

Title: Occupant Behaviour on Ventilation and Indoor Air Quality in Irish Energy-Efficient Homes (BE-VENT)



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Background: EU member states are required to develop policies and measures to reduce energy use in buildings. Such measures must not compromise the health and comfort of building occupants. Irelands Climate Action Plan sets out ambitious plans to design and construct all new dwellings to ZEB by 2030, and to retrofit 500,000 dwellings to BER B2 or better by 2030. As the building air tightness is increased, it is essential that an effective ventilation strategy is implemented and maintained to ensure a good air exchange rate and the effective removal of such indoor air pollutants. Occupant behaviour plays an important role in generating indoor air pollutants at home and little is known about the factors that influence how occupants interact with building ventilation, and how this interaction impacts on residential exposure to indoor air pollution.

Aim: BE-VENT will provide insight into the factors which influence how occupants interact with ventilation systems in energy efficient homes in Ireland, the objective is to design, implement and evaluate a behavioural intervention programme to improve the level of awareness regarding indoor air quality, and to promote positive engagement with building ventilation systems.

Objectives: Conduct a national survey (questionnaire), among occupants of energy efficient dwellings. The objective of the survey is to collect information on the level of awareness and knowledge regarding indoor air quality, sources of pollution in the home, and interaction with building systems such mechanical ventilation systems, cooker hoods etc.

Design, implement and evaluate the effectiveness of a behavioural intervention programme to improve the level of awareness regarding indoor air quality, and to promote positive engagement with building ventilation systems.

Methods: Quantitative questionnaire survey, IAQ field study, intervention co-design, intervention evaluation.

What the work is expected to establish: The research will result in an intervention that will reduce the health risks of living in poorly ventilated homes, including asthma, allergies, and poor mental health and wellbeing. BE-VENT will support the transposition of the EPBD.