Multiple Benefits of Energy Efficiency

Health

Why is energy efficiency important for health?

Energy efficiency can **improve health** by creating healthy indoor and outdoor living environments with comfortable temperatures and humidity levels, and improved air quality.

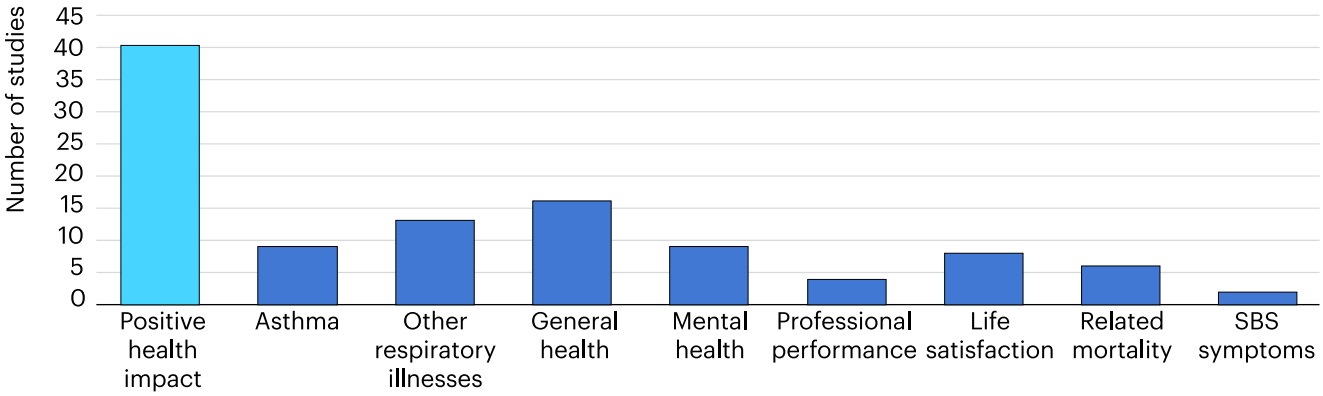
- Energy efficiency measures have been linked to **improved health**, such as fewer respiratory illnesses.
- Targeted energy efficiency programmes can **reduce doctor and hospital visits** and save health costs. In New Zealand, a retrofit programme led to a 43% reduction in hospital admissions for respiratory conditions, while a similar programme in Ireland reduced the frequency of doctor visits by 50%.

Key analysis

The World Health Organization estimates that household air pollution was responsible for more than 3 million deaths per year in 2020. Energy efficiency policies, such as home energy retrofits and weatherisation programmes, can create conditions that support improved occupant health and well-being, particularly among vulnerable groups.

A review of 45 academic studies finds that 90% reported positive health impacts from energy efficiency interventions in buildings. The most frequently reported improvements are related to respiratory illnesses and general health, as well as mental health and life satisfaction.

Studies finding positive health impacts from energy efficiency interventions, global



Notes
SBS = Sick building syndrome, whereby acute health effects appear to be linked to time spent in a building, but are not assigned to a specific illness. Related mortality refers to reduced mortality related to health outcomes of the energy efficiency intervention. Number of studies n=45. Study designs include negative health impacts associated with the lack of appropriate building energy efficiency and fuel poverty.

Source
IEA representation based on Chengju, W., Juan, W., Norbäck, D. (2022) – A Systematic Review of Associations between Energy Use, Fuel Poverty, Energy Efficiency Improvements and Health.

A closer look at wider health impacts

Energy efficiency policies across the world have shown positive health impacts for the population. For instance, in a programme in Australia, 49% of participants reported better health due to efficient heating systems. In a South African programme, energy retrofits led to a 81% reduction in self-reported illness among households. Meanwhile, the evaluation of the Warm Up New Zealand Programme concluded that 90% of all benefits are health-related, with hospital admissions for respiratory conditions dropping by 43%, saving the country over USD 1 billion in health costs. In Ireland, in an analysis of the Warmth and Wellbeing Scheme, participants report that the improved efficiency of their homes reduced the number of doctor visits by 50% and lowered hospital admissions by 40%.

In addition to physical health, energy efficiency can also lead to improvements to mental health, thermal comfort, and safety:

- **Mental health**: Studies show that thermal discomfort and fuel poverty have negative mental health impacts – such as anxiety, stress and depression – and that efficiency improvements can improve this. The impact on mental health may be enhanced if combined with financial support mechanisms and strong community engagement.
- **Thermal comfort**: Retrofits that include installing insulation are shown to enable occupants to raise indoor air temperatures to comfortable levels.
- **Safety**: Efficient public lighting can enhance safety perceptions. For instance, efficient streetlighting projects in Brazil and India reduced energy costs by up to 80%, improved visibility and perception of safer streets, and increased use of public spaces.

Lastly, improving efficiency has the most health effects among vulnerable groups such as children, the elderly, and those with pre-existing illnesses. Studies indicate that extensive renovations can lead to a 20% decrease in school absence for children with asthma and reduce by over 30% the mortality risk for those over 65 with a history of cardiovascular hospitalisation.

Need more information?

IEA (2025) - Blueprint for Action on Just and Inclusive Energy Transitions
Chengju, W., Juan, W., Norbäck, D. (2022), A Systematic Review of Associations between Energy Use, Fuel Poverty, Energy Efficiency Improvements and Health
Ministry of Economic Development New Zealand (2012), Cost Benefit Analysis of the Warm Up New Zealand: Heat Smart Programme