CREATING AN ENERGY EFFICIENT MORTGAGE FOR EUROPE

BUILDING ASSESSMENT BRIEFING: GERMANY
TABLE OF CONTENTS

INTRODUCTION 3
Energy and Climate Policy 3
Energy Efficient Renovation: The Status Quo 3

EXISTING FINANCE FOR RESIDENTIAL ENERGY-EFFICIENT REFURBISHMENT 5
Kreditanstalt für Wiederaufbau (KfW) 5
The Renewable Energy Sources Act (EEG) 6

ENERGY REGULATIONS AND ENERGY CERTIFICATES 7
Energy Certificates (according to EnEV) 7

PREDICTING ENERGY PERFORMANCE 9
Potential solutions 9

BEYOND ENERGY: SUSTAINABILITY OF RENOVATIONS 10
Relevant DGNB schemes 10

REFERENCES 11

ABOUT THE DGNB GERMAN SUSTAINABLE BUILDING COUNCIL

The DGNB German Sustainable Building Council was founded in 2007 and has around 1200 members, making it Europe’s biggest network for sustainable building. The aim of the DGNB is to promote sustainability in the construction and real estate industry and instil awareness of building sustainability among the broader population. The DGNB is an independent non-profit organisation. Its certification system offers a planning and optimisation tool for evaluating sustainable buildings and urban districts. It was developed to help organisations enhance the tangible sustainability of construction projects. The DGNB system is based on the concept of holistic sustainability, placing equal emphasis on the environment, people and commercial viability.

CONTACT

For further information on EeMAP in Germany contact Samuel Jan Koch – s.koch@dgnb.de

www.dgnb.de

DISCLAIMER

The sole responsibility for the content of this material lies with the authors. It does not necessarily represent the views of the European Union, and neither EASME nor the European Commission are responsible for any use of this material.

FEBRUARY 2018
INTRODUCTION

This briefing provides a short summary of the main framework conditions of the German building stock for the implementation of the Green Mortgage Approach.

“Green Mortgages” are loans that are linked to energy saving or energy efficiency measures in the building stock. Green Mortgages may offer improved loan terms due to the lower risk of default which may be achieved through reductions in energy costs. In general, the borrower undertakes to prove or to have the implementation of the measures and their successes verified. The proof can be done in different ways. One possibility is, for example, to grant a favourable interest rate after the actual consumption savings have been realized (a bonus model). This motivates the borrower to monitor consumption and efficiency (performance monitoring), to carry out quality assurance checks and derive optimization measures together with an energy advisor (whose involvement is likely to be a prerequisite for green mortgages). Thus, the effect of the renovation can be significantly increased.

The renovation measures should be balanced and sustainable, i.e. they must be individually adapted to the building and the 2050 climate objectives (see next section) by a renovation timetable, taking into account economic and environmental, as well as socio-cultural and functional aspects. The measures must be reconciled with the present and future living conditions, the financial possibilities and priorities of the owner. Furthermore constructional and architectural quality must be ensured.

ENERGY AND CLIMATE POLICY

The Federal Republic of Germany has set targets regarding climate-change mitigation and energy policy, which require massive efforts at all levels and from all economic sectors. In September 2010 an energy concept was developed by the Federal Government. The concept includes the following objectives for reducing greenhouse gas emissions (baseline 2008):¹

- 40% reduction by the year 2020
- 80 – 95% reduction by the year 2050 (over the long term almost net zero carbon building stock)
- interim goals for 2030 (30% reduction) and for 2040 (45% reduction)

In addition, numerous other efficiency targets and targets for expansion of renewable energies have been determined in the paper. For instance, the primary energy demand is to be reduced by 80%, thus satisfying the requirements of the Energiewende (Energy Transition) in Germany². Furthermore, by 2025 the proportion of renewable energies shall be increased to 40-45%, and by 2050 to at least 80%.

ENERGY EFFICIENT RENOVATION: THE STATUS QUO

Around 35% of primary energy in Germany is consumed in buildings. In order to meet the aforementioned energy policy objectives, the buildings must meet an average annual primary energy demand of only about 40 kWh/m² a by 2050, which is currently hard to imagine³. According to the study about Wirksam Sanieren⁴ (Effective Renovation), an average consumption of 60 kWh/m² a can be achieved across all existing residential buildings in the long term, assuming quality assurance and monitoring in combination with ongoing optimisation measures.

There is an important issue relating to the extent that already modernized buildings need to be modernized again over the next 30 years. There will rarely...
be the opportunity for further improvements by 2050 in existing buildings and new construction in which insulation measures are carried out today or in the near future. In order to reach the ambitious goals greater efforts must be made. This includes, above all, a considerable increase in the renovation rate. This must go hand in hand with deeper renovations on a larger scale, i.e. the combination of various measures to maximize the impact. Structural restrictions often have to be taken into account, for example to preserve valuable buildings (preservation orders are in place, in whole or in part, for approximately 5% of buildings up to 1978) or for building regulations.

There are approx. 19 million residential buildings in Germany, consisting of approx. 40 million dwelling units. About half are expected to be renovated in the next 20 years. For an overarching renovation strategy, not only the total energy consumption of the building sector is important, but also the specific consumption of the buildings by construction age needs to be taken into account. The largest savings can usually be achieved by the groups that make up the largest proportions: residential buildings which were constructed between 1949 and 1978. These also have the largest area-related consumption.

Framework conditions and saving potentials vary between building types and ages, as well as between owner groups. The structure of existing buildings is extremely heterogeneous:

- 83% of the residential buildings are single- and two-family houses
- Only 17% (about 3 million) are multi-family buildings, which are nevertheless representing 40% of the living space and 53% of all dwellings.
- About 81% of multi-family buildings have 3 to 4 full floors and up to 12 apartments

However, the number of buildings being renovated remained at just under 1% in 2016, without any statement with respect to the depth of the renovation being made. An increase in this rate is not apparent from current statistics. According to the study “Economic Factor Real Estate 2017” (Wirtschaftsfaktor Immobilien), the current heat demand could not be lowered to 2,761 peta joules as planned by 2020, but only to 3,069 peta joules (based on predictions from 2015). Due to lower energy prices, the profitability of energy-related renovations has declined overall and, therefore also the share in investments in the energy-efficient renovation of buildings, despite the persistently low interest rates.

The Climate Action Plan 2050 of the federal government adopted in November 2016 sets up a “roadmap for a virtually climate-neutral building stock“, without, however, naming the necessary incentive systems and corresponding policy measures for the renovation sector. The main incentives for homeowners are, in particular, the extension and consolidation of subsidies for energy efficiency measures, i.e. tax incentives and better lending conditions. Where possible these are intended to be technology-neutral. It is therefore the duty of the federal government and the federal states to use tax incentives for individual and overall measures to extend sustainable energy renovation. Furthermore new low-interest products of banks, e.g. green mortgages can increase the attractiveness of investments in energy-efficient building renovation.
The overwhelming majority of discounted loans for energy efficiency measures in Germany are granted by the “Kreditanstalt für Wiederaufbau” (KfW). KfW is the world’s largest national development bank and in terms of total assets the third largest bank in Germany. Development banks are special banks that pass on public funds through special loan programs. KfW’s capital is held four-fifths by the Federal Republic of Germany and one-fifth by its federal states. The Federal Republic bears all liabilities and loans of KfW which is anchored in Section 1a of the KfW Law.

Preferential loans and subsidies:
KfW promotes energy-efficient modernization measures in Germany, for buildings where the building application was submitted before 01/02/2002, in accordance with §555b No.1 and No.2 BGB. Funding takes place after completion of a validated renovation measure in the form of preferential loans (for example, starting at 1.1% APR) and investment subsidies. There is a non-combination rule of KfW funding, but an individual modular principle is possible. The subsidy is not taxable on income nor does it reduce the taxable costs.

Tax incentives:
All costs related to the eligible investment in energy-efficient renovation measures can be applied to the income tax in the second tax year upon completion of the modernization. This does not affect the owners’ automatic tax deductions on wages earned.

Allocation of modernization costs to tenants:
In the case of rented accommodation, under the current rules (§ 559 b BGB), the cost of measures that have led to a higher energy standard, less any subsidy granted, are eligible to be passed on the tenants (“Mietumlage”).

N.B.: The levels of performance are defined in reference to the national building regulations relating to energy performance (see Section 3). An Effizienzhaus-70 property uses only 70 per cent of the primary energy of a new house built to meet the current EnEV standards, while an Effizienzhaus 150 uses 50 per cent more energy.

KfW services and conditions:
Energy consultancy from an expert, which is required for a KfW finance package, will be subsidized with up to € 4,000 and a maximum of 50% of the eligible costs per project. All energy consultants appearing on the list of experts for federal funding programs are eligible to undertake this service. The energy efficiency expert plans the renovation from gathering information, proceeding to proposals for energy saving measures, energy specialist planning up to construction supervision and ensuring the quality of all measures. Furthermore, a sustainability certification approved by the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) can be subsidized, e.g. the certification system of the German Sustainable Building Council – DGNB e.V., with the system variant “New residential construction with less than 6 apartments (NKW13)”.

Relevant KfW-products:
- Credit for renovation up to KfW Effizienzhaus (up to € 100,000, 0.75% p.a.), up to € 27,500 repayment bonus
- Renovation subsidy* up to € 30,000 per apartment
- Supplementary loan for conversion of heating to renewable energy (up to € 50,000 per apartment, 1.31% p.a.)
- Planning and Supervision Subsidy** for the planning and construction supervision by an expert for energy efficiency up to 50% and max. € 4,000

For the exchange of particularly inefficient heating systems and the installation of new mechanical ventilation systems, the Federal Ministry for Economic Affairs and Energy offers higher repayment bonuses from the Energy Efficiency incentive program (APEE). Further funding is available from the Federal Office of Economics and Export Control (BaFa) which offers, among other things, subsidies for pellet and wood chip heating and solar systems as well as a building efficiency bonus. Under this bonus, if the “KfW Effizienzhaus 55” standard is met, there is an extra building efficiency bonus of 50% of the basic funding on top.

The loans and subsidies from KfW and BaFa have the largest share in the financing of renovation measures. In addition, there are nevertheless a large number of different country- and region-specific, as well as municipal or other sources of finance.
### Table 2 – BafA overview of funding of the building stock

<table>
<thead>
<tr>
<th>MEASURES</th>
<th>Basic subsidy</th>
<th>Innovation bonus for Condensing technology</th>
<th>Innovation bonus for Particle separation</th>
<th>Retro-fitting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood-pellet stove with hot water heat exchanger</td>
<td>5 – 25 kW → 2,000€ 25.1 – 100 kW → 80€/kW</td>
<td>—</td>
<td></td>
<td>3,000€</td>
</tr>
<tr>
<td>Wood-pellet boiler</td>
<td>5 – 37.5 kW → 3,000€ 37.6 – 100 kW → 80€/kW</td>
<td>4,500€</td>
<td></td>
<td>4,500€</td>
</tr>
<tr>
<td>Pellet boiler with buffer storage</td>
<td>5 – 43.7 kW → 3,500€ 43.8 – 100 kW → 80€/kW</td>
<td>5,250€</td>
<td></td>
<td>5,250€</td>
</tr>
<tr>
<td>Woodchip boiler</td>
<td>3,500€</td>
<td>5,250€</td>
<td></td>
<td>5,250€</td>
</tr>
<tr>
<td>Wood gasification boilers</td>
<td>2,000€</td>
<td>5,250€</td>
<td></td>
<td>3,000€</td>
</tr>
</tbody>
</table>

**THE RENEWABLE ENERGY SOURCES ACT (EEG)**

The “Renewable Energy Sources Act” (EEG) of 2000 aims to enable a sustainable development of the power supply, and promotes the new and further development of power generation technologies from renewable energies such as photovoltaics. Owners of one- or two-family houses with a photovoltaic system with a capacity of up to 10 kWp can receive a subsidized feed-in tariff for the solar power. The subsidy level per kWh has declined significantly over the last few years, but the prices of the systems have also decreased, while at the same time system efficiency has increased. The current remuneration rates can be found on the website of the Federal Network Agency (Bundesnetzagentur).
In the case of an energy-efficient renovation of buildings, the Energieeinsparverordnung 2014 (Energy Saving Ordinance or EnEV) must be fulfilled. The EnEV in combination with the Energieeinsparungsgesetz (Energy Saving Act or EnEG) contains the construction and system engineering requirements, which must be fulfilled during the renovation or extension of existing residential buildings. The EnEV demands energy-efficient buildings: It limits both the primary energy demand for heating, water heating, ventilation (and lighting in non-residential buildings) and the heat loss through the building envelope. In addition, energy certificates for new constructions and existing buildings are required. When modernizing or renovating an existing building, the following requirements of EnEV 2014 set out in the table below, must be met. The corresponding calculation methods are specified in the EnEV 2014 Annex 1.27

A breach of the retrofitting obligations is listed in the first instance as an administrative offense according to EnEV 2014, which can be punished according to the Energy Saving Act with a fine of up to € 50,000.30

**ENERGY CERTIFICATES (ACCORDING TO ENEV)**

Since 2007, the Energy Saving Ordinance (EnEV) requires issuance of energy certificates for existing buildings if they are to be let or sold.31 These requirements were clarified in EnEV 2014 and a new regulation on compulsory information in real estate advertisements was introduced. If a building or a part of a building (e.g. apartment) are newly built, sold or leased out, an energy certificate must be presented to prospective buyers or tenants while they are viewing the house or apartment or, at the latest, on demand. The energy certificate is a document that describes the energetic quality of a building. It specifies a characteristic value that allows buildings to be assessed and compared in terms of energy. It provides information, among other things, to potential buyers or tenants, helping them to consider the energy demand of a property when making a decision to rent or buy.32

For new constructions as well as for renovations or extensions, during which an energetic balance for the entire building is calculated, energy certificates must be issued on the basis of the calculated energy demand. For the residential building stock, energy certificates can be prepared based, both on the calculated energy demand (known as an asset rating) and on the measured energy consumption (known as an operational rating). Regarding residential buildings with less than five apartments for which the building application was submitted before 1/1/1977, an asset rating certificate must be issued, unless the construction itself or later modernization achieves at least the thermal insulation level of the 1st Thermal Insulation Ordinance of 1977.

**ENERGY REGULATIONS AND ENERGY CERTIFICATES**

<table>
<thead>
<tr>
<th>Building element</th>
<th>max. heat transfer coefficient in W/(m²K)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facade</td>
<td>0.24</td>
</tr>
<tr>
<td>Windows</td>
<td>1.3</td>
</tr>
<tr>
<td>Rooflights</td>
<td>1.4</td>
</tr>
<tr>
<td>Glazing</td>
<td>1.1</td>
</tr>
<tr>
<td>Exterior doors</td>
<td>1.8</td>
</tr>
<tr>
<td>Roof</td>
<td>0.24</td>
</tr>
<tr>
<td>Flat roof</td>
<td>0.2</td>
</tr>
<tr>
<td>Top floor ceiling</td>
<td>0.24</td>
</tr>
<tr>
<td>Cellar ceiling</td>
<td>0.3</td>
</tr>
<tr>
<td>Floor construction</td>
<td>0.5</td>
</tr>
</tbody>
</table>

**Table 3 – Maximum values of the heat transfer coefficients for the first installation, replacement and renewal of components**

<table>
<thead>
<tr>
<th>Deadlines</th>
<th>Retrofitting obligations of EnEV 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 1, 2014</td>
<td>Install central heating control (EnEV 2014, § 14, paragraph 1)</td>
</tr>
<tr>
<td>May 1, 2014</td>
<td>Install thermostats (EnEV 2014, § 14, paragraph 2)</td>
</tr>
<tr>
<td>May 1, 2014</td>
<td>Insulate warm pipes (EnEV 2014, § 10 paragraph 2)</td>
</tr>
<tr>
<td>2 years after change of ownership</td>
<td>Exceptions for small residential buildings (EnEV 2014, § 10, paragraph 4)</td>
</tr>
<tr>
<td>—</td>
<td>Exception in the case of lack of economic efficiency (EnEV 2014, § 10, paragraph 5)</td>
</tr>
</tbody>
</table>

**Table 4 – Retrofit obligations according to EnEV 2014 in the building stock**

<table>
<thead>
<tr>
<th>Deadlines</th>
<th>Retrofitting obligations of EnEV 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 1, 2015</td>
<td>Renew old boilers (EnEV 2014, § 10 paragraph 1)</td>
</tr>
<tr>
<td></td>
<td>Prohibition on the operation of boilers charged with liquid or gaseous fuels installed or installed before 1 October 1978. In addition, later installed boilers may no longer be operated after 30 years.</td>
</tr>
<tr>
<td>2 years after change of ownership</td>
<td>Exceptions for small residential buildings (EnEV 2014, § 10, paragraph 4)</td>
</tr>
<tr>
<td>Dec. 31, 2015</td>
<td>Supreme ceiling or roof insulation (EnEV 2014, § 10, paragraph 3)</td>
</tr>
<tr>
<td></td>
<td>Applies to all top floors that do not meet the minimum heat protection according to DIN 4108-2 (issue 05-2013)</td>
</tr>
<tr>
<td>2 years after change of ownership</td>
<td>Exceptions for small residential buildings (EnEV 2014, § 10, paragraph 4)</td>
</tr>
<tr>
<td>—</td>
<td>Exceptions in the case of lack of economic efficiency (EnEV 2014, § 10, paragraph 5)</td>
</tr>
</tbody>
</table>

In addition, some compulsory retrofits must be made in the building stock, regardless of a planned project:
The energy certificate contains the main building data, the “energy label” as well as easily understandable comparison values and modernization recommendations on five pages. Samples of these documents are provided in Annexes 6 to 9 of EnEV.

In the case of modernization or extensions of buildings not to be let or sold, an energy certificate only has to be issued if the energy demand for the entire building is calculated, which enables a cost-effective issuance of the certificate. An energy certificate is valid for 10 years after issuance. For listed buildings, no energy certificates must be issued when selling or renting.

For the experts issuing energy certificates for existing buildings there is a national regulation, whereby a distinction is made between residential and non-residential buildings. According to §21 of the EnEV, experts must have completed a construction-related qualification and fulfill one of the following requirements:

- major field of study in energy-saving construction
- at least two years professional experience in major construction or system engineering areas of building construction
- completed advanced training according to Annex 11, EnEV
- Public appointment as a sworn-in expert in the field of energy-efficient construction or in major construction or systems engineering areas of building construction

A list of experts for energy certificates for existing buildings can be found on the internet website of the German Energy Agency.

Energy certificates are usually issued for the entire building and not for individual parts of the building or apartments. In the case of existing buildings, the necessary building data (such as dimensions, consumption data, energy quality of the external building components and the heating system) is usually recorded during a site visit, on which basis the energy certificate and modernization recommendations are drawn up.

It is permissible for the owner to collect the necessary data himself and send it to the expert. The latter can then issue an energy certificate on the basis of the data transmitted, unless he has any doubt as to the accuracy of the data. Since 01/05/2014 all newly issued energy certificates must be provided with a serial number, which is assigned by the EnEV registration office of the German Institute for Construction Technology (DIBt).

Data regarding energy demand are not available on any open market platform. In order to collect or set up a monitoring scheme to obtain energy consumption data for renovation measures, the user’s (owner, tenant) declaration of consent according to § 3 of the Federal Data Protection Act is required.
According to the study about Wirksam Sanieren (Effective Renovations), the typical existing residential building has a final energy index of around 170 kWh/m² per year. Asset rating energy certificates in contrast give typical values of around 250 kWh/m² per year. The difference between the calculated energy requirement and the measured energy usage can be explained by the user behaviour and by the numerous assumptions made for calculating the energy requirement. In addition, users with persistently low energy consumption obtain better energy certificate values by obtaining operational rating certificates.

In the study the calculated final energy requirement post renovation was compared with the measured energy use after the renovation. The assumed energy savings differ in some cases considerably from the actual results after energy-saving renovation measures. There are large deviations between the renovation successes achieved, even for comparable properties and measures in some cases. Indeed, deviations between predicted and actual savings were found in the majority of cases, sometimes as high as 40%. Nevertheless, the study showed that a combination of measures could typically still achieve savings of over 40% as shown in Table 5.

### POTENTIAL SOLUTIONS

The following list suggests some of the important determinants that need to be considered to increase energy savings when renovations are undertaken (the list is not exhaustive). Greater emphasis should be given to:

- Quality assurance during and after the renovation in planning and execution, materials, and ongoing optimization measures
- Introduce evidence of success in financial support instruments and combine funding with the installation of heat meters
- Energy consulting based on measured energy use data derived from monitoring instruments instead of calculated values
- Increased market penetration of smart meters for the evaluation of completed and upcoming renovation measures
- Hydraulic balancing as a requirement in case of changes to the heat envelope or to the heat generation
- Ensure correct insulation of distribution pipework and fittings and a more consistent avoidance of thermal bridges
- Automatic monitoring throughout the year with accompanying feedback to increase the efficiency of renovation
- Comprehensive introduction of smart meters for natural gas and district heating
- Differentiated target group approach and long-term dialog offers
- Increase knowledge about renovation potentials through public relation work

In the long term, according to the study about Wirksam Sanieren (Effective Renovations) when considering all existing residential buildings compared to today’s average, an average energy consumption of about 85 to 100 kWh/m² per year can be achieved without additional quality assurance and optimization or 60 kWh/m² per year if these additional aspects are addressed.

If the difference between these two values, which represents the total potential energy savings, is multiplied by the total area that is in need of renovation, this results in potential savings of 380 TWh per year or up to 64% compared to today’s final energy consumption.
Ideally, in addition to meeting energy demands and minimizing the share of fossil fuels, measures should be appropriate and balanced. As mentioned in the introduction, they have to be reconciled with the present and future living conditions and the user’s financial possibilities and priorities. Furthermore they need to be individually adjustable to buildings, future user requirements and, moreover, targeting the 2050 goals (long-term renovation strategy).

This includes, besides ecological and economic aspects, for instance, regulations regarding the health compatibility of building materials, as well as:

**Sociocultural and functional quality**
- Health, comfort and user satisfaction
  - Thermal comfort
  - Indoor air quality
  - Visual comfort
  - User control
  - Quality of outdoor spaces
  - Safety
- Functionality, barrier-free design
- Design quality and functionality

**Technical quality**
- Fire safety
- Sound insulation
- Building envelope quality
- Ease of recovery and disassembly

All of the above aspects are subjects of the sustainability certification of the DGNB German Sustainable Building Council which supports the goal of sustainable energy renovation of the building stock. DGNB is an active participant in the “Energy efficient Mortgage Action Plan (EeMAP)” initiative as part of the World Green Building Council’s Europe Regional Network.

**RELEVANT DGNB SCHEMES**

**New residential construction with less than 6 apartments (NKW13):**
This scheme focuses on the users’ comfort and well-being. Because of the reduced criteria set, the scheme is especially suitable for developers and manufacturers of prefabricated and terraced houses and offers them a highly reliable quality inspection.

**Renovated buildings (V2016):**
This scheme is currently in a pilot phase. It is applicable to all building types or uses. It closes the gap between the schemes already developed for new buildings and existing ones. Buildings can be certified where renovation measures have been undertaken. The requirements are based on those of new buildings, but also take into account the specific demand of renovation projects – the focus is on major refurbishments.
REFERENCES


3 – Note: this corresponds to a “KfW Effizienzhaus 55”.


16 – Wirtschaftsrat der CDU e.V. in „Empfehlungen des Wirtschaftsrates für eine wirksame Energieeffizienzstrategie im Gebäudebestand“ S. 8 f.


22–23 – Source: https://www.kfw.de/intlandsfoerderung/Privatpersonen/Bestandsimmobilie/Energieeffizient-Sanierer/F%C3%BCr-B%C3%B6rsenabgabe/w?1_cc1=wohnen&wt_cc2=privatbestandsimmobilie&wkt_kw=b_38765281417.%28kw%202%Sanierer&wct_cc3=38765281417.kwd-37784692454.19763524338 , Access Date 21.11.2017.


28 – Adapted from on EnEV 2014.


35 – The issuing authorization for energy certificates for new buildings remains state law. The federal states in each case issue their own implementing regulations for the EnEV, in Baden-Württemberg, for example, in the EnEV Implementing Regulation (EnEV-DVO). According to § 1 EnEV-DVO 2016, the devoted building authorities are responsible for the implementation of the EnEV, eligible certifiers are persons who meet the requirements of § 21 of the EnEV. Source: https://www.gesetze-im-internet.de/enev-2007/_16.html , Access Date 22.11.2017.


41 – Demand for funding and surveys shows that homeowners’ interest in energy efficiency issues and the switch to renewables are high. This is to be supported by education, promotion and accompanying advice.
With the support of the World Green Building Council’s Europe Regional Network

#EeMAP
WWW.ENERGYEFFICIENTMORTGAGES.EU