Implementation of the EU Energy Performance of Buildings Directive - a snapshot report

European Energy Network

EnR lessons learned and recommendations for the future

Introduction to EnR, the European Energy network

Founded in 1991, EnR is a voluntary network of 23 national energy agencies with responsibility for the planning, management or review of national research, development, demonstration or dissemination programmes in the fields of energy efficiency, renewable energy and climate change abatement.

EnR acts as an informal network to promote sustainable energy good and best practice. It seeks to strengthen cooperation between member agencies and other European actors on all issues relevant to sustainable energy. International comparison and information sharing takes place primarily through its eight Working Groups, which are also open to relevant non-member organisations. As well as the exchange of information, EnR Working Groups serve as fora for the conception and implementation of successful common projects within the framework of EU-funded programmes, such as the European Commission's Intelligent Energy Europe Programme.

EnR provides a first point of contact for national energy agencies in EU Member States. It dedicates its efforts towards joint activities where its unique character provides added value at both a European and individual Member State level. It provides a channel for pan-European technical support on matters of energy policy, strategy, evaluation, programme design & delivery and marketing communications.

For more information on EnR visit www.enr-network.org

Foreword by Simon Green, EnR President

As part of the Energy Saving Trust's 2007/8 Presidency of EnR – the pan-European network of 23 national energy agencies – we commissioned a detailed survey of our Members to review the status and progress of the implementation of the Energy Performance of Buildings Directive (EBPD). This survey concentrated on the new build, existing residential, public and commercial sectors within this Directive as these represent the greatest potential for energy and carbon savings within the European Union.

The research work was undertaken in October 2007 and I would like to express our thanks to all our partners who contributed to the survey as shown to the right.

I am delighted that this EnR report will be launched at the EU Sustainable Energy Week in January 2008. On behalf of EnR, we hope that the findings of this report will act as a catalyst for further constructive debate given the importance of successful implementation of this Directive by all Member States.

Simon Green, EnR President

January 2008

Executive summary

In October 2007, EnR, the European Energy Network, conducted a "snapshot" survey into the current status of activities arising from the implementation of the Energy Performance in Buildings Directive (EPBD) in the EU and associated countries using the expertise of its 23 members. The snapshot focused on new build and existing buildings in residential, public and commercial sectors as these represent the greatest potential for energy and carbon dioxide savings in the EU. The response covers over 95% of the housing stock in the original EU-15 and over 80% in the former accession countries.

As is well-known, implementation of all aspects of the EPBD has been disappointingly slow. Nevertheless, this EnR survey shows that two out of three countries now have a calculation methodology in place for new buildings and for renovation to existing buildings. Energy performance requirements are more widespread in the residential and public sector than in the commercial sector, and are stronger in new build than those covering renovations of existing buildings.

There is less visible progress on the ground in relation to Energy Performance Certificates (EPCs). These are only fully operational in residential new build, and even there in only around 20% of Member States. Given the expectations for the energy and carbon dioxide savings that will flow from energy performance certificates, this is one area where Member States need to accelerate rapidly.

Despite these problems, EnR continues to strongly support the implementation of EPBD and the benefits that will result from it. As such, EnR proposes practical and deliverable policy options to improve the existing implementation of the EPBD and to strengthen the Directive in the future based on the first-hand experience of its members in implementing the existing EPBD. The recommendations to the EU are in line with its primary role of providing strong and clear vision, focusing on high level results and specifying minimum standards where appropriate.

Among the specific recommendations EnR proposes that the EU:

- sets out a timeframe by which all new buildings will be required to have net zero energy requirements or net zero carbon emissions when averaged over the year;
- sets out a timeframe by which significant reductions in energy requirements or carbon emissions from existing buildings will be achieved;
- lowers the size threshold for buildings undergoing major renovations that must meet minimum performance requirements and include individual households;
- requires within seven years the installation of cost-effective energy efficiency and alternative energy systems when buildings are sold or rented;
- ensures harmonised reporting of the energy and/or carbon savings arising from the EPBD, if they are not forthcoming from Member States reporting under the EU Directive on End-use Energy Efficiency and Energy Services.

Among the specific recommendations to national governments, EnR proposes that they:

- set minimum performance requirements for building components, which should be fulfilled when these components are changed or renovated and signal that these requirements will be tightened over time;
- ensure the takeoff of building energy performance certificates, by information and awareness campaigns to building owners and training campaigns targeted at all market agents in the building sector;
- establish effective enforcement systems to ensure that the building regulations on new build and major refurbishment of existing buildings are actually met;
- implement mechanisms and incentives for building residents and owners to improve their energy performance that link into EPBD requirements such as Energy Performance Certificates at key trigger points e.g. the sale or major renovation or rent level reviews.

1. Introduction

There is growing pressure on European government at all levels to make significant reductions in energy consumption and carbon dioxide emissions because of concerns about security of supply and the need to mitigate climate change. There is increasing realisation that if we are to stabilise the global carbon dioxide levels, then significant cuts in European carbon dioxide emissions are necessary and by 2050 it is likely that more than 50% reductions in carbon dioxide emissions will be required. At the heart of the sustainable energy policies to achieve such a reduction in carbon dioxide emissions is energy efficiency. Countless studies have shown that it is the most cost effective way of meeting our security of supply and environmental challenges.

For this reason, the EU Energy Efficiency Action Plan set a target of 20% savings to be achieved by 2020 and estimates that just over half (11%) of this target can be achieved through energy saving measures in buildings. This is not surprising as around 40% of EU energy consumption results from servicing our building needs and the potential to save energy in buildings is particularly high in residential and commercial properties.

As a first step towards the longer term energy saving targets, the EU has set Member State governments an indicative target of 9% savings by 2017 and it is expected that a significant contribution of this 9% target will be achieved though the buildings sector. Hence the importance of the EU Energy Performance in Buildings Directive (EPBD) both in the short and longer term to meeting these challenging reductions in energy consumption and carbon dioxide emissions. This reasoning led EnR to consider it timely to look at progress made in implementing the existing EPBD across the EU.

EnR consists of 23 national energy agencies that vary in their relationship to their national governments and their explicit role in meeting the EPBD. EnR members are all very knowledgeable about the EPBD and the current status of implementation in their countries.

This high level "snapshot" report is an attempt to gain, in a more informal manner, an overview of the current status of the implementation of the EPBD in a significant sample of the EU 27 and linked countries. From the results, Eoin Lees, working with the newly formed EnR Buildings Working Group, has drawn out key lessons learned and made evidence based observations and recommendations to feed into discussions on the future strengthening of the Directive. The research and analysis was carried out on a timescale ensuring the publication coincided with EU Sustainable Energy Week in Brussels, during which the topic of the Energy Performance and Buildings Directive features strongly.

2. Aspects of EPBD Covered

It is impossible to cover all aspects of the EPBD to the depth that they warrant in a snapshot survey undertaken to produce high level results and to a prompt timescale. Consequently, we have focussed on a few key areas and building sectors and are concerned primarily with what practical action is arising from the introduction of the EPBD, rather than concerning ourselves with the status of the legal implementation of the various aspects of the Directive in national laws.

We chose to concentrate on those building sectors which represent most of the energy saving potential in all EU Member States (MS); these were the residential, commercial and public buildings. In all cases, we examined activities in both the new build market and in the existing building stock.

In order to undertake this snapshot survey on the timescale required, we chose to focus on areas where a significant impact in the short term is likely and could be easily quantified. This does not mean that other aspects (for example the display of Energy Performance Certificates in buildings visited by the public) are to be downplayed. These activities are important to bring about the longer term culture change required in individual citizens' and organisations' attitudes to the use of energy. However they are more difficult to quantify in such a survey and are therefore not covered in this report

3. Methodology

A questionnaire was circulated to all EnR members during October 2007. The responses received were compiled and analysed by Eoin Lees and the Energy Saving Trust, with clarifications sought as necessary with the individual respondents.

The draft analysis was presented to and discussed within the EnR Buildings Working Group in November 2007 and a revised analysis and observations were again circulated to all EnR members who participated in the survey. This final "snapshot" report was prepared in the light of comments received from the EnR members who took part in the survey.

We received 21 responses to the EnR survey outlining the status of implementation of the EPBD in their countries as of October 2007. The countries that responded are shown in Table 1.

This healthy response covers over 95% of the housing stock in the original EU-15 and over 80% of the housing stock in the former accession countries.

Country	Classification
Austria	Original EU-15
Bulgaria	Former Accession
Croatia	Former Accession
Czech Republic	Former Accession
Denmark	Original EU-15
Finland	Original EU-15
France	Original EU-15
Germany	Original EU-15
Greece	Original EU-15
Ireland	Original EU-15
Italy	Original EU-15
Netherlands	Original EU-15
Norway	EU linked
Poland	Former Accession
Portugal	Original EU-15
Romania	Former Accession
Slovakia	Former Accession
Slovenia	Former Accession
Spain	Original EU-15
Sweden	Original EU-15
UK	Original EU-15

Table 1: Respondents to the Questionnaire and their Classification

4. Results of the Snapshot

4.1 Context

As can be seen from Figure 1, all respondents are involved in the various aspects of the EPBD; in particular, in the advice and support role relating to the implementation and technical aspects of the Directive.

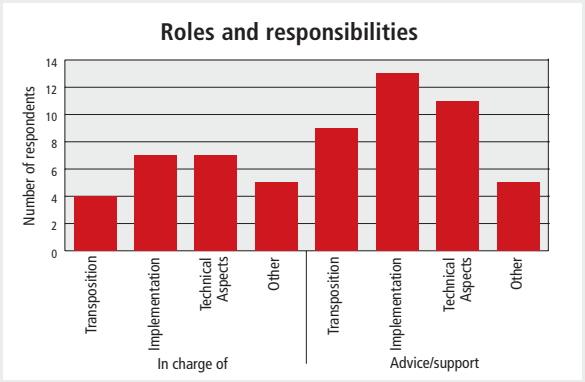

Figure 1: the roles and responsibilities of EnR experts who responded to the questionnaire.

We also asked the EnR experts responding to the survey what their expectations were of the EPBD. These are shown in Figure 2. Counting the high and moderate expectations together, it is clear that over 90% of respondents expect significant contributions from implementation of the Directive to contributions to national climate change objectives, modernisation of the housing stock and behaviour change. In contrast, only one respondent has high expectations that implementation of the EPBD will bring about a change in rental law whereby buildings must be energy efficient before they are rented.

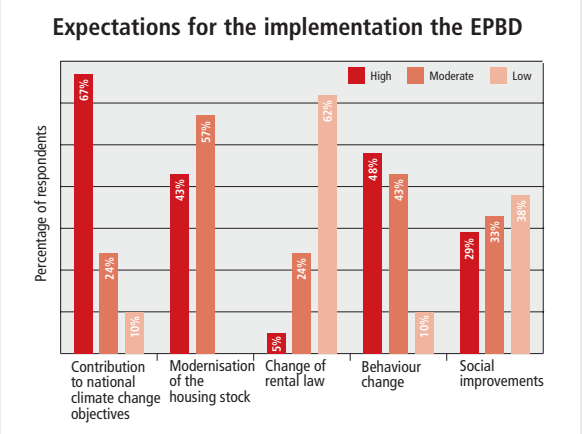

Figure 2: the expectations of the benefits in various policy areas from implementing the EPBD as judged by ER experts.

4.2 Relevance of EPBD to national targets

As can be seen in Figure 3, EnR members believe the EPBD is most relevant to their targets for national energy efficiency, with over 50% stating this to be the case for both new build and the existing housing stock. As several countries in the sample have not yet fully implemented the EPBD; it may be expected that the impact on various national targets will grow in time.

Consequently the impact of the EPBD on greenhouse gas emissions and energy efficiency national targets has been modest to date.

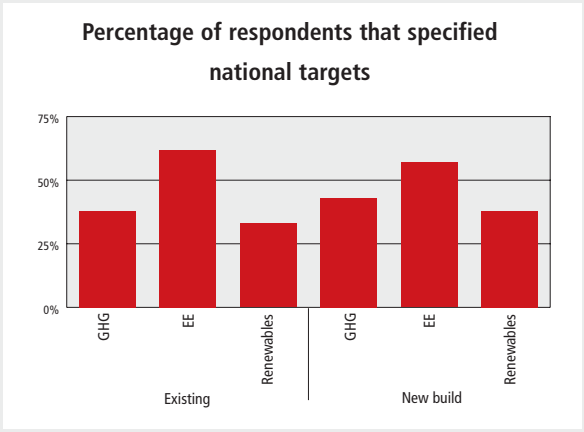

Figure 3: percentage of EnR respondents who specified any national targets relevant to the EPBD.

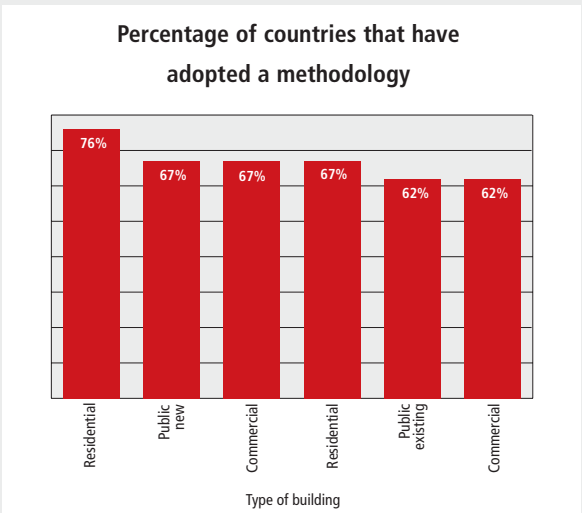

Figure 4: percentage of EnR respondents whose countries have adopted a calculation methodology consistent with Article 4 of the EPBD.

4.3 Calculation methodology

Figure 4 shows the percentage of the sample that have adopted a calculation methodology consistent with Article 3 of the EPBD for our three key building types, broken down into both new build and existing housing stock. The figures for the residential sector are higher than for others. In all, two out of three of our sample had adopted a calculation methodology by October 2007.

We also asked about how the operational methodology was perceived by key stakeholders in terms of ease of understanding and asked respondents to rank their response by easy, moderate or difficult. While just over one in five of the sample thought it was easy to understand their national calculation methodology, nearly one in five thought it was difficult. This difficult rating rose to nearly 30% for new build in the commercial sector.

From the survey, it appears that only Sweden requires operational confirmation for new build residential properties (i.e. the average energy use is based on actual occupants and use of the buildings by them and hence occupant specific rather than a theoretical estimate).

Finally, 59% of respondents stated that their national methodologies also include a carbon dioxide emissions indicator.

In summary, two out of three (responding) countries have a calculation methodology consistent with Article 3 of the EPBD; now in place for new buildings and for major renovations to existing buildings. For the residential sector this is even higher, rising to three out of four countries for new build residential properties. While just over one in five of the sample thought it was easy to understand and meet their national calculation methodology, nearly one in five thought it was difficult. This difficult rating rose to nearly 30% for new build in the commercial sector.

4.4 Complementary policy measures supporting statutory requirements

For those countries within the sample that have statutory requirements in place in connection with setting minimum energy performance using the EU approved methodology, we asked what complementary policy measures were being used to support implementation of the EPBD. A summary of responses is shown in Figure 5 for new build and Figure 6 for the existing housing stock. As can be seen, the favoured method is financial incentives and information and awareness raising activities.

Summarising the situation on statutory requirements to fulfil Articles 5 and 6 of the EPBD, these were in place for 71% and 67% of the sample respectively. In terms of those countries that have statutory instruments in place, financial incentives and information and public awareness are the preferred complementary policy options, but these are actually being used in less than half the countries at present.

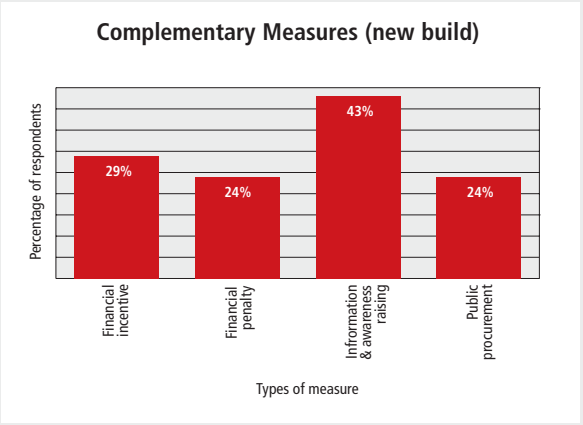

Figure 5: percentage of the 15 EnR respondents whose countries have statutory requirements to fulfil Article 5 of the EPBD in new build and who have complementary measures in place as well.

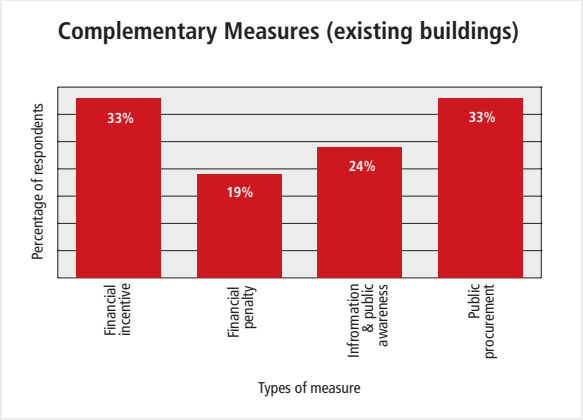

Figure 6: percentage of the 14 EnR respondents whose countries have statutory requirements to fulfil Article 6 of the EPBD in existing buildings and who have complementary measures in place as well.

4.5 Minimum requirements for energy performance

The snapshot survey investigated whether minimum energy performance requirements (EPBD Article 4) had been established for new build. The results are shown in Figure 7 for minimum performance requirements, either through U-values or annual kWh/ m2 or by "other measures". The last category covers measures such as air tightness (6 countries in the new residential sector), minimum boiler efficiency specifications, solar energy requirements and lighting requirements. As might be expected from the history of Building Regulations in Europe, the U-value approach features strongly. However, it is encouraging to note that for the new build sector at least, the use of annual kWh/ m2 features frequently (note: the maximum value that can be achieved by any of these measures in this sample due to non-compliance is 85% and not all countries have both U-value and kWh/ m2).

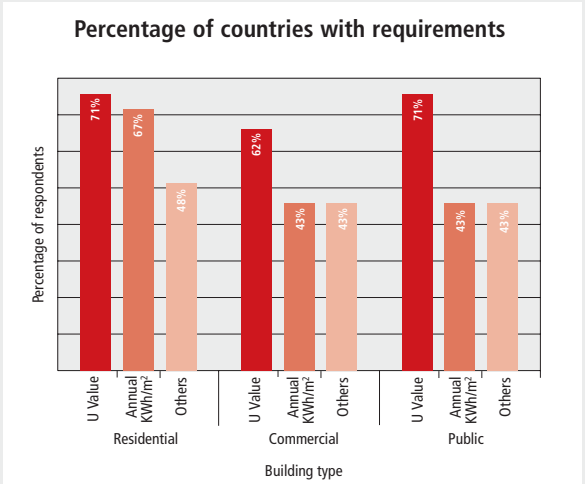

Figure 7: percentage of EnR respondents whose countries have energy performance requirements in the form of either specified U-values, annual energy consumption in terms of floor area or other energy saving specifications for new build.

Figure 8 shows the same energy performance requirements for major renovations to the existing housing stock. As would be expected, although U-values again dominate, they are lower than for new build. The "other measures" category is also considerably reduced with much less air tightness measurements.

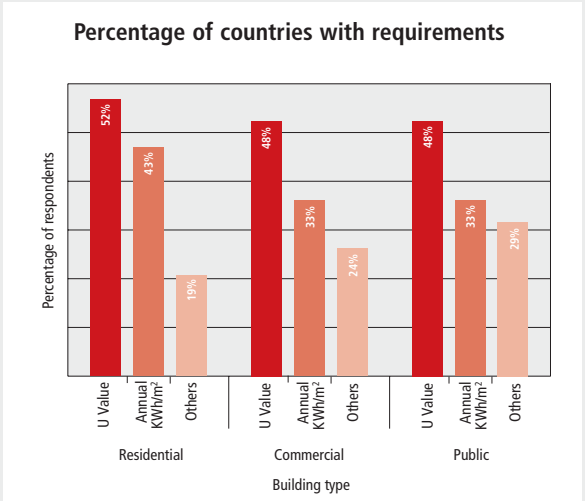

Figure 8: Percentage of EnR respondents whose countries have energy performance requirements in the form of either specified U-values, annual energy consumption in terms of floor area or other energy saving specifications for major renovations of existing buildings.

For ease of comparison, Figure 9 shows the energy performance requirements in new build and renovations to existing buildings but only for U-value and annual kWh/ m2 ratings. This clearly shows the preference for U-values in all stock and the greater energy performance requirements for new build over the existing building stock.

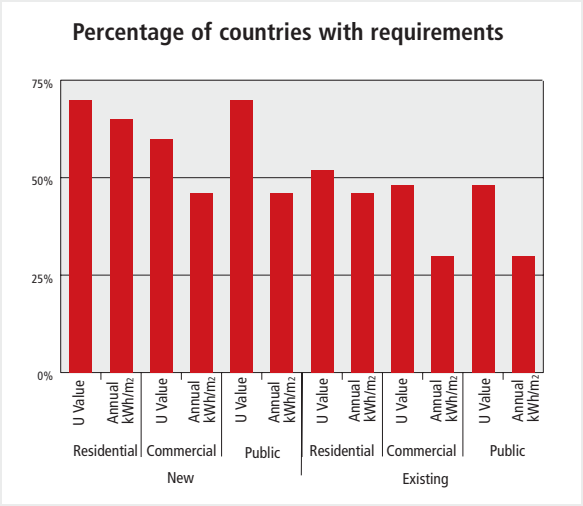

Figure 9: Comparison of the data from figures 7 and 8 for U-value and annual energy consumption in terms of floor area only.

Summarising the situation for energy performance requirements, these are more widespread in new building than in existing buildings. As the latter is where the greatest potential lies for energy saving, it is clearly an area that needs to be improved in the future. For new build in the residential and public sectors, 85% of the sample responded with details of energy performance standards (either U-value and/or kWh/m²). For the renovation of existing residential and public buildings, two out of three countries in the sample have energy performance standards (either U-value and/or kWh/m²) in place. Commercial buildings (new or existing) lag behind in terms of establishing energy performance requirements - these are in place in 71% and 62% (respectively) of the responding countries.

Not surprisingly, there is still a preference for U-values over kWh/ m² and perhaps this is more understandable for existing buildings where much is governed by component replacement.

4.6 Energy Performance Certificates

Through the EnR survey, we also looked at Energy Performance Certificates (EPCs) and the impact they have had with the various building stakeholders. The results are shown in Figure 10. From the responses received it is evident that it is only in the residential sector for new build that EPCs are currently operating. Also shown are those countries that expect EPCs to be operational by the end of 2008 and finally those countries for which a clear timetable for their operation was identified. Overall, the picture is a disappointing one.

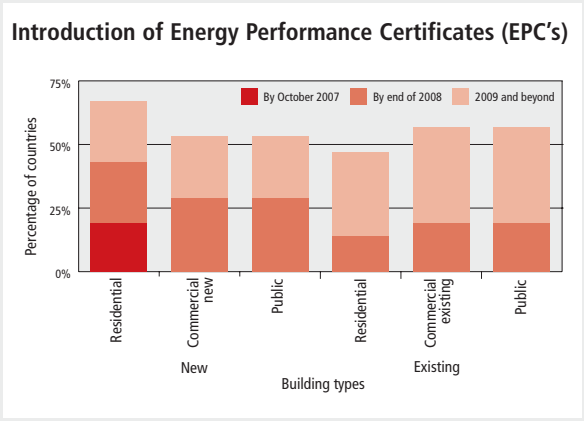

Figure 10: the introduction of energy performance certificates in countries broken down by those in existence as of October 2007, those planned before the end of 2008 and those which have got definite dates in 2009 and beyond.

As part of the EnR survey, we wanted to gather information about the quality control associated with the certification of buildings and the skilled personnel involved in administering this process. Unfortunately this section of the questionnaire had the lowest overall response rate, in part because some countries have not yet introduced EPCs in all sectors; typically only 9-11 responses were received in this part of the survey.

In terms of the respondents' judgements, only one or two felt that the quality was low (i.e. the quality of the process which involves both the certificate, methodology and the staff involved). There was also wide variation in the experts' estimates of the number of qualified staff available to undertake energy performance certificates and this was rarely quantified in the responses. For example, in the residential sector, the number of experts expressed in qualified staff per million of the population ranged between 110 in Denmark, 80 in the UK and 17 in France.

It is clear that this is an area that warrants a more detailed study in due course but in view of the fact that many certification schemes are currently being introduced, or will be introduced in 2008, we would advocate waiting at least a year to let the system establish itself fully.

Summarising the situation for EPCs, these are only fully in operation in residential new build and even there only in around 20% of countries . Given the expectations for the energy and carbon dioxide savings from EPCs, this is disappointing progress and one area where MSs are urged to rectify as soon as possible.

Given the current situation, this study has not been able to report meaningfully on the quality of EPCs and the number and quality of the personnel carrying these out. We recommend this as an area that warrants further study in 12-18 months time.

5. Other Comments from the Snapshot Survey

Throughout the questionnaire there were opportunities for respondents to add qualitative comments and suggestions as well as specific questions at the end of the questionnaire on how the EPBD might be strengthened in the future. The latter aspects are dealt with in the following section (Section 6).

From the comments received from EnR respondents, it is quite clear that there is widespread support for short term actions to:

- lower the threshold to which the EPBD should apply to below 1,000 sq m for renovations to existing buildings;
- better enforce existing regulations.

Despite the problems that have been encountered to date, EnR as a network continues to strongly support the implementation of the EPBD and the benefits that will result from this. The challenge is to improve the existing implementation and to propose practical and deliverable policy options for future strengthening of the Directive. To help meet this challenge, in the following section EnR makes recommendations based on the first hand experience of its members in implementing the existing EPBD.

6. Recommendations for Improving the Implementation of the Existing EPBD and Strengthening it in the Future

These recommendations are addressed to both the EU and national governments. For the EU, we believe its primary role is to provide a strong and clear vision, focus on high level results and specify minimum standards where appropriate. For national governments, the main challenge is to improve the implementation of the EPBD, in particular ensuring that there is better enforcement of the national legislation.

We have illustrated the following EnR recommendations with case studies of appropriate activities that go beyond the existing EPBD and that are already underway in some MSs. These are intended to be practical examples of how they can and are being met.

It is important to monitor and report the energy/carbon savings arising from the implementation of the EPBD. However, we believe this may be covered by National Energy Efficiency Action Plans and reporting arrangements set out under the EU directive on End-Use Efficiency and Energy Services. If this is not the case, the EU should take steps to ensure that such information is available.

6.1 EnR Recommendations to EU

EnR recommends that the EU:

1. sets out a time frame by which all new buildings will be required to have net zero energy requirements or net zero carbon emissions when averaged over the year (see Case Study 1 from UK on pages 12 & 13 overleaf).

2. sets out a timeframe by which significant reductions in energy requirements or carbon emissions from existing buildings will be achieved.

3. encourages MSs to provide incentives or rewards for new buildings or renovations which go beyond their national or regional building standards until such times as the net zero house is mandatory (see Case Study 3 from Germany and also Case Studies 1 & 2 from UK and Republic of Ireland).

4. lowers the size threshold for buildings undergoing major renovations that must meet minimum performance requirements and include individual households (Sweden is planning this from January 2009).

5. ensures that effective enforcement systems are in place in MSs for compliance with Building Regulations and regularly and independently assesses whether enforcement is effective (see Case Study 4 from Sweden).

6. uses the EU Directive Ecodesign of Energy Using Products to maximum effect for end use appliances used in buildings and which are traded across the EU (e.g. lighting, air conditioning, heating appliances, etc).

7. requires within seven years the installation of cost-effective energy efficiency and alternative energy systems when buildings are bought or rented (Portugal has had mandatory requirements to install solar water heating in new build properties since July 2007).

8. ensures harmonised reporting of the energy and/or carbon savings arising from the EPBD if they are not forthcoming from MSs reporting under the EU Directive on End-Use Efficiency and Energy Services.

The above recommendations are those which gathered the strongest support across the EnR network.

In addition, there was also support for the EU to:

9. amend the EU structural fund rules such that all cost effective energy efficiency measures must be carried out in any building which receives support for the installation of renewable energy sources.

10. implement demonstration projects for net zero energy or net zero carbon construction of new buildings and for refurbishment of existing buildings.

6.2 EnR Recommendations to Member States

In addition to the above recommendations to the European Union, EnR recommends that national governments:

1. set minimum performance requirements for building components such as windows, roof insulation, ventilation, office lighting and boilers, etc which should be fulfilled when these components are changed or are renovated. Equally important is to signal that these requirements will be tightened over time.

2. ensure the take off of building Energy Performance Certificates through information and awareness raising campaigns aimed at building owners and training campaigns targeted at all market agents in the building sector (happening in Germany, Portugal, France and the Netherlands).

3. establish effective enforcement systems to ensure that the Building Regulations on new build and major refurbishment of existing buildings are actually met.

4. lead by example in deploying and, where appropriate, demonstrating new building designs, construction and technologies and renovation strategies in public buildings.

5. step up efforts to change attitudes and behaviour to energy use without which the maximum benefit of sustainable energy technologies will not be achieved.

6. implement mechanisms and incentives for building residents and owners to improve their energy performance that link into EPBD requirements such as Energy Performance Certificates at key trigger points e.g. the sale or major renovation or rent level reviews, mortgages etc (the Netherlands and many other countries are working towards this).

7. Recommendations for further Research

The EnR Buildings Working Group has identified a number of areas worthy of further research on EPBD implementation. These are as follows:

- compliance mechanisms on newbuild and on refurbishment
- skills and training provision for energy assessors in relation to the production of EPCs
- added value: ensuring that EPCs actually lead to action by building owners/occupiers

Such work could be helpfully incorporated into EU funded activities.

Case study 1 Moving to Zero Carbon Homes with Government Incentives (UK)

Background

The UK Government has set a target that from 2016, all new homes in England will become zero carbon. This target includes stepped tightening of the carbon performance requirements of the Building Regulations, by 25% in 2010, 44% by 2013, and fully zero-carbon by 2016. In order to encourage market differentiation, a Code for Sustainable Homes has been introduced, giving an independent and authoritative stamp on homes that meet higher standards of sustainability.

In an attempt to help the house building sector demonstrate that the targets are feasible and can be commercially viable, the Government has used the National Regeneration Agency (English Partnerships) to organise a "Carbon Challenge". Developers are invited to submit plans showing how they will achieve the Government's objectives of zero carbon housing and in return win the right to build these homes on Government owned land which is being sold off to increase the UK annual house building output from around 200,000 to 250,000 per year in the next few years. There are expected to be a total of 10 ecovillages built within this framework.

Outcome

The first of the ecovillages is to be built at Hanham Hall near Bristol and one of the biggest housing developers, Barrat Developments PLC, has been selected as the preferred developer to create the new community. The homes in the site will meet the Government's most exacting ecostandard – level 6 of the Code for Sustainable Homes (i.e. zero carbon and less than 80 litres of water per person per day). The site is a 6.6 hectare site which will support up to 200 homes as well as retail floor space and employment space. Technologies to be employed include an on site biomass CHP plant, superinsulated buildings, solar architecture and rain water collection systems.

As well as providing developers the incentive of access to a very scarce resource in England, (significant land with building permission), purchasers of these properties are being offered an exemption on the 3% Stamp Duty which is otherwise payable on the purchase of all buildings (up to a maximum of £15,000 exemption on a £500,000 property).

Lessons for the EU Commission

Through building on Article 4 of EPBD by setting a clear vision for zero carbon homes by 2016, and through accompanying this vision with practical help in the form of promotion and fiscal incentives, Government has given developers confidence to pioneer zero-carbon housing on a volume basis by 2010.

Case study 2 Support Programme for Newbuild (Republic of Ireland)

Background

The "House of Tomorrow" programme in Ireland aims to accelerate improvements in the energy performance of new housing. It provides a range of support for buildings that are at least 40% more efficient than is required under existing Building Regulations.

The support offered includes grant funding (both for capital costs and for non-capital, such as design work, site supervision, and monitoring). The lessons learned are written up, allowing the programme to offer advice, best practice guides, and case studies.

Outcome

Some 136 projects, including 6,000 homes, have been supported at the time of writing. There are visible examples of high-performance housing in every county in Ireland. The main technologies supported have been: condensing boilers, Mechanical Heat Recovery Ventilation, solar water heating, heat pumps, and wood biomass boilers.

As a result of the experience and capacity building under this support programme, the Irish Government has been able to publish draft Building Regulations requiring a universal improvement of 40% over current standards.

Lessons for the EU Commission

It is not enough to set targets for reviewing and tightening of the Building Regulations, as per Article 4 of EPBD. At the Member State level there is a need for a range of support interventions, to encourage developers to build to higher standards, and to learn and disseminate the lessons from those that are willing to do so.

Case study 3 Inventive Schemes for Refurbishment (Germany)

Background

The German Government decided in August 2007 to tighten the requirement on Energy Efficiency for New and Existing buildings. In two steps, present standards will be halved by 2012 in the building sector. However, this will still be about twice the amount of energy required by the "Passivhaus Standard" today. For this reason there are both incentive programmes that refer to EBPD and others that consider the Passivhaus as benchmark. As the largest potential for saving energy is in existing building stock, more programmes in Germany have been started for refurbishment. However, since the Germany federal states (Länder) are in charge of building regulations, they are responsible for the implementation of the EBPD.

Outcome

One example of the national incentives for sustainable building refurbishment is the Housing Modernisation Programme (Gebäudesanierungsprogramm) which is supported by the KfW-Förderbank. This programme gives funding and low-interest loans for retrofit based on the present regulation level for new buildings.

At the Länder level, in North Rhine Westphalia for instance, specific programmes for energy efficient buildings consider Passivhaus as the benchmark. A demonstration programme is provided by "50 solar housing estates" where up to EUR 3,500 funding is available when a terraced house is built according to the Passivhaus requirements. However, the funding for retrofit of existing units is evaluated individually for every specific case and might exceed the standard level.

Lessons for the EU Commission

In order to achieve the full potential of EPBD, it is not sufficient just to introduce new standards for existing buildings, issue energy certificates and intensify training activities (relating to both Articles 6 and 7). We need accompanying incentives, monitoring, research and evaluation in order to be able to improve and optimise the performance of buildings and to design corresponding policies in the future.

Case study 4 Enforcement of Building Regulations (Sweden)

Background

Minimum requirements on the energy performance of buildings have been introduced in Sweden. For buildings with a floor area of over 100m^2, these are expressed in terms of maximum total energy consumption, rather than performance requirements for individual elements of the building. The requirements take into account factors such as regional climate and building type.

Energy monitoring must be undertaken for a period of two years after the building has been completed, to demonstrate compliance on the ground. For buildings that fail, the building owner or the organisation responsible for the calculations must invest in measures to improve the performance.

Outcome

The policy was introduced in mid-2006, with a year's transition period. Results will therefore begin to emerge in mid-2008. Large property developers have expressed their support for the initiative, as it gives them flexibility in how they meet the energy performance requirements. There is some nervousness, however, among smaller property developers. It remains to seem what compensatory action will be taken in practice where a building is demonstrated not to perform to the required standards.

Lessons for the EU Commission

There is a need to ensure that buildings actually comply with the Building Regulations, as per Article 5 of EPBD. It is possible to implement an energy monitoring regime that demonstrates such compliance.


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