

Improving Energy Efficiency

FACT SHEET 9

SUBJECT BEING ADDRESSED BY THIS FACT SHEET

How is indoor air quality linked to improving energy efficiency?

WHO IS THE TARGET AUDIENCE FOR THIS FACT SHEET?

Designers, specifiers, building owners and occupiers, facilities management professionals.

Next steps for the target audience

By considering indoor air quality alongside energy efficiency, building owners and occupants can create healthier and more comfortable indoor environments while also reducing energy consumption and associated costs. It is important to strike a balance between energy efficiency measures and maintaining good indoor air quality to ensure a sustainable and healthy living or working space.

THE FACTS

Indoor air quality and energy efficiency are closely linked in several ways. When it comes to improving energy efficiency, there are a few key factors that can impact indoor air quality:

1. Ventilation:

Proper ventilation is essential for maintaining good indoor air quality. Energy-efficient buildings often have tightly sealed windows and doors, which can limit the exchange of indoor and outdoor air. To ensure good air quality, it is important to have a well-designed ventilation system that brings in fresh air and removes stale air. This can be achieved through mechanical ventilation systems or through natural ventilation strategies such as operable windows or trickle vents. It is also important to have proper design and use of re-circulating systems. This avoids cross contamination from high-risk areas (kitchens, toilets, bathrooms).

2. Air Filtration:

Energy-efficient buildings often have advanced air filtration systems that help remove pollutants, allergens, and contaminants from the indoor air. These filtration systems not only improve indoor air quality but also ensure that the HVAC system operates efficiently by preventing the buildup of dust and debris on the equipment.

3. Moisture Control:

Energy-efficient buildings often have better insulation and vapour barriers, which help reduce heat transfer and improve energy efficiency. However, these measures can also trap moisture indoors if not properly managed. Excess moisture can lead to mould growth, which can negatively impact indoor air quality. Therefore, energy-efficient buildings should also incorporate moisture control strategies such as proper ventilation, dehumidification, and moisture-resistant materials. Proper use of insulation: ensure fibrous (glass fibre or mineral wool) insulation is isolated from active airflow within ventilation system.