Focus on Energy Performance in Buildings: Moving ahead with the Regions

More than 40% of European energy is today consumed in buildings and this figure is unlikely to decrease without determined and reasoned action. The potential for energy saving is as huge as the challenge of achieving it. At a time when the European Union is revising the Energy Performance in Building Directive (EPBD), FEDARENE showcases sound EPBD implementation measures that work in the European Regions.

EURIMA, which represents the European insulation sector, tells us more about the challenges and opportunities for European business and economy.

And this is not the only challenge ahead - the Renewable Energies Directive and the Covenant of Mayors are paving the way for more sustainable energy policies in Europe. Find out more about the EU regions’ contribution to these.

5 Regions in action for Energy Performance in Building

Severn Wye (UK)

In England, legislation for implementing the EPBD, including Building Regulations, a system for administering Energy Performance Certificates, and a calculation methodology for assessing energy performance are all administered at national level. There is, however, a big difference between legislating and achieving real improvements in building performance. Practical work at regional and sub-regional level is proving vital in making aims and objectives become reality.

To demonstrate what can be done, SWEA is managing a project for a local authority, Stroud District Council, called ‘Target 2050 - Countdown to a Low Carbon Home’. This project is demonstrating how a variety of older housing can be improved and makes extensive use of less common techniques, including renewable energy systems, and innovative insulation methods. Finance, advice, and the establishment of supplier and installer networks are all helping to make this type of improvement work more accessible.

It is much easier to design efficient buildings than to actually build them, and a great deal of work is going on at regional level, such as that carried out by Constructing Excellence South West, to ensure that construction workers learn the skills necessary to build better performing buildings, and that best practice is developed and shared within a traditionally conservative industry.

Domestic CO2 emissions in England are similar to those from industry and services combined. On average only 0.01% of English housing stock is demolished per annum. In simple terms, 25 million of today’s 26 million homes will still be in use in 2050. This means that the highest priority must be to improve the energy performance of existing housing stock: Something that is nearly impossible to do with legislation alone, that is not ideally suited to standardisation and replication, and that requires engagement with the millions of individuals who own housing.

This is the area where Regional action such as Target 2050 is already bearing fruit. Severn Wye Energy Agency (SWEA) is engaged on several projects aimed at translating policy into reality. Training, awareness raising through literature, in person and by telephone, financial incentives, and strategic support to local and regional government have all been used to achieve this aim.

The Energy Efficiency Advice Centre (EEAC), operated by SWEA and funded by the national Energy Saving Trust and local governments, was initially designed to give energy efficiency advice and promote insulation of houses at subsidised prices to households in Gloucestershire, but is soon to be offered throughout the South West England Region. The centre provides telephone and face to face advice. Last year more than eight thousand people called the centre, and most were provided with the opportunity to have insulation to modern building regulations installed at subsidised rates.

The EEAC has proved very successful in encouraging the take up of the most cost effective and simplest ways of improving existing housing such as loft and cavity wall insulation. It has also encouraged people to use their heating and lighting controls more effectively. This is encouraging, but much more needs to be done!

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Liguria (It)

In Italy, the national and regional levels have shared expertise for the implementation of the EPBD. At national level, the directive has been transposed by a legislative decree while fiscal incentives have been developed for boosting the implementation of energy performance improvement measures. This programme offers up to 55% tax deduction for building renovation. Up to now, it allowed for an estimated 975 GWh of primary energy savings for a total cost, supported by the Italian state, of approximately 880 Million EUR in the form of income tax relief.

At Regional level, in Liguria the EPBD was transposed through different legal acts. In particular, the Regulation n. 6 sets minimum energy performance requirements and defines the methodology for calculating the energy efficiency indicators. It also defines the criteria and the procedures for building certification.

In concrete terms, the Liguria Regional Energy Agency is working on revising the existing regulation and the certificate model. The new methodology is based on recent norms and the regulation takes different high energy efficiency technologies, not yet considered in the previous version, into account.

Furthermore, in collaboration with the Energy Technologies Institute National Research Council, the Regional Energy Agency is involved in the development of specific software based on the regulation methodology.

The Regional Energy Agency is also organizing the first official experimental course for certifiers, in collaboration with the University of Genoa. After this first experimental course, other courses will be authorised by the Liguria Region and the Regional Energy Agency (about ten courses should start before the end of the current year).

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Ober Österreich (A)

In Austria, the regions have a large degree of autonomy for setting up their own sustainable energy policy. They are notably responsible for the implementation of the EPBD. Efforts in that field were already undertaken, particularly by Oberösterreichischer Energiesparverband (ESV), the regional energy agency for Upper Austria, long before the directive was published.

One main driving force is the “Regional Housing Programme”, which provides financial support to more than 90% of all new housing and 60% of all renovation of domestic building as managed by the ESV.

Compulsory certification of buildings was already introduced in 1993 as well as minimum energy performance indicators, energy certificates and obligatory energy advice sessions for homeowners. Prior to 2007, the programme had addressed a total of 65,000 houses and an estimated 500 million kWh of energy (100 million kg of CO2) were saved.

In 1999, the energy certification required to obtain a building permit for residential houses became obligatory. From 2008, it is extended to all buildings for renovation and new construction, for sale or rent and for domestic, commercial and public buildings.

The efforts made by ESV, in the field of EPBD, also include information and training. These are mainly targeted at professionals (architects, HVAC & construction planners, installers, energy advisers, social housing organisations, energy companies, etc.). They also address the public sector, municipalities and other groups of stakeholders (such as banks, the private sector, professional associations and housing societies).

Implementation of the EPBD is also achieved through the application of legislative measures such as energy efficiency norms (regularly revised to progress step by step towards the most efficient standards), inspection of heating and cooling systems, etc.

Particularly promising in this regard is the “solar obligation”. From 2009 onwards, all new residential buildings participating in the regional building programme (90% of new homes) will have to install a minimum solar panel capacity (4m² for single-family homes or 2.5m² per apartment).

Another measure regarding EPBD transposition is that the government decided to apply the obligations laid down in the directive for public buildings and buildings with a total usable floor area exceeding 1000m², to all buildings with a minimum capacity of 120 people (including supermarkets, shopping malls, convention centres, etc.).

The regional administration has set-up and runs a benchmarking and monitoring programme for all their buildings. That makes it possible to decrease heating & hot water energy consumption by 18.5% as well as keeping electricity consumption stable despite an increase in the use of IT equipment.

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Maramures County (Ro)

In Romania, energy efficiency is regulated at national level. However, the local public authorities have specific responsibilities. Most significant are the 2002 measures for thermal rehabilitation of multi-storey residential buildings. According to this law, the local public authorities must draw up annual thermal rehabilitation programmes. Within these programmes, the local public authorities must establish energy efficiency commitments, identify and make an inventory of multi-storey residential buildings, carry out technical revisions and energy audits of the inventoried buildings and notify the owner or tenants’ associations on the eligibility conditions and selection criteria, as well as on the rehabilitation stages and procedure for financing the rehabilitation of the buildings. The tenants’ associations may make a request in writing for the inclusion of their building in the annual thermal rehabilitation programmes. The funds required for the thermal rehabilitation work on the buildings included in the annual programmes are shared between the state budget, the local administration and the owners’ association. A total of 13 applications have been submitted from Maramures since 2002.

Maramures county council is already involved in various international projects, which have direct benefits for the improvement of energy efficiency in the county. Furthermore, the county of Maramures has started procedures for the creation of an Energy Management Agency with support from the IEE programme. This agency will play a key role in boosting energy efficiency at county level, notably through development of an energy strategy at county level, raising awareness among all stakeholders (citizens, public institutions and private companies) on the necessity to save energy and improve energy efficiency, promotion of energy efficiency projects, etc.

The Energy agency will also provide free energy advice and auditing services tailored to private households, businesses and institutions. It is also anticipated that the Energy Agency will launch specific actions in education and the raising of awareness among teachers and students to promote the concept of sustainable energy.

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Basque Country (Sp)

CADEM, a company belonging to the Basque country’s Ente Vasco de la Energia (EVE), has been a pioneer in the realisation of energy efficiency certificates for buildings. It started with this activity in 1993, at a time when there was no obligation to do so. Since then, CADEM has delivered provisional certificates to more than 25,000 homes and definitive certificates to almost 10,000, most of them being in the social housing category. The distinction between “provisional” and “definitive” certificates originates from the certification process itself, which is divided into 2 steps: 1) assessment based on construction project plans and 2) assessment based on on-site inspection and data gathering in the building after construction is completed.

In general terms, the assessment is based on a thorough review of several aspects: the construction planning, the materials used to construct buildings, the thermal insulation, the glazing, the air filters and the heating systems. It is estimated that the energy consumption of the 25,000 certified homes resulted in a reduction of at least 33% compared to “normal” compliance with the rules applicable to the interior environment of buildings.

Since the introduction of the Energy Performance in Buildings Directive, aware of the difficulties inherent to the implementation of this new regulation, Cadem has been offering training courses on software for the realisation of energy simulation and has set-up a new centre for technical assistance that provides information on the software and the certification process.

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Upper Austria: legal & soft measures to progress on EPBD

- 1.5% target, minimum performance requirements, performance requirements in tender documents, priority for RES for heating & hot water, mandatory energy accounting.
- energy advice, support to lenders, events, competitions, publications, training, financial support/TFF, local energy strategies EJGEM, exemplary role of regional building.

House from the Basque Country

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What is your assessment of the progress achieved under the first version of the EPBD, since its adoption in 2002?

The European Union today faces unprecedented energy challenges, even compared to 2002 when the original Directive was adopted. Energy prices are at record levels, forcing millions of Europeans into fuel poverty. The EU is increasingly dependent on unstable suppliers to meet its energy needs. Climate change, caused largely by the burning of fossil fuels, is expected to have dramatic social, economic and environmental consequences over the decades. Improving energy efficiency has proven to be the quickest, cheapest and most effective way of overcoming these energy challenges facing Europe.

At present, 40% of Europe’s energy - equivalent to six million barrels of oil a day - is used to heat our homes and offices. Simple measures, such as insulating walls and roofs, could halve this use of energy and help the EU reach its goal of cutting greenhouse gas emissions by 20% by 2020.

Meeting the EU’s climate change targets depends, to a large extent, on improving the energy efficiency of buildings but the main item of EU legislation dealing with this subject - the Energy Performance of Buildings Directive - is outdated, has been poorly implemented by EU member states and is in urgent need of revision.

In brief, it is largely because of the current socio-economic environment that considerable progress has recently been made, especially in some of the major member states like Germany, France and the UK.

Which elements do you identify as crucial for a successful EPBD revision, i.e. ensuring quick and effective achievement of the objectives of the directive?

Firstly, we need to ensure general acceptance of the idea that energy efficiency in buildings is the key to success. This can only be achieved by a packaged approach combining a strong education initiative with the necessary financial, fiscal and communication instruments. An assessment of energy performance every 10 years could also be helpful to show the technical progress vis-à-vis existing buildings.

How would you address major obstacles hindering the implementation of the directive, for example, the state of the existing building stock, the diversity of national/regional situations and the required investment?

It is true that many political stakeholders or parties close to the house owners are hesitant to confront their “customers” with additional obligations. However, it is already accepted that we are working in an area where we make money! We have to make clear that we want a general requirement to upgrade to the best practice level whenever renovation is carried out. There will be no obligation to refurbish!

From an economic and market point of view what are the elements required for a quick take up of the objectives of the Directive? What are its potential consequences for European industry?

A system approach combining rules, regulations and incentives.

What role do you see for regional authorities and national and regional agencies in the implementation of a recasted EPBD?

Regional authorities are the most important administrative layer for achieving results in improving the energy efficiency of buildings. They set (or strongly influence) the building regulations, they make subsidy schemes, they are mostly responsible for the inspection of works, they provide information to the house buyer or tenant, etc.

Their commitment is crucial. FEDARENE’s contribution could be a catalyst for the exchange of best practices and to provide liaison between regional authorities and European developments (Commission, ENBRI, Buildings Platform, etc.).
The Renewables Directive: With the European Regions for Ambitious Targets

With the European Regions...

As the development of renewable energies moves towards the concept of decentralised energy production, the European regions increasingly appear as both natural and strategic partners for an ambitious renewable energy policy. The recent debates within the Committee of the Region’s, Commission for Sustainable Development (DEVE) on the draft opinion on the proposed “Renewable” Directive, showed the commitment of the European Regions to participate in this endeavour.

The regions can make a substantial contribution both to the definition and implementation of any ambitious renewable policy.

Consequently, their role should be officially recognised in the text of the Directive! It is a matter of necessity, efficiency, effectiveness and, above all, common sense. “Forgetting” to give the Regions the place they deserve in the Renewables Directive might put the achievement of the objectives of this ambitious and much needed piece of legislation at risk.

It is therefore crucial that the following points be taken into account in the ongoing discussion on the Directive:

- The crucial role of the regional and local authorities in the deployment of renewable energies.
- The importance of involving the regions in the preparation of the National Action Plans (NAPs) for renewable energies and to make this involvement a quality criterion in the assessment of the plans to be undertaken by the Commission.
- The need to evaluate the proven capacity of the European regions to promote renewable energies on their territories and to achieve specific targets.

...for ambitious targets!

The Renewables Directive has the potential to become a milestone in the EU energy policy and to set an example at world level. If it is to contribute to the achievement of the Union so-called 3X20 targets (20% renewable energies, 20% improvement of energy efficiency and 20% reduction of greenhouse gas emissions by 2020), the following elements will be essential:

- The need for binding renewable energies targets (both interim and final targets).
- The necessity for the European Commission to allocate appropriate resources and to take all necessary measures to ensure efficient monitoring of the implementation of the Directive and the progress of the member states towards the objectives it sets.
- The need to clarify and to address legal uncertainties in the system for organising the exchange and trading of guarantees of origin.
- The need to further develop the environmental sustainability criteria for bio-fuels and to potentially re-consider the 10% target set for bio-fuels, if required.

As member of the Committee of the Region and President of FEDARENE, I have submitted several amendments to the CoR draft opinion on the Renewable Directive. FEDARENE will continue to advocate for the role of the European Regions to be taken into account in the Directive and throughout its implementation.

Jean-Louis Joseph
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