

**FINAL
REPORT**

Survey on Building Managers' Knowledge
of Indoor Air and Improvement Strategies

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EXECUTIVE SUMMARY

Environics Research Group was retained by the Canadian Committee on Indoor Air Quality and Buildings (CCIAQB) to conduct survey research among building professionals, with the overall objective of establishing a baseline measure of knowledge of indoor air issues and improvement strategies. The survey consisted of 150 interviews conducted by telephone between October 15 and December 3, 2010 with building professionals drawn from a database provided by the International Facility Managers Association (IFMA).

Key findings

The results of the research reveal that building professionals are knowledgeable about indoor air quality issues, particularly about the potential harm to human health. Most provide guidance to and field concerns from tenants about indoor air quality, which likely contributes to their sensitivity to the issue. There is also widespread confidence in the quality of the indoor air in their buildings, although many seem to recognize some room for improvement. Yet there is little sense of urgency for such improvement; most say they have the ability to reduce the concentration of specific pollutants, and few know of design features missing from their buildings that could make a difference.

The following summarizes the key findings of the research:

GENERAL KNOWLEDGE

- Relatively few building professionals are aware of the best overall way to improve indoor air quality. Three in ten correctly identify “pollutant source control” as most effective; by comparison, almost half think the best method is “increasing ventilation” and another quarter think it is “air cleaning”.
- Changing air filters is by far the best-recognized maintenance technique for improving a building’s air quality. When prompted, a majority of building professionals also consider increasing ventilation to be highly effective, while duct cleaning, cleaning with low-emission products, and using a humidifier or a dehumidifier are rated as moderately so.
- Most building professionals say that mould and bacteria, second-hand tobacco smoke, and formaldehyde are very harmful to human health. There is less certainty regarding the potential

harm from volatile organic compounds (VOCs), dust and cosmetic scents, although few say they are not harmful.

BUILDING STATUS

- Almost all building professionals feel that the air quality in their building over a typical year is good. However, only one in three rate it as very good (the highest possible rating), suggesting that many recognize room for improvement. Only a very small minority (5% total) rate the indoor air quality below good (i.e., poor or neither good nor poor).
- Most building professionals say that their tenants report health issues related to indoor air quality, the most common being headaches, allergic reactions and dry eyes. Dust or particles, cosmetic scents and odours, and VOCs are thought to have the greatest impact on health in their buildings.
- Building professionals are able to reduce the concentration of most pollutants in their buildings. This ability is most widespread for dust and particles, but majorities also say they can reduce the concentrations of VOCs, bacteria and mould, cosmetic scents and odours, second-hand tobacco smoke and formaldehyde.
- The design features most commonly incorporated into buildings to address indoor air quality are air filters and air quality or carbon dioxide (CO₂) monitoring systems. Only a minority (24%) of building professionals could identify any such features that are missing from their building, which in most cases is due to the expense involved, specific design issues or the age of the building.

SPECIFIC DEVICES OR PROCEDURES USED TO IMPROVE AIR QUALITY

- The use of specific indoor air quality devices or maintenance procedures varies considerably. Central HVAC air filtration systems are almost universal. In contrast, most building professionals are aware of portable air cleaners and heat recovery ventilators, but only minorities report using them in their buildings (8% and 24%, respectively). Half of building professionals report that the air ducts in their building have been cleaned.

- Effectiveness and cost tend to be the main factors considered in selecting a particular product, model or company. Reputation is also important in the selection of an air duct cleaning company.
- About half of building professionals responsible for buildings that either have HVAC air filtration or that have had air ducts cleaned have seen evidence of a positive impact on indoor air quality from these approaches. (There is also a moderate sense of impact in the case of portable air cleaners and heat recovery ventilators, although the sample size of users is too small to allow for quantitative conclusions). Specific measurements of change in indoor air quality have been taken in about three in ten cases where these methods have been introduced; where such measurement has been done, it is most likely to consist of air quality testing.

IAQ INFORMATION

- Most building professionals say they provide guidance on indoor air quality to the occupants and organizations in their buildings. When they need more information on indoor air quality, they are most likely to turn to air quality consultants, and building or air quality organizations.

Recommendations

Based on the findings of this research, the following recommendations for further work are presented to CCIAQB for consideration:

1. The current research provides a valid and reliable set of benchmark data for comparing against future surveys. It would be worthwhile to repeat this research again in a few years' time to determine if building professionals' knowledge of indoor air quality issues has changed, and to assess the effectiveness of any education or communications initiatives that CCIAQB may undertake in the meantime.
2. CCIAQB may wish to consider complementing the information in this survey with qualitative (focus group) research, designed to explore how building professionals think about indoor air quality and the barriers to action, and to test strategies and/or information that would resonate most strongly.