

## Implementing the Energy Efficiency Directive: Finding the Finance

EuroACE **Background Paper** for the Informal Energy Ministers Meetings – Dublin Castle – 24<sup>th</sup> April 2013

### Summary

The EU economy needs a shot in the arm. Economic growth is elusive and unemployment is high.

Setting up a strong legislative, regulatory and financial framework in the EU and in its Member States through which the renovation of the existing building stock is assured, will deliver these benefits:

**1.1 million new, direct, local jobs** (rising to 2 million jobs when indirect job creation is counted)

**€39 billion net extra income to public finances** (in 2020, increasing each year that investments are maintained)

**0.7% per annum growth in GDP** (through boosting renovation activity in the construction sector)

**€670 to €830 billion** additional annual turnover in the construction sector (from 2020)

**Significant reduction in energy poverty** (by tackling low-income homes first)

**Improved health and quality of life** for millions of EU citizens (through living and working in better buildings)

**Reduced dependence on imported sources of primary energy** (thus improving Member States trade deficits)

The effort required will be significant:

A high level of investment is needed

The skills and capacity of the EU work force will have to be increased

New production and distribution facilities will have to be constructed

But it will be worthwhile and it will leave the EU economy and its peoples resilient to future economic and energy shocks.

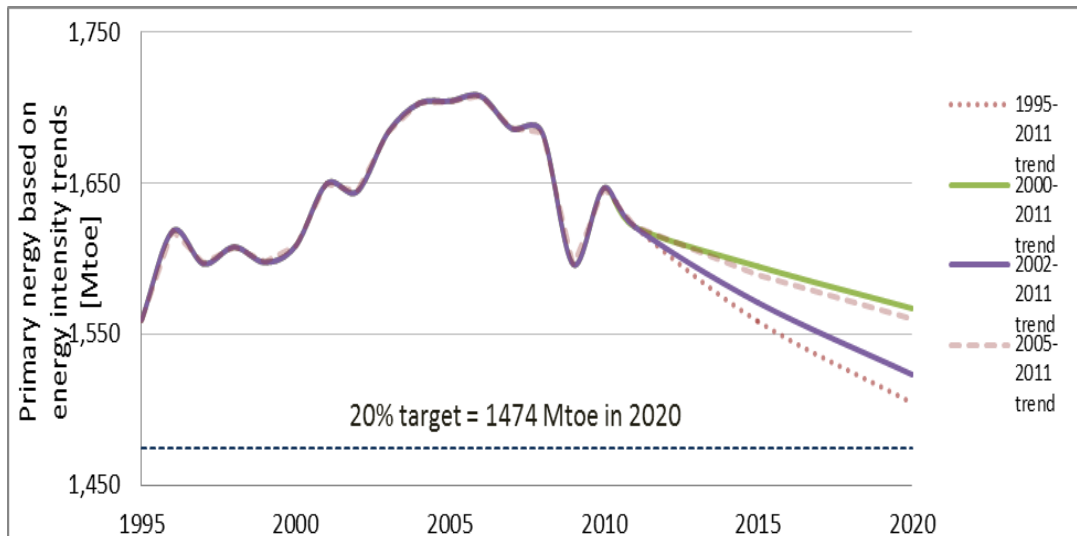
This paper supports the presentation made by Adrian Joyce of EuroACE to the Informal Meeting of EU Ministers of Energy in Dublin on the 24<sup>th</sup> April 2013, in which he described the opportunity that the buildings sector offers to the Member States to create hundreds of thousands of local jobs, to kick-start the EU economy and to increase the competitiveness of one of our most important industries – construction.

### Context and Opportunity

Since the global economic and financial crisis in 2008, the economic situation in the EU has been a cause for concern and whilst this paper is not about that issue, it does contain encouraging indications that investing more ambitiously in energy efficiency of buildings would significantly help the EU to emerge more quickly and sustainably from the current economic and financial difficulties that are dogging it. In fact such investment is the closest thing we can get to a “silver bullet” against the crisis.

The latest indications from the European Commission on progress towards the achievement of the 2020 targets<sup>1</sup> that form part of the Climate and Energy Package adopted in 2009, show that the EU is on track to achieve the greenhouse gas emissions target, likely to achieve the renewable energy sources target, but definitely not on track to meet the energy efficiency target (see Graph 1).

<sup>1</sup> The three targets are: Reduce GHG emissions by 20% as compared to 1990 levels (mandatory); increase the share of energy produced from renewable sources to 20% (mandatory) and improve energy efficiency by 20% (voluntary).

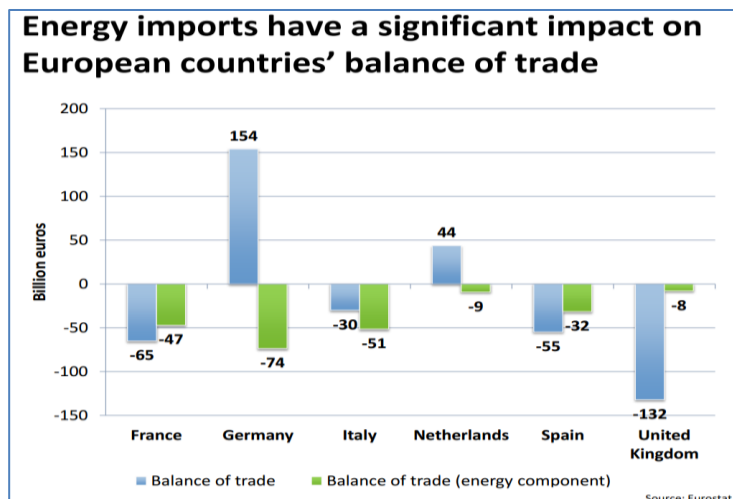


**Graph 1:** The EU is not on target to meet its 2020 Energy Efficiency target, no matter which trend is chosen  
Source: European Commission, DG Energy

There is a widespread belief among concerned stakeholders, that the reason the energy efficiency target will be missed is that it was not a binding target. This remains the case even after the adoption of the Energy Efficiency Directive (EED – 2012/27/EU) in late 2012.

Taking the year 2050 as its reference horizon, the European Commission prepared, in 2011, a number of linked Roadmaps that clearly set out the challenging times that lie ahead for the EU. Among these is the Energy Roadmap 2050 (COM(2011)0885) that refers to energy efficiency as a “no regrets” policy option. In the buildings sector, we believe that energy efficiency is “must do” option as the benefits that will accrue from ambitious work on the building stock of the EU are by far the most accessible of all energy efficiency measures open to Member State governments.

The EU is worryingly reliant on external sources of energy, leaving it vulnerable to energy shocks and high costs. This factor is further aggravating the economic problems within the EU as the trade balances of Member States are significantly affected by energy purchases. Eurostat has compiled trade balance statistics that vividly demonstrates this factor:



## The Buildings Sector – a Huge Untapped Reservoir of Energy

Keeping our buildings warm, comfortable and in good condition requires a great deal of energy. It is estimated that buildings account for about 40% of the primary energy consumption in the EU and about 36% of its energy-related CO<sub>2</sub> emissions. As a result, the sector has been the subject of a specific sectoral directive – The Energy Performance of Buildings Directive (EPBD – 2010/EU/31) – that was welcomed by all involved in the buildings sector.

For new buildings, the EPBD has gone as far as possible, requiring all new buildings that are built after 2020 to be nearly zero energy buildings. However, the requirements for existing buildings are not so ambitious and this is increasingly a concern. The concern arises from doing the maths on activity levels in the buildings sector in the EU. The BPIE, in its 2011 Report *Europe's Buildings Under the Microscope* estimated the current activity levels as follows:

New Build Annual Rate:	0.5%
Demolition Annual Rate:	0.2%
Renovation Annual Rate:	1%

Assuming that these rates remain constant over the coming decades, we can calculate that more than 75% of the buildings that will make up the EU building stock in the EU in 2050 are already built today and that **more than 90% of the buildings standing today will still be standing and occupied in 2050**. This means that addressing the energy performance of the existing building stock is of paramount importance if the 2050 objectives of the EU are to be achieved.

With currently available technologies, **it is possible to reduce the energy consumption of a large part of the building stock by 80%** and it is therefore proposed that this should be the level of reduction that long-term strategies prepared by the Member States should seek to achieve. To best match market conditions and to permit all actors that can contribute to the overall goals to find their place in the transformation of our building stock, the strategies could be built around a staged approach to the achievement of the overall goal. In this way, building owners can plan how cost-effective sets of measures can be put into their buildings over time, ensuring that each set of measures does not preclude future sets being placed in a cost-effective manner.

### Multiple Benefits of Energy Efficient Renovation Programmes

For the EU as a whole, the benefits that are waiting to be harvested from the introduction of ambitious energy efficient renovation programmes for buildings include:

- 1.1 million new, direct, local jobs** (rising to 2 million jobs when indirect job creation is counted)
- €39 billion net extra income to public finances** (in 2020, increasing each year that investments are maintained)
- 0.7% per annum growth in GDP** (through boosting renovation activity in the construction sector)
- €670 to €830 billion** additional annual turnover in the construction sector (from 2020)
- Significant reduction in energy poverty** (by tackling low-income homes first)
- Improved health and quality of life** for millions of EU citizens (through living and working in better buildings)
- Reduced dependence on imported sources of primary energy** (thus improving Member States trade deficits)

To unleash these multiple benefits, a strong, coherent and properly enforced regulatory framework is needed because the structure of the construction sector is so fragmented and diverse, that it is only strong regulation that will drive the necessary transformation that the sector must undergo. This will require courageous political decisions and strong will, but the businesses that EuroACE represents stand ready to make the effort once policy predictability and a stable investment landscape are in place.

In 2012, Copenhagen Economics was commissioned by the Renovate Europe Campaign<sup>2</sup> to investigate and to monetise the multiple benefits that arise from investment in energy efficient renovation of buildings with a particular emphasis on the impact on public finances. Evidence was emerging from several countries, including Germany<sup>3</sup> and Ireland, that returns to public finance of up to €5 for every €1 invested on particular

<sup>2</sup> See [www.renovate-europe.eu](http://www.renovate-europe.eu)

<sup>3</sup> See Note 4 at the end of this paper

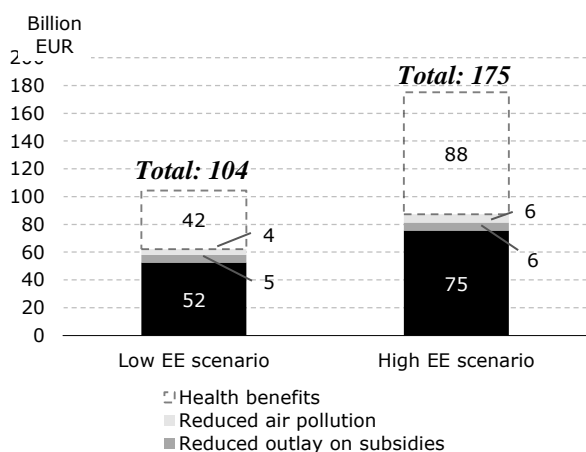
energy efficiency programmes were being observed. At this rate of return, investing in energy efficient renovation programmes would be a significant source of income for Member State finances.

The Study found that now is a very opportune time to begin to invest in such programmes as interest rates are at an historical low in many countries and unemployment is high. This combination of an abundant supply of labour and inexpensive money is propitious to the emergence of innovative financing and incentive schemes, which are needed to kick-start the renovation programmes.

The results show that there are two main streams of income that can be distinguished, each one delivering continuous benefits to society at large and to Public Finances in particular<sup>4</sup>.

The first is **annual benefits** that arise following the completion of works. These benefits increase over time as more and more buildings are renovated. In this category, the benefits to society total up to €175 billion per year (in 2020) and the benefits to public finances reach up to €39 billion per year (in 2020) as shown in Figures 1 and 2. If the investments continue over time, these amounts will double by 2030!

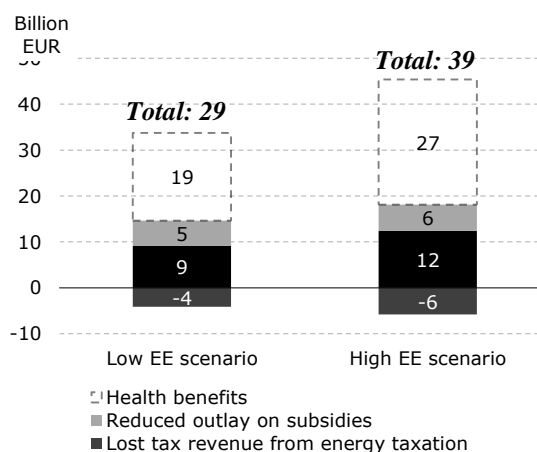
**Figure 1: Annual gross benefits from energy efficient renovation of buildings, 2020**



Note: These results include a rebound effect of 20%, meaning that the benefits are potentially higher if the effect can be avoided

Source: Copenhagen Economics

**Figure 2: Annual net improvements of public finances, 2020**



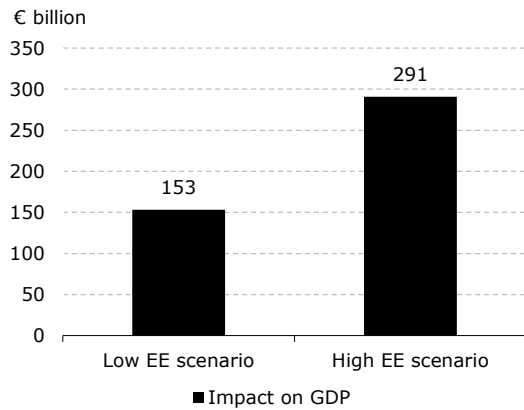
Note: These estimated gains to public finances are already included in in 2 and should not be considered as additional improvements

Source: Copenhagen Economics

The second category of benefits is **“one-off” benefits** that will arise as a result of the fact that the EU is in a period of reduced economic activity and it is operating below structural GDP levels. It is expected that the EU will return to structural GDP levels in 2017 or 2018 and Copenhagen Economics identified that in addition to the annual benefits noted above, a “one-off” benefit to society rising to as much as €291 billion will accrue in the period to 2017 and, for public finances, the “one-off” benefits could be as high as €128 billion as shown in Figures 3 and 4 overleaf.

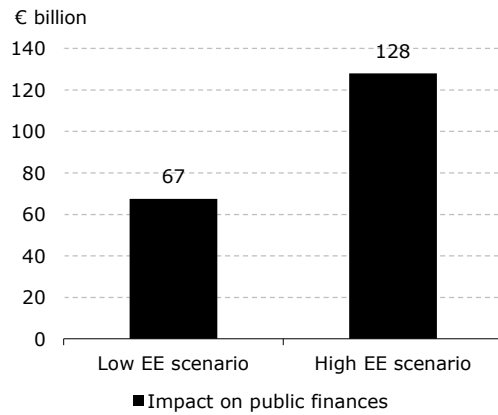
<sup>4</sup> For each Member State to estimate the potential benefit to its society and its public finances, the Study found that the potential of a particular Member State is generally directly proportional to its percentage share of EU GDP.

**Figure 3: Impact on GDP from increasing economic activity**



Source: Copenhagen Economics

**Figure 4: Impact on public revenue, increased economic activity**



Source: Copenhagen Economics

The Copenhagen Economics Study was disseminated earlier this year (2012) to the Ministries of Finance and Economy in the Member States of the EU. This dissemination has led to a number of meetings in the ministries of several EU countries and the good news is that the messages of the Study have been generally well received, with Ministries indicating that they are looking seriously at energy efficient renovation programmes as a potential means to stimulate economic activity.

#### The Construction Sector (2011)

Even in the difficult economic times in which we live, the construction sector is a dynamic, innovative and important sector. The vital statistics of the EU construction sector (from 2011)<sup>5</sup> speak for themselves:

##### Turnover:

€1,300 billion (9.6% of GDP)

##### Number of employees:

14.6 million (7% of overall employment and 30.7% of industrial employment)

##### Number of enterprises:

3.1 million (of which 95% have less than 20 employees)

##### Percentage of gross fixed capital formation:

51.5%

Within the overall turnover, it is estimated<sup>6</sup> that the breakdown by activity is as follows:

##### For new building works:

€545 billion (42%)

##### For renovation and modernisation works to buildings:

€455 billion (35%)

##### For engineering and infrastructure works:

€300 billion (23%)

From these vital statistics, it can be seen that the construction sector can be rightly considered as a significant contributor to economic activity in the EU. Despite this fact, the years since 2008 have also been hard on the construction sector and it is estimated that overall employment in the sector is currently running at about 17% below capacity. This means that there is a large experienced workforce ready to be brought back into gainful employment, once the ambitious renovation programmes that are so necessary for the EU are put in place.

<sup>5</sup> Statistics taken from the FIEC ([www.fiec.eu](http://www.fiec.eu)) publication *Construction Activity in Europe 2012*

<sup>6</sup> Estimates provided by the Renovate Europe Campaign based on annual reporting by the European Construction Industry Federation (FIEC) and on statistics reported by EUROCONSTRUCT, VTT and Buildecon

## **Binding Energy Efficiency Targets – A Key Driver for the Market**

One of the key tools to unleash the multiple benefits tied up in the building stock is the setting of binding targets. The recently launched debate on the post-2020 EU climate and energy policy provides the opportunity to consider what the nature of these targets should be. There is increasing multi-sectoral support for the introduction of a binding overall energy efficiency target for 2030, a target that should be the cornerstone of the future climate and energy policy of the EU. Within the overall target, there should be binding sector-specific targets that are built on the known potential for each identified sector.

Given the need for policy predictability to stimulate investor confidence, it is not right to consider that the EU should wait to see the effect of the recently introduced Energy Efficiency Directive before deciding on whether or not to propose a 2030 target for energy efficiency as that directive has a short-term (at least for investors) horizon of 2020.

For the EU building stock, the overall EU target for 2030 should require a reduction of 36% in energy demand as compared to 2005 levels. This is an ambitious target, but it is realistic and achievable. Furthermore, it would put the EU on track to achieve the longer-term contribution from the buildings sector that the Commission's Low-Carbon Economy Roadmap 2050 (COM (2011)0112) identified as the necessary contribution from buildings – a reduction of CO<sub>2</sub> emissions of between 88 and 91%.

## **The Energy Efficiency Directive (EED) – Good for Growth and Jobs!**

The EED is a step in the right direction and stakeholders are now anticipating an ambitious and timely implementation in the Member States over the coming years. At the time of the negotiations on the EED in 2012, EuroACE suggested that it should have been called *The Directive for Growth and Jobs*, as the energy efficiency sector is the sector that holds the most accessible potential for creating growth and jobs in the present circumstances.

In addition, action on energy efficiency today will continue to reward society and public finances over many, many years. This is particularly true for energy efficiency measures in buildings as the savings that are made continue to deliver over the full useful lifetime of the measures put in place.

Within the requirements of the EED we find the requirement for Member States to notify their indicative Energy Efficiency targets for 2020 by the end of April 2013. The Commission is required to assess these targets and to report by June 2014 whether or not they add up to the achievement of the overall EU 2020 voluntary target. If they do not, the European Commission has the power to propose further measures or the instigation of a binding target.

The EED also contains a range of binding measures that the Member States have signed up to. The principle binding measures that count for the buildings sector are:

- The renovation of 3% of central government buildings owned and occupied by Member State governments.

- The introduction of energy saving obligation schemes in the Member States that will require energy suppliers to achieve 1.5% per annum savings among its final end-use customers

- The introduction of a requirement for all large companies to undertake energy audits and to act on the recommendations of those audits

Altogether, the European Commission estimates that in conjunction with other energy efficiency legislation in place in the EU, the EED will ensure that the level of energy efficiency improvement in 2020 will be about 17% - somewhat short of the 20% target (see Graph 1 above). If Member States were to choose to go beyond the minimum requirements of the EED, then the situation could be different.

In this regard, the European Coalition for Energy Savings ([www.energycoalition.eu](http://www.energycoalition.eu)) of which EuroACE is an active member, is currently putting the finishing touches to a guide to the EED that gives recommendations on

how to go beyond the minimum requirements of the EED. The Coalition's Guide is expected to become a key reference for all stakeholders and administrations that are engaged in the implementation of the EED.

## Towards a Solution – The Renovate Europe Campaign (REC)

Given the need to address existing buildings and the lack of progress that was being made in this direction, EuroACE initiated a political communications campaign in 2011 with a vision for the existing building stock:

*Reduce the Energy Demand of the EU Building Stock by 80% by 2050 as Compared to 2005 Levels*

The REC currently has 21 partner companies and associations supporting its activities and the vision that it has set out has been strongly supported as recently witnessed when the European Parliament included in its own initiative report on the Energy Roadmap 2050 (2012/2103(INI)) a call for the energy demand of existing buildings to be reduced by 80% by 2050 as compared to 2010 levels (a slightly more ambitious call than the REC vision).

Since its inception, the REC has supported three important studies:

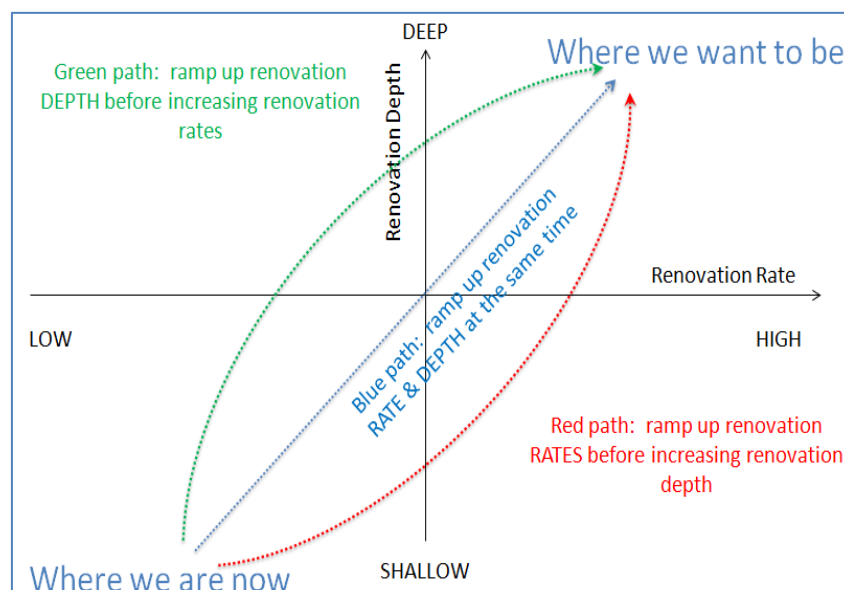
The BPIE Report *Europe's Buildings Under the Microscope* in 2011

The Copenhagen Economics Report *The Multiple Benefits of Investing in Energy Efficient Renovation of Buildings* in 2012 (distributed with this paper to Delegations at the Informal Ministerial Meeting)

*Pathway to 80%* a paper prepared by the BPIE that describes options to achieve the 80% target and that allows for back casting to quantify interim targets

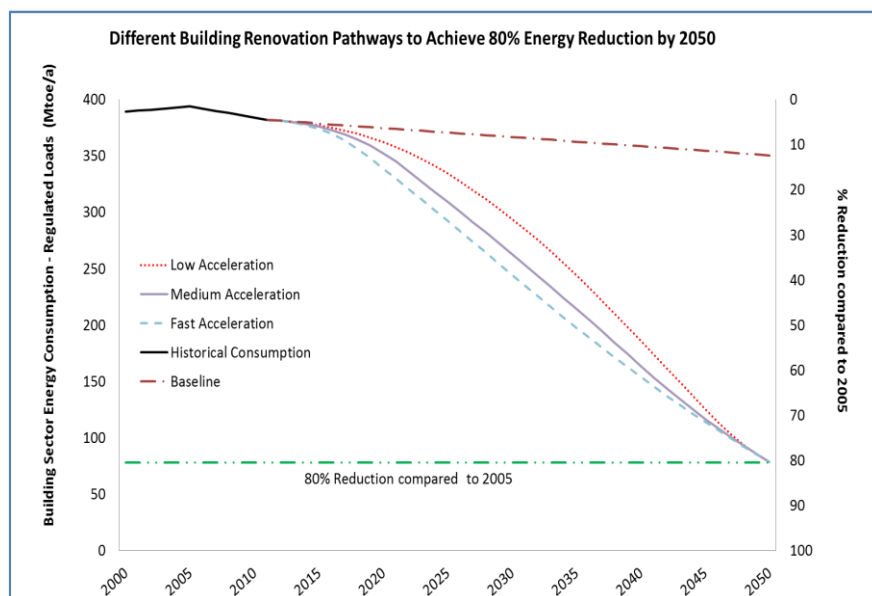
These studies match, to a great extent, with many of the steps that Member States will have to undertake in the preparation of their long-term strategies (*see note 2 at the end of this paper*) and it is expected that they will be referred to, and relied on, by stakeholders and administrations as they develop the long-term strategies of Article 4 of the EED.

Referring to the last of the three documents supported by the REC, the *Pathways to 80%* paper examines how we can get from where we are today to where we must be in 2050. It clearly shows the range of choices open to the EU (see Figure 5) and each of its Member States.



**Figure 5:** There are many paths to our goal, and all will be challenging  
Source: Buildings Performance Institute Europe (BPIE)

In Graph 2, we can see that all three proposed pathways lead to the successful achievement of the REC vision, an imperative if the EU is to achieve its long-term climate goals. However, the paper also clearly shows that all three pathways require a significant increase in activity in the construction sector and a significant increase in the average depth of renovation for projects undertaken in the period. In other words, the big difference between the three pathways is the rate at which the increased activity is brought on stream, hence the names of each scenario: *Low Acceleration*, *Medium Acceleration* and *Fast Acceleration*.



**Graph 2:** Final result of *Pathways to 80%* paper, showing the three pathways to the REC vision  
Source: BPIE – from paper prepared at the request of the REC

When looking at the graph, the differences between the pathways may seem slight, when we back cast on each curve we find that the differences between the three during the interim period to 2050 are very great indeed:

Pathway	Cumulative Annual Savings To ...			
	2020	2030	2040	2050
<b>Low Acceleration</b>	<b>19 (4.8%)</b>	<b>87 (22.4%)</b>	<b>195 (51.2%)</b>	<b>302 (80%)</b>
<b>Medium Acceleration</b>	<b>29 (7.2%)</b>	<b>118 (31.2%)</b>	<b>217 (57.6%)</b>	<b>302 (80%)</b>
<b>Fast Acceleration</b>	<b>42 (11.2%)</b>	<b>136 (36%)</b>	<b>227 (60%)</b>	<b>302 (80%)</b>

**Figure 6** – Cumulative annual energy savings in given year in Mtoe/a. The percentages in brackets indicate the overall reduction in energy demand as compared to the base year of 200

Source: BPIE – from paper prepared at the request of the REC

As can be seen, we find that the achievable reductions in energy demand in the year 2030 vary between a low of 22% (87 Mtoe/a) and a high of 36% (136 Mtoe/a) and that heading down the low acceleration path means that the biggest effort has to be made after 2030, where improvement of a further 58% (215 Mtoe/a) will be required in the 30's and 40's.

Regardless of which pathway is chosen, the REC has been able to identify that very significant benefits will accrue to public finances and to society at large (as set out further above and in the summary at the head of this paper) if the ambitions of the REC are rigorously pursued.



## Final Recommendations on how to Boost the EU Economy Through Energy Efficiency

The buildings sector provides a huge opportunity for the EU as the introduction of ambitious energy efficient renovation programmes will stimulate economic activity and deliver additional financial resources to society and to governments, increasing over time. With the combination of policy developments at EU level, available labour resources, historically low interest rates, emerging financing models (see *Note 4* at the end of this paper) and receptive Ministries of Finance, the time has never been better to grasp this opportunity.

EuroACE calls on the Member States to:

**Support an ambitious post-2020 climate and energy policy** that will introduce an overall binding energy efficiency targets for 2030, knowing that a binding sectoral target of reducing energy demand of existing building stock by 36% by 2030 is achievable and will put the EU on the right track for the achievement of its 2050 ambitions;

**Use the requirement of Article 4 of the Energy Efficiency Directive** to fully survey the national building stock, its energy performance and potential for energy efficiency improvements, using the opportunity to also monetise the multiple benefits that ambitious renovation programmes will deliver; On this basis **introduce ambitious energy efficient renovation programmes** for their countries that optimise the use of available expertise, technologies and funding sources;

**Remove structural barriers to the uptake of energy efficiency in buildings** as recommended in the Study by Copenhagen economics: this can be done at no-cost to governments. The main structural barriers relate to rent regulation, treatment of budget management for publicly owned buildings, favourable tax treatment for heating and electricity use in buildings and management of risk for investment in renovation of buildings.

In closing, it is worth recalling that the Commission referred to energy efficiency as a “*no-regret*” option in its Energy Roadmap 2050.

EuroACE does not believe that this is accurate as, in fact, **energy efficiency is a “MUST-DO” option!**

**End of Paper**

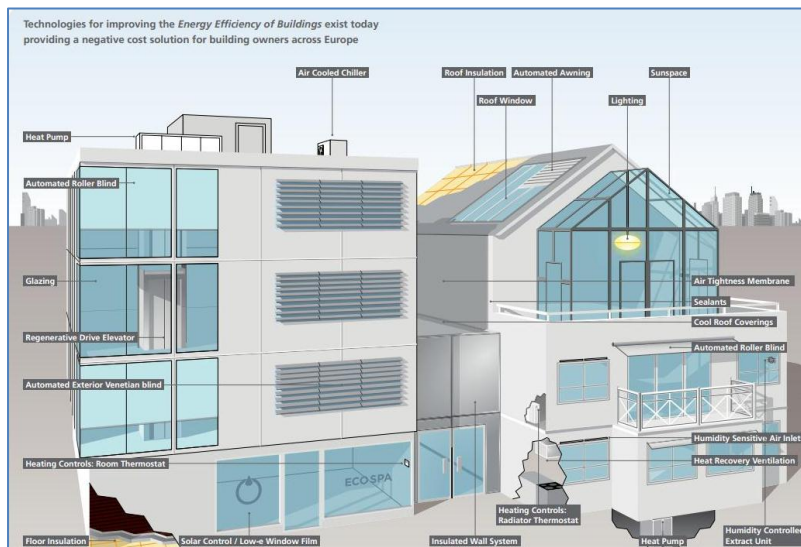
## Notes:

### 1. EuroACE

The European Alliance of Companies for Energy Efficiency in Buildings<sup>7</sup> is a European Business Association that was set up in 1997 to bring together leading companies that operate in the EU in the field of energy efficient buildings. Its members are convinced that one of the most cost-effective way to address our climate and energy goals is to address the very poor energy performance of our buildings.

EuroACE promotes a technology-neutral, integrated and holistic approach to the question of the energy efficiency of buildings. For this reason its members promote the use of complementary sets of energy efficiency measures in all projects (whether new-build or renovation), sets of measures that include highly insulated building envelopes, efficient equipment, intelligent controls, best available lighting systems, high performance windows and with controlled ventilation equipment.

Already very engaged in product research and development, the members of EuroACE see that the introduction of highly ambitious energy efficient renovation programmes for the EU building stock will spur further innovation and will render the EU construction sector one of the most competitive in the world.



### 2. Long-Term Strategies (Article 4 of the EED)

Over and above the binding measures in the EED, there is one provision that requires Member States to look beyond the 2020 horizon set by the current EU Climate and Energy Package. This is the requirement for all Member States to prepare long-term strategies for the mobilisation of financing for the renovation of existing buildings (both public and private). This requirement presents a huge opportunity to Member States to quantify the potential multiple benefits tied up in its building stock. The diagram<sup>8</sup> below illustrates five phases that Member States may go through in the preparation of a comprehensive strategy:



Recommended phases in the development of a long-term strategy for renovation of the building stock

Source: Building Performance Institute Europe (BPIE)

<sup>7</sup> See [www.euroace.org](http://www.euroace.org)

<sup>8</sup> Taken from the BPIE Report *A Guide to Developing Strategies for Building Energy Renovation*, published February 2012

Many stakeholders are hopeful that Member States will use 2050 as the horizon for their long-term strategies and that they will align their ambitions with the various Roadmaps that the European Commission developed in 2011 in related fields. In this way, the Member States will build policy coherence, a long-term stable perspective and investor confidence, all of which are essential for the achievement of our collective economic, competitiveness and climate mitigation objectives.

### **3. Potential Impact to 2050 as Calculated by the Renovate Europe Campaign (REC)**

The REC has been active in putting real numbers on the impact that a successful campaign will deliver. It has sought to quantify the impact on the construction sector, on public finances and for society at large. The results are impressive and attention is now turning to how to best bring the identified benefits into being.

The REC estimates that running a successful series of ambitious energy efficient renovation programmes across the Member States of the EU will deliver about 2 million jobs, of which 1.1 million will be new, direct, local jobs in the construction sector. Among the sources for this figure is a study of studies carried out for the Energy Efficiency Industrial Forum entitled *How Many Jobs?*<sup>9</sup> which found that on average 19 jobs are created for every €1 million invested in energy efficient renovation of buildings.

The level of investment that will be needed has also been estimated by a number of authors and, while estimates vary considerably, there seems to be consensus that the additional amount in question is in the order of €100 billion per year, or about 0.1% of GDP. However, against this must be placed the estimated return on investment, which the BPIE Study *Europe's Buildings Under the Microscope* puts at between 8% and 12%, depending on the level of ambition in the renovation programme with deeper renovations having a higher return on investment.

Given that achieving an 80% reduction in the energy demand of the EU building stock is achievable and that the sector is responsible for about 36% of CO<sub>2</sub> emissions, successful attainment of the REC vision will lead to about 30% reduction in overall CO<sub>2</sub> emissions in the EU.

Turning to the economic impacts, if the rate of renovation in the EU can be increased in line with the ambitions set by the REC (and this must happen by 2020), then there is a potential to increase the turnover in the construction sector by an annual amount in the range €670 to €830 billion, a sum that is equivalent to about 0.7% of EU GDP.

These impressive figures will encourage the emergence, in a short timeframe, of a number of innovative financing models. Indeed several new models based on Bank Guarantee Funds are emerging in several Member States and as experience with Energy Performance Contracting grows, the non-technical barriers such as off balance-sheet treatment of investments are being addressed, potentially opening the door to much greater deployment of this valuable form of contracting. Energy Service Companies (ESCO's) are also looking towards the provision of *global contracts* where the ESCO undertakes works that extend beyond the technical systems in buildings to whole-building works.

The REC is collecting best practice examples of these new approaches to renovation of the building stock and will showcase them later this year at the 3<sup>rd</sup> Renovate Europe Day in Brussels on the 9<sup>th</sup> October.

### **4 Renovation Programmes are Profitable**

A good example of a national model for financing energy efficiency is the KfW Energy Efficient Refurbishment Programme in Germany. Through this programme, KfW (a government-owned development bank) provides soft loans to local banks, which then lend these funds on to private homeowners, homeowners' associations and housing companies. The programme applies a mixture of soft loans and grants, and the more efficient the home becomes after refurbishment, the less of the loan the building owner has to repay.

Between 2006 and 2012, these programmes had a total volume of close to €51 billion (covering more than 1.1 million loans and grants), resulting in an accumulated greenhouse gas reduction of roughly 6 million tonnes of CO<sub>2</sub> equivalent. As regards the effectiveness of this funding, KfW commissioned a study in 2011 to look at the impacts of the programmes targeted at energy efficiency in buildings, which showed significant benefits not only in terms of energy saved but also with respect to wider societal gains mainly in the form of jobs created and/or maintained. The study estimated that for every euro invested in these programmes 2 to 5 euros were flowing back to state coffers mainly due to increased tax revenues and reduced unemployment benefit payments.

<sup>9</sup> See : [http://www.euroace.org/PublicDocumentDownload.aspx?Command=Core\\_Download&EntryId=433](http://www.euroace.org/PublicDocumentDownload.aspx?Command=Core_Download&EntryId=433)

A complete overview of the KfW scheme (in English) can be found at: <http://sticerd.lse.ac.uk/dps/case/cp/KfWFullReport.pdf>

Similar results have been observed in other Member States including Ireland, where a cost benefit analysis<sup>10</sup> of the *Home Energy Savings* scheme based on national accounting rules, showed that for every euro invested in the scheme, up to 5 euro flowed back to public finances. This scheme was a simple grant scheme and, like the KfW programme noted above, the bulk of the benefits arose from safeguarding or creating new jobs.

## 5 No-Cost Measures that Member States Could Implement to Remove Barriers to Energy Efficient Renovation

The main recommendations of the Copenhagen Economics Study to national governments point out that in the current context of available capacity in the economy and stress on public budgets due to the economic crisis, energy savings projects are a particularly attractive option to increase economic activity, as a number of structural barriers are holding back otherwise profitable investments. By addressing the most significant structural barriers through government action, these investments will help to boost the economy, while not reducing governments' net revenue. Conversely such initiatives may even create net revenue.

This is a direct consequence of the nature of the four key structural barriers that hold back energy savings in buildings *and* the policies required to deal with them. The Study identifies at least four:

**Barrier 1:** Rent regulation in both publicly and privately owned residential houses, and to a certain extent commercial buildings, often prevents landlords from passing on the costs for improvement in the quality of the buildings, including a lower energy bill to tenants. This greatly reduces the landlords' incentive to invest in energy efficient renovation of buildings. This is a problem as such investments would reduce the total housing bill for the tenant.

**Action:**

**Modernise rent regulation to allow landlords and tenants to split the gains from energy efficient renovation of buildings. This is largely without direct costs to public finances.<sup>11</sup>**

**Barrier 2:** Budget management of publicly owned buildings tends to focus on shorter term cash flows as opposed to longer term running costs. This punishes projects with higher upfront costs as counterpart to lower future operating costs i.e. a lower energy bill. In addition, the discount rates applied to assess public investments have not followed the general current trend towards lower market rates.

**Action:**

**Reform budget management of publicly owned buildings to allow for a longer term focus in investments destined for the renovation of buildings. This will reduce longer term operating costs in the publicly owned building stock.**

**Barrier 3:** The relatively widespread favourable tax treatment of heating and electricity use in buildings reduces gains from otherwise viable energy savings projects.

**Action:**

**Removing or reducing such tax advantages will render energy efficient renovation of buildings more attractive, and provide direct net revenue gains to public budgets.**

**Barrier 4:** Handling of risk in renovation projects has traditionally been a weak point. Investors may face high up-front costs, which imply that they run more substantial risks than for a similar project with lower up-front costs. In this respect it is an important question how you set up, monitor and evaluate performance contracts that ensure that the owner/user of the building *de facto* gets the promised benefits required to pay back the substantial and non-reversible investment cost over time. Concepts such as Energy Service Companies (ESCO) and Energy Performance Contracts (EPC) which are explicitly designed to align risks and responsibility for promised outcomes have not been developed to deliver on renovation projects. In fact, there are examples of countries<sup>12</sup> not allowing the use of EPCs in the public sector.

**Action:**

**Well-designed risk-sharing programmes can help government as well as private building owners to realise cost savings with very limited budget costs. Key actions could be initiating pilot projects and information campaign activities to test the concepts and their expected beneficial effects.**

<sup>10</sup> [http://www.seai.ie/Publications/Statistics\\_Publications/Energy\\_Forecasts\\_for\\_Ireland/Economic\\_Analysis\\_of\\_Residential\\_and\\_Small-Business\\_Energy\\_Efficiency\\_Improvements.pdf](http://www.seai.ie/Publications/Statistics_Publications/Energy_Forecasts_for_Ireland/Economic_Analysis_of_Residential_and_Small-Business_Energy_Efficiency_Improvements.pdf)

<sup>11</sup> As overall housing cost would be reduced, the public costs to e.g. social housing would also be reduced.

<sup>12</sup> In its Issue Brief "EU public-sector experiences with building efficiency", the Institute for Building Efficiency (IBE) conducted a series of interviews and surveys in winter of 2011 with public officials in the UK, France and Germany