



Healthy Buildings in the 2020 national Long-term Renovation Strategies

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Oliver Rapf
Executive Director

Indoor Environmental Quality (IEQ)

We spend 90% of our time indoors.

IEQ is key to our health and wellbeing, especially during the pandemic



Quantifying the benefits



Boost labour force productivity by up to 12% worth up to €500 billion a year across the EU



Accelerate educational performance of students by up to two weeks a year



Reduce the average length of stay in hospitals by 11% (around one day), potentially saving the European health sector €42 billion annually



Cut CO₂ emissions, reduce energy bills, alleviate fuel poverty, improve energy security and boost innovation in the construction industry

Source: Building 4 People – Quantifying the benefits of energy renovation investments in schools, offices and hospitals; BPIE, 2018

EPBD Requirements for Long Term Renovation Strategies



Each long-term renovation strategy shall encompass:

an overview of policies and actions to target the worst performing segments of the national building stock, split-incentive dilemmas and market failures, and an outline of relevant **national actions that contribute to the alleviation of energy poverty;**

an evidence-based estimate of expected energy savings and **wider benefits, such as those related to health, safety and air quality.**

Member States' views on Healthy Buildings



All Member States acknowledge in their LTRS the important connection between high energy performance and healthy buildings

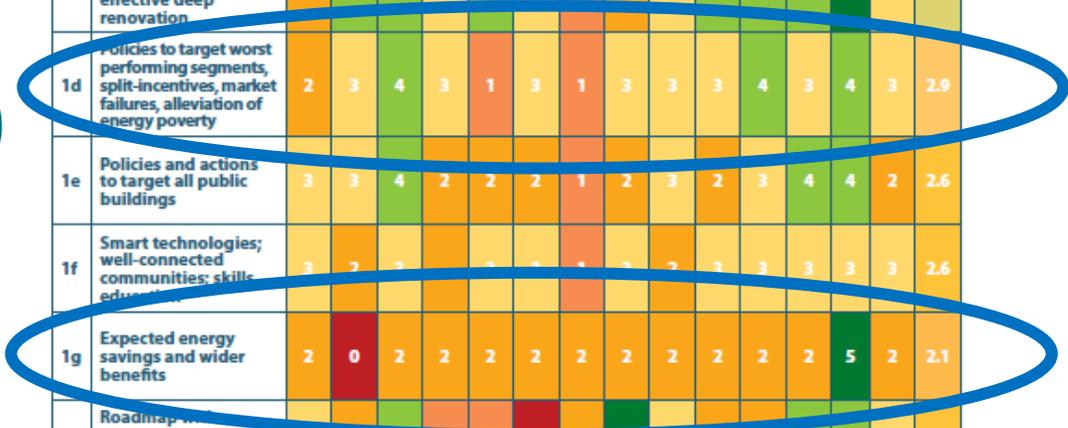
Tackling energy poverty is widely seen as an important contribution to improved health of occupants, through reduced mould and condensation, and improved comfort

Some Member States describe potential risks from poorly implemented renovation, particularly in terms of adequacy of ventilation

Table 2 - Summary evaluation of Member States' compliance with Article 2a of EPBD

Clause	Description	Austria	Belgium-Brussels	Belgium-Flanders	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Luxembourg	Netherlands	Spain	Sweden	Average
1a	Overview of the national building stock	2	2	4	3	4	4	3	4	4	3	3	3	5	3	3.4
1b	Cost-effective approaches to renovation, including trigger points	1	2	4	3	2	4	2	3	4	3	2	3	4	2	2.8
1c	Policies and actions to stimulate cost-effective deep renovation	2	4	4	3	4	3	1	2	3	4	4	4	5	3	3.3
1d	Policies to target worst performing segments, split-incentives, market failures, alleviation of energy poverty	2	3	4	3	1	3	1	3	3	3	4	3	4	3	2.9
1e	Policies and actions to target all public buildings	3	3	4	2	2	2	1	2	3	2	3	4	4	2	2.6
1f	Smart technologies; well-connected communities; skills education	3	2	3	2	2	2	1	2	3	3	3	3	3	3	2.6
1g	Expected energy savings and wider benefits	2	0	2	2	2	2	2	2	2	2	2	2	5	2	2.1
2	Roadmap with measures, progress indicators, and indicative milestones	3	2	4	1	1	0	2	5	3	2	2	4	4	3	2.5
3	Mechanisms for mobilising investments	2	3	3	3	2	3	1	3	3	2	3	3	4	3	2.7
5	Consultation	2	0	1	2	0	2	2	4	3	2	2	4	3	3	2.1
6	Implementation details of latest LTRS	0	0	3	0	0	4	0	5	0	1	0	0	5	3	1.5
	Aggregate score	2.0	1.9	3.3	2.2	1.9	2.7	1.5	3.3	2.7	2.5	2.5	3.0	4.2	2.6	

Coverage of wider benefits in the LTRS 2020



Source: A review of EU Member States' 2020 Long-term Renovation Strategies. BPIE September 2020

0 missing 1 very superficial 2 incomplete 3 adequate 4 good 5 exemplary

Quantifying the Benefits on national level: The Spanish example



Only Spain quantified health benefits within the LTRS:

The energy renovation of 1.2 million homes would prevent:

- 80,000 people consider that they have bad or very bad health;
- 96,000 people would not be diagnosed with cardiovascular problems;
- Families could almost halve energy costs, saving €400-550/a;
- Public administrations would save €370/a per home in health and labour costs.
- Reduced number of additional winter deaths due to cold temperatures in the home, currently 7,350 each year

Denmark



A pilot scheme has been established for public housing organisations to perform trials with **dynamic heat accounts** where the heating expenses are billed according to the measured indoor climate (indoor temperature, humidity and CO₂ content) as an alternative to the traditional measurement of heat consumption.

The purpose of this is to motivate tenants to choose a good indoor climate, because this is good for their health as well as the condition of the property and may lead to a reduction in energy consumption.

Ireland



- The Better Energy Warmer Homes scheme funds energy efficiency improvements in the homes of the elderly and vulnerable, making the homes more comfortable, healthier and more cost-effective to run.
- The Warmth and Wellbeing Pilot Scheme was undertaken to measure and validate the health and wellbeing impacts of providing energy efficiency improvements to the homes of older people and children living with chronic respiratory conditions.

Finland



Poor renovation solutions have caused indoor air problems in the past. A programme on humidity and mildew (2009–2016) provided information and instructions on how to resolve problems in residential buildings.

The work will continue in a national indoor air and health programme (2018–2028).

Austria



Since 2011, municipal building passports are the basis for assessing eligibility for funding of new builds and refurbished buildings. Buildings are assessed according to four different criteria:

- quality of processes and planning,
- energy and utilities,
- health and comfort,
- construction materials and design.

There is a national guideline to improve health via compliance with the minimum standard for natural light for roof extensions, other extensions and conversions.

Brussels Capital Region, Belgium (1/2)

LTRS is **taking account of health aspects in buildings** by:

1 Facilitating access to information on indoor air quality

- Ensure that indoor air quality and its health impacts are taken into account right from the start of a renovation project
- Reinforce advice on indoor air quality to support individuals and professionals.
- Promote the 'health' part of the Guide Bâtiment Durable
- Training programmes and tools for construction professionals.
- Tools for doctors to identify links between a health problem and indoor air pollution and promote visits by regional indoor air pollution unit
- Online tool to self-diagnose indoor air quality in housing

2 Regulating the use of high-polluting materials and products

- Assess use of regulations on polluting materials by public authorities
- Facilitate access by purchasing bodies to low-polluting materials
- Determine adequacy of regulations on ventilation and indoor air quality

Brussels Capital Region, Belgium (2/2)

Objectives:

- **2019-2024:** All stakeholders play an active role in raising public awareness and advocate renovation as a means to better health.
- **2030:** Public authorities use labelled products/materials guaranteeing low emission of chemical pollutants.
- **2050:** Any material used during a renovation is compatible with health aspects. All buildings have high indoor air quality

Conclusions

- Healthy/health in buildings is in principle recognised as a benefit of renovation.
- However, this is the case only in some Long-term Renovation Strategies and....
- ... an estimation of the size/value of the benefit is generally not available.
- A lot more awareness raising and analytical work to valorise the benefits of healthy buildings is needed.

Thank you...

Oliver Rapf

Executive Director

oliver.rapf@bpie.eu

www.bpie.eu



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