction, air tightness, ventilation strategies and indoor radon: results from Finnish houses and apartments. *Radiation protection dosimetry*, 162(3), pp.351-363. Shrubsole, C., Macmillan, A., Davies, M. and May, N., 2014. Unintended consequences of policies to improve the energy efficiency of the UK housing stock. *Indoor and Built Environment*, 23(3), pp.340-352. Milner, J., Hamilton, I., Shrubsole, C., Das, P., Chalabi, Z., Davies, M. and Wilkinson, P., 2015. What should the ventilation objectives be for retrofit energy efficiency interventions of dwellings?. *Building Services Engineering Research and Technology*, 36(2), pp.221-229. Collignan, B., Le Ponner, E. and Mandin, C., 2016. Relationships between indoor radon concentrations, thermal retrofit and dwelling characteristics. *Journal of environmental radioactivity*, 165, pp.124-130.

⁵ Take Action on Radon, 2021. Congratulations to Saskatchewan. Available at <https://takeactiononradon.ca/congratulations-to-saskatchewan/> accessed May 28, 2021

Signed by,

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