

Building Blueprint: Endorsement Schemes for Building Energy Efficiency Improvements in the EU25

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ABSTRACT

Although there is significant support among policy makers and politicians for energy efficiency improvements in buildings, there remains a lack of understanding of what policies (regulatory, economic, communicative and organisational) can deliver these changes on the ground. The blueprint study attempts to address this gap.

KEYWORDS

Policy analysis, Best practices, Energy Efficiency

INTRODUCING EURIMA'S BUILDING BLUEPRINT

This paper presents the result of a quick-scan into best practices of building energy efficiency policies and programmes, and recommends suitable instruments for endorsing building energy efficiency in Europe [Klinckenberg et al (2006)]. It is based on an analysis of a number of schemes across Europe and elsewhere, that aimed to improve energy efficiency in buildings. All building types and tenure systems were examined but only successful schemes that acted beyond pilot schemes were included in the analyses. Moreover, only schemes where the mode of delivery was clearly defined were included.

The objective of the study was to identify the elements that are essential to deliver real improvements for a range of building types, tenures and regions as well as to give examples of instruments that have worked in practice. The objective was not to provide an overview of best practices across Europe, rather to demonstrate that real improvements are possible as well as to signal to policy makers what combinations of policies work and which do not in which situations, i.e. to provide a road map or blueprint for what needs to be done to capture the huge potential that exists in buildings.

QUICK-SCAN OF BUILDING ENERGY EFFICIENCY PROGRAMMES

The implementation of Energy Efficiency improvements in buildings, whether new developments or stock, commercial or residential buildings, in Western Europe or the New Member States, is known to be sub-optimal at best. Many cost-effective and

environmentally beneficial measures are not being implemented, for a variety of reasons.

Several instruments may be applied to address the barriers for investment in building energy efficiency improvements, including (but not limited to) financial instruments, information and awareness raising campaigns, public-private and public partnerships, institutional strengthening and capacity building. These instruments need to be analysed, to identify the key barriers and issues for intervention (by governments or other parties) and best practices in government policies, private sector initiatives and public-private partnerships addressing these barriers.

Analysis of Best Practices

Starting with a review of literature, projects & programmes, approx 30 best practices were selected for further analysis [Sunikka et al (2006)]. An overview of typical programmes for the various sectors of the building market was established, as well as of the strengths and weaknesses of four main types of instruments. This was the basis for the definition of prototype instruments. A last stage was the analysis of the main barriers in different sectors and tenure situations in the building market. These barriers were linked to the analysis of prototype instruments, and the result provides an overview of promising instruments and policy packages suggested for a successful endorsement of building energy efficiency.

Best practices were classified according to the sector that these are targeting (residential, commercial and/or public, and new and/or existing buildings), for each of the four main types of instruments that are generally differentiated in policy analysis. In general, economic instruments (like subsidies) have been applied the most, and the residential sector is targeted more often than commercial and public building sectors.

The analysis of the *strengths and weaknesses* of best practice programmes learned that regulatory policy instruments can produce particular policy outcomes if their weaknesses like compliance and legitimacy are mitigated, if the behaviour of occupants does not create rebound effects and if the dilemma of low-income households is addressed. Economic instruments providing incentives for energy efficient improvements are needed to promote energy efficiency through market-led measures and price signals, and more targeted policy measures should be aimed at specific dilemmas like the capture of benefits in the residential sector. Communication and organisational instruments are clearly supporting tools, but necessary to address knowledge and implementation barriers.

Introducing Prototype Instruments

A new element in the study was the introduction of *prototype instruments*, a means of describing the underlying principles of a variety of endorsement schemes and policies. In this analysis, a prototype instrument is defined as a core mode of operation of a policy or programme, applied similarly in different contexts but every time adapted to specific circumstances.

TABLE 1
Identified prototype instruments

Regulatory instruments	<ul style="list-style-type: none"> • Regulatory benefits for above-standard energy performance • Mandatory environmental performance evaluation with minimum requirement • Above-standard requirements for government buildings • Energy upgrading requirements when renovating a building
Economic instruments	<ul style="list-style-type: none"> • Preferential loans for significant (above-standard) energy performance improvements • Tax credits for installing energy-saving products
Communicative instruments	<ul style="list-style-type: none"> • Building energy performance audits • Demonstration projects • Voluntary energy conservation agreements
Organisational provisions	<ul style="list-style-type: none"> • Independent energy audits with organisational support • Professional management for multi-family housing • Independent verification of sustainable real-estate investments • Energy service contracts

Prototype instruments allowed for the comparison of programmes across countries and sectors of the market, to analyse the impact of the principles at work in these programmes and the selection of recommended endorsement schemes for building energy efficiency improvements.

Best practices have been analysed, for each of the four types of policy (as presented with the overview of best practices) and according to the sector that these are targeting (residential, commercial and/or public, and new and/or existing buildings). Based on this, prototype instruments are presented, describing as successful means of endorsing building energy efficiency improvements, if the barrier tackled by that instrument is relevant in a country and segment of the market. This latter aspect will be the topic of the next section.

ANALYSIS OF SECTORS, TENURE & REGIONS

Building on the analysis of best practices, the strengths and weaknesses of programmes and the definition of prototype instruments, the development of a blueprint for building energy efficiency programmes was initiated. This required an analysis of the main barriers in various sectors of the building market, taking into account the differences in the tenure situation of the buildings. Key barriers were linked to promising instruments to tackle these barriers, and thus endorse investments in building energy efficiency, using the prototype instruments presented in the previous section. Given the expected differences in barriers for the various tenure situations, the analysis differentiates between sectors and tenure situations.

Finally, the analysis of sectors, tenure and regions led to a suggestion of different policy packages for different settings: What instruments can work together to address a specific setting? Between sectors and tenure, there are both overlaps and differences in packages, which are explained by similarities and differences in the

key barriers. Regional differences appear to be less important, although the practical set-up of a policy or programme, like a preferential loan scheme or organisational support, will differ between parts of Europe. An interesting perspective, for the longer term, might be the combination of building-regulation standards with the energy-certificate levels of the EPBD.

Table 2
Suggested Policy Packages by sector and tenure

	New buildings	Existing buildings
<i>Residential buildings</i>		
Owner-occupied	<ul style="list-style-type: none"> • Preferential loans for significant energy performance improvements combined with energy audits with organisational support • Mandatory performance evaluations combined with regulatory benefits for above-standard performance 	<ul style="list-style-type: none"> • Preferential loans for significant energy performance improvements combined with energy audits with organisational support • Energy upgrading requirements combined with energy audits with organisational support
Private rental	<ul style="list-style-type: none"> • Mandatory performance evaluations combined with regulatory benefits for above-standard performance • Tax credits for installing energy-saving products combined with energy audits with organisational support 	<ul style="list-style-type: none"> • Tax credits for installing energy-saving products (for landlords) combined with energy audits with organisational support • Energy upgrading requirements combined with energy audits with organisational support
Social rental	<ul style="list-style-type: none"> • Mandatory performance evaluations combined with regulatory benefits for above-standard performance 	<ul style="list-style-type: none"> • Energy upgrading requirements combined with energy audits with organisational support
<i>Commercial buildings</i>		
Owner-occupied	<ul style="list-style-type: none"> • Mandatory performance evaluations combined with regulatory benefits for above-standard performance • Tax credits for installing energy-saving products combined with energy conservation agreements 	<ul style="list-style-type: none"> • Tax credits for installing energy-saving products combined with energy conservation agreements • Energy upgrading requirements
Private rental	<ul style="list-style-type: none"> • Mandatory performance evaluations combined with regulatory benefits for above-standard performance • Tax credits for installing energy-saving products combined with energy conservation agreements 	<ul style="list-style-type: none"> • Tax credits for installing energy-saving products combined with energy conservation agreements • Energy upgrading requirements
<i>Public buildings</i>		
Owner-occupied	<ul style="list-style-type: none"> • Above-standard requirements for government buildings, combined with energy audits with organisational support 	<ul style="list-style-type: none"> • Above-standard requirements for government buildings, combined with energy performance contracting

MAIN FINDINGS

By performing the quick-scan reported here, already a number of valuable lessons have been learnt that can benefit policy makers and other involved parties. It can be expected that a more detailed analysis will bring more and more detailed findings. However,

1. *It can be done*: The study clearly demonstrates that for all situations, an appropriate mix of policies can deliver significant improvements, including the difficult situation of tenant/landlord.
2. *Tenure matters, regions don't*: Surprisingly the mix of elements needed to deliver important changes across the EU are practically the same across the entire EU, what may change is the exact instrument used. For example, upfront financing may be provided by local governments in the UK but through structural funds in Poland. However, the tenure situation (private/public) and the type of building calls for different mixes of instruments.
3. *Non-addressed barriers*: A lack of proper barrier analyses at the beginning of projects is far too common across Europe. It is also a key element to their failure or lack of delivery of better results. The study demonstrates that each tenure and building type has a specific set of barriers that needs to be addressed by the right group of instruments that are tailored to the local environment.
4. *Help me don't tell me*: Information alone delivers limited results, especially if the information isn't specific about what needs to be done in a building. Awareness of the need to act is high, what is missing is practical information about how to renovate a building and the organisational support to deliver improvements. Schemes that provide organisational support are by far the most successful, particularly for renovation of existing residential.
5. *Up-front money is needed*: Loan schemes, which provide a building owner with the means to invest in building improvements without having to use cash resources are more effective and efficient than most subsidy schemes. Again, financial schemes and other incentives work best when supported by organisational structures.
6. *Tax credits are helpful*: Landlords and commercial building owners have difficulty to capture sufficient benefits from building improvement investments. Tailored tax breaks improve the cost / benefit ratio for building owners, and make sure that landlords profit from investments as well as tenants.
7. *Organisational structures are key*: In order to be clear, the study points out that although highly demanding in terms of institutional capacity and upfront investment, organisational structures are key to delivery in most tenure situations. This means support from knowing what to do, how to do it and ensuring it is done properly.

Recommended Policy Implications

The energy certificates requirement of the EPBD offers great opportunities for a combination with other policy instruments. National and local parties, implementing policies and programmes, should devote more attention to this issue, as part of a European effort to capture the considerable energy saving potential in buildings. The European dimension in this area should be to set strategic objectives, and ensure that local parties put programmes in place, support implementing parties to analyse barriers and address these, and to monitor the results.

Based on the quick-scan, the following recommendations are made regarding sector-specific policies:

- Existing residential buildings
 - o Promote preferential funding or loan schemes
 - o Extend EPBD to cover renovation of components
 - o Extend EPBD to cover follow-up of audits
 - o Promote organisational support schemes

- New residential & commercial buildings:
 - o Set minimum and high performance levels
 - o Promote incentives for above-standard buildings

- Existing commercial buildings:
 - o Promote energy upgrading requirements

- Public buildings:
 - o Promote above-standard requirements

Discussion Of Results

The analysis and the recommended policy packages presented in this report are the result of a quick-scan based on a number of successful programmes and focusing in particular on the main characteristics and key barriers identified in the building sector. A further in-depth analysis of the selected best practice programmes can provide more insight into effective and targeted policy packages.

European efforts are needed to disseminate and discuss the results of this quick-scan and to assist policy makers to specify and understand the particular situation and barriers in the sector they are responsible for, in order to increase the attention given to good policy programmes and to increase the impact of the European building energy efficiency strategy.

References

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