

Fabric first approach

Main barriers and solution pathways

Implementation map

Please find detailed information on the policy approach in the ENEFIRST report [“Priority areas for implementing Efficiency First”](#)

<https://enefirst.eu/reports-findings/>



Short introduction to the policy approach

Fabric first approach

A 'fabric first' approach to building design and renovation aims to **maximise the energy performance of the components and materials** that make up the building fabric itself, before considering the installation of heating systems and other building services in order to **achieve ambitious energy efficiency levels**. It can either be applied directly in building regulations to cover new as well as existing buildings or as general approach in renovation subsidy schemes.

Business as usual	E1st scenario
Nearly zero-energy building (nZEB) standards calculated according to the EPBD Annex I methodology vary across MS, lack ambition and can be achieved with RES	Achieving an EU-wide low energy building standard by prioritising the thermal performance of the building envelope of existing and new buildings
Renovation subsidy schemes supporting both upgrades of heating systems and energy performance improvements depending on cost-optimality for the building owner	Renovation support schemes implement 'fabric first' through eligibility criteria prioritising efficiency measures and/or binding financial incentives to energy performance levels achieved

Overcoming the main barriers to the design and implementation of E1st Fabric first approach

I. Policy design

Main barriers

Main **barriers** to policy design

Stakeholders required to act

Solutions to overcome the barrier

Possible legislative and other changes

Multiple benefits of 'fabric first' are not considered in investment decisions

EU

National authorities

Reform of cost-optimality calculation of energy performance requirements to include multiple benefits

Include multiple benefits in cost-optimality calculation (Annex III, EPBD 2010/31) and EU taxonomy

Lack of knowledge/ awareness about multiple benefits of a high building energy performance

EU

National authorities

Provide EU or national guidelines on multiple benefits; Integrate multiple benefits in EPCs

Provide quantification methodology for multiple benefits
Integration of multiple benefits in revised EPC schemes

"Silo thinking" and lack of cooperation in professional cultures in building and construction industry

National authorities

Increase share of independent energy advisors and cooperation of contractors/ SMEs

Alleviate barriers for independent energy advisors
Require Building Renovation Passports to plan coordinated, integrated solutions

Lack of expertise and guidelines to achieve high energy performance requirements in optimal combination with renewable installations

National authorities

Local authorities

Educational programmes and upskilling of energy efficiency experts and contractors

Integrate upskilling programmes for energy advisors/ efficiency experts in higher/ secondary education

Overcoming the main barriers to the design and implementation of E1st Fabric first approach

II. Policy implementation

Main barriers to policy implementation

Stakeholders required to act

Solutions to overcome the barrier

Main barriers

Possible legislative and other changes

High investment and long pay-back of 'fabric first' energy efficiency measures

EU National authorities

Innovative business models with long-term performance guarantees to de-risk investments

Quality issues (lack of monitoring of real energy savings achieved)

EU National authorities Local authorities

Performance-based renovation support schemes and a revised EPC scheme

More demanding requirements leading to less applications for a 'fabric first' subsidy scheme¹

Local authorities National authorities

Technical assistance and project development support on regional or local level (via energy advisers, energy agencies or contractors)

Resistance from manufacturers and installers of heating systems

Local authorities

Information campaigns and capacity building about integrated approaches of EE and RES in buildings

Establish EU or national long-term performance standard to ensure high-quality renovations and energy savings

Include conditionality of real energy performance in EU and national subsidy schemes and link to EPC

Provide direct tailored support to building owners, for example through One-stop-shops

Implement information campaigns on the benefits of fabric first and integrated solutions on local level

Further reading

- ENEFIRST report [“Priority areas for implementing Efficiency First”](#)
 - Chapter 3.1.3 Identified policy approaches in the buildings sector
 - Chapter 3.7 EU funding mechanisms
- ENEFIRST international examples:
 - Case study 15: [Fabric first approach under the Better Energy Communities grant scheme](#)
- Stenlund (2016). *Applying Fabric First principles: Complying with UK energy efficiency requirements (FB 80)*, BRE (Building Research Establishment).