

Title: Retrofitting for Improved Air Quality: promoting sustainable and healthy homes (RIAQ)



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Background: The RIAQ project addresses the critical challenge of improving energy efficiency in the Northern Periphery and Arctic region by enhancing indoor air quality (IAQ), hygrothermal performance, and occupant well-being in retrofitted homes. Aligned with EU climate goals, RIAQ will develop and disseminate practical tools, guidelines, and best practices for sustainable retrofitting. The project engages SMEs, policymakers, and occupants to ensure widespread adoption and compliance with relevant legislation. By fostering transnational collaboration, RIAQ leverages diverse regional expertise to create scalable solutions that support circular economy initiatives and drive long-term improvements in building sustainability and occupant health.

Aim: The RIAQ project contributes to energy efficiency and sustainability by enhancing indoor air quality (IAQ), ventilation, and hygrothermal performance in retrofitted buildings across the Northern Periphery and Arctic region. Through transnational collaboration and stakeholder engagement, the project will develop best practices for retrofits, reducing energy consumption and greenhouse gas emissions while ensuring healthier living environments.

Objectives: To inform and engage policymakers, building owners, and industry professionals about the importance of coordinated retrofit strategies. Communication efforts will highlight the benefits of the framework in aligning retrofits with sustainability goals. IAQ parameters will be measured in 50 domestic dwellings located across the NPA region, at pre- and post-energy retrofit. Best practices that promote and support healthy energy-efficient buildings, at design, construction and delivery to end user (i.e. occupant) stages will be identified, this information will be used to provide a model for broader adoption across the region.

Methods: Policy review, stakeholder consultation, occupant consultation, IAQ field studies, hygrothermal assessment.

What the work is expected to establish: The expected impact includes improved retrofit practices, enhanced IAQ, and strengthened connections among regional stakeholders, contributing to a healthier and more sustainable built environment.