

# UK NZEB Roadmap

## NZEB Goals

The UK Government has committed to a challenging CO<sub>2</sub> emissions reduction target for 2050. The UK's target for all new homes to meet the Zero Carbon Standard from 2016 and all new non-residential buildings from 2019. This policy advances the timelines set by Energy Performance of Buildings Directive (EPBD), which targets for all new buildings in the EU to be 'Nearly Zero-Energy Buildings' from 2020 (Zero Carbon Hub, 2014).

## NZEB Strategies

The implementation of this target is dependent primarily on the progressive tightening of Building Regulations. The country has had prescriptive energy efficiency requirements for buildings since 1976. In 2005, following the implementation of the 2002 EPBD, the first performance-based code was introduced. The 2010 code and related national policies have been further strengthened to reflect the provisions of the EPBD recast. These include, mandatory simulation calculation, air-tightness testing, thermal bridging and renewable energy requirements, pre-occupancy commissioning.

These regulatory measures are supported by economic incentives, and outreach and information programs.

## Regulations

### Zero Carbon Buildings Policy

The UK is committed to ensuring that new homes are zero carbon from 2016. From 2016 for homes and 2019 for non-domestic buildings, all new buildings in England will be required to be built to a zero carbon standard. The policy and standard has continued to undergo revisions since 2007 in order to protect economic and technical viability and ensure these requirements remain achievable.

### Building Regulations Part L

Part L of the Building Regulations sets minimum standards for energy efficiency in new and existing buildings (it applies to new building work in England and Wales; Scotland and Northern Ireland have separate regulations). The current regulations came into effect in April 2014. ADL1A for dwellings and ADL2A for other buildings

<http://www.planningportal.gov.uk/buildingregulations/approveddocuments/partl/>

### Code for Sustainable Homes (2007)

The code for sustainable homes is the national standard for the sustainable design and construction of new homes. It aims to reduce carbon emissions and promote higher standards of sustainable design above the current minimum standards set out by the building regulations.

### Zero Carbon Hub

Zero Carbon Hub is a government/industry partnership body which gathers evidence and recommends appropriate requirements for on-home carbon reductions. Based on recently

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submitted findings of the Hub, on-home carbon reductions between 44% and 60%, dependent on house type are called for, compared to 2006 Building Regulations.

### 2nd National Energy Efficiency Action Plan (NEEAP)

The UK's 2nd Energy Efficiency Action Plan (NEEAP) brought together in one document all the then current and planned policies and measures the government and the Devolved Administrations have in place to improve energy efficiency. This updated the previous EEAP of 2007 and fulfilled the UK's obligation under the Energy End-Use Efficiency and Energy Services Directive (ESD) to report on progress towards an overall national indicative energy savings target of 9% by 2016. It was superseded by the 2014 Energy Efficiency Action Plan under the EU Energy Efficiency Directive.

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/48144/2289-uk-report-eu-enduse-esd.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48144/2289-uk-report-eu-enduse-esd.pdf)

### National Renewable Energy Action Plan ( NREAP) -2010

In the NREAP, various targets were set for UK to be achieved by 2020. These include:

1. 15% share of energy generated from renewable sources in gross final energy consumption;
2. 12% of heat consumption met by renewable sources;
3. 31% of electricity demand met by electricity generated from renewable energy sources;
4. 10% of energy demand met by renewable energy sources (Measures : Renewables Obligation (RO); System of feed-in tariffs; Introduction of Renewable Heat Incentive (RHI)

<http://ec.europa.eu/energy/en/topics/renewable-energy/national-action-plans>

## Economic Instruments

### Green Deal (Energy Act, 2010)

Policy designed to significantly reduce emissions from existing buildings by promoting increased retrofitting; market mechanism planned ( since 2012) that will enable EE retrofit in homes and businesses; financed through energy bill savings.

The Green Deal is a market framework which will enable private firms to offer consumers energy efficiency improvements to their homes, community spaces or businesses at no upfront cost with repayments recouped through a charge made in instalments on their energy bill.

### Renewable Heat Incentive: increase generation of heat from RES

The Renewable Heat Incentive (RHI) is the world's first long-term financial support program for renewable heat. The RHI pays participants of the scheme that generate and use renewable energy to heat their buildings.

<https://www.gov.uk/government/policies/increasing-the-use-of-low-carbon-technologies/supporting-pages/renewable-heat-incentive-rhi>

### Wales Home Energy Efficiency Scheme – Nest

Nest is a Welsh government scheme that can provide eligible householders with a "whole house" package of energy efficiency improvements free of charge.

<http://nestwales.org.uk/>

## **Information & Outreach**

### **Smart Metering Implementation Program**

The program aims for all homes and small businesses to have smart meters by 2020. Energy suppliers will be required to install smart meters and take all reasonable steps to install them for everybody.

<https://www.gov.uk/government/policies/helping-households-to-cut-their-energy-bills/supporting-pages/smart-meters>

### **Market Transformation Programme, including Energy Labelling for Appliances**

The UK's Market Transformation Programme (MTP) effective since 1997 undertakes policy research, development and support projects that aim to bring forward products, systems and services that do less harm to the environment, using less energy, water and other resources over their lifetime. The MTP provides strategic support to a growing set of product policies. These aim to encourage resource efficiency through the development of supply-chain measures such as reliable product information, raising minimum standards and encouraging best practice and where consensus and joined-up thinking is essential to establish priorities and to deliver practical policies.

- Demonstration projects by local authorities and voluntary/co-operative housing associations to deliver sustainable energy-efficient housing with minimum A2 energy rating; goal: advance knowledge and experience base in design, construction and use of high performing EE housing and promote awareness of relevant technologies.
- Voluntary demonstration projects include use of RES in many regions and local areas. The Department of the Environment, Heritage and Local Government provides funding for flagship low-carbon housing schemes in eight local authorities and annual prize for development of sustainable public buildings.

### **Report on Low Carbon Construction**

This report consists of recommendations for achieving required improvement in construction. This led to development and maintenance of education and training by sector skills Councils, Universities and colleges, professional bodies and education funding agencies to support production of low and zero carbon buildings.

### **Independent experts**

Energy assessors must be member of a specialist Accreditation Scheme approved by government.

## Links

Regulations
<b>EPBD or Directive on Energy Performance of Buildings</b> <a href="http://www.epbd-ca.eu/">http://www.epbd-ca.eu/</a>
<b>Passive House Standards</b> <a href="http://www.passiv.de/en/index.php">http://www.passiv.de/en/index.php</a>
<b>Renewable Energies European Law Adaptation Act (EAG EE)</b> <a href="http://www.res-legal.eu/search-by-country/germany/">http://www.res-legal.eu/search-by-country/germany/</a> <a href="http://www.res-legal.eu/search-by-country/germany">http://www.res-legal.eu/search-by-country/germany</a>
<b>Energy Saving Ordinance</b> <a href="http://www.enev-online.de/">http://www.enev-online.de/</a>
<b>Energy Saving Act</b> <a href="http://www.bmwi.de/EN/Topics/Energy/Buildings/energy-saving-legislation,did=667990.html">http://www.bmwi.de/EN/Topics/Energy/Buildings/energy-saving-legislation,did=667990.html</a> <a href="http://www.bmwi.de/EN/Topics/Energy/buildings.html">http://www.bmwi.de/EN/Topics/Energy/buildings.html</a> <a href="http://www.bbsr-energieeinsparung.de/EnEVPortal/DE/EnEG/Download/EnEG2009,templateId=raw,property=publicationFile.pdf/EnEG2009.pdf">http://www.bbsr-energieeinsparung.de/EnEVPortal/DE/EnEG/Download/EnEG2009,templateId=raw,property=publicationFile.pdf/EnEG2009.pdf</a>
Economic Incentives and Financing Instruments
<b>KfW Energy-efficient rebuilding – Municipalities (since 2009)</b> <a href="https://www.kfw.de/inlandsfoerderung/Privatpersonen/Bestandsimmobilie/">https://www.kfw.de/inlandsfoerderung/Privatpersonen/Bestandsimmobilie/</a> <a href="https://www.kfw.de/inlandsfoerderung/Privatpersonen/Neubau/index-2.html">https://www.kfw.de/inlandsfoerderung/Privatpersonen/Neubau/index-2.html</a> <a href="http://www.iea.org/policiesandmeasures/pams/germany/name-24665-en.php">http://www.iea.org/policiesandmeasures/pams/germany/name-24665-en.php</a>
<b>SME : Environmental and Energy Efficiency Programme (part B) - implemented by KfW</b>
<b>Funding Program for Promotion of Energy Management System</b> <a href="http://www.stromeffizienz.de/industrie-gewerbe/handlungsfelder/energiemanagement/foerderprogramm-energiemanagementsysteme.html">http://www.stromeffizienz.de/industrie-gewerbe/handlungsfelder/energiemanagement/foerderprogramm-energiemanagementsysteme.html</a> ) / <a href="http://www.stromeffizienz.de/">http://www.stromeffizienz.de/</a>
<b>Energy Performance Certificate</b> <a href="http://www.zukunftshaus.info/tools/energieausweischeck.html">http://www.zukunftshaus.info/tools/energieausweischeck.html</a> <a href="http://www.zukunft-haus.info/">http://www.zukunft-haus.info/</a>
<b>GE-4:KfW Environmental and Energy Efficiency Programmes</b> <a href="http://iepd.iipnetwork.org/policy/kfw-environmental-and-energy-efficiency-programmes-formally-erp">http://iepd.iipnetwork.org/policy/kfw-environmental-and-energy-efficiency-programmes-formally-erp</a> <a href="https://www.kfw.de/inlandsfoerderung/Unternehmen/Energie-Umwelt/index-2.html">https://www.kfw.de/inlandsfoerderung/Unternehmen/Energie-Umwelt/index-2.html</a> <a href="http://www.res-legal.eu/en/search-by-country/germany/tools-list/c/germany/s/res-hc/t/policy/sum/136/lpid/135/">http://www.res-legal.eu/en/search-by-country/germany/tools-list/c/germany/s/res-hc/t/policy/sum/136/lpid/135/</a>
Information and Awareness
<b>BAFA On-site advice (since 1998)</b> <a href="http://www.bafa.de/bafa/en/energy/index.html">http://www.bafa.de/bafa/en/energy/index.html</a>
<b>Energy hotline and Internet platform</b> <a href="http://www.stromeffizienz.de/">http://www.stromeffizienz.de/</a>
<b>Energy Efficiency Initiative</b> <a href="http://www.stromeffizienz.de/">http://www.stromeffizienz.de/</a>

<http://www.die-stromsparinitiative.de/stromsparinitiative/partnerprojekte/initiative-energieeffizienz/index.html>

**Guide for Sustainable Building (2013)**

<http://www.nachhaltigesbauen.de/sustainable-building-english-speaking-information/guideline-for-sustainable-building.html>

**The Alliance for Building Energy Efficiency (Geea)**

<https://www.geea.info/ueber-die-geea/geea/>

**Demonstration**

**Efficient House Pilot Project (2003)**

( <http://www.dena.de/en/projects/building/efficient-house-pilot-project.html>)

**Towards Energy Efficiency House Plus**

[www.zukunft-haus.info/effizienzhausplus](http://www.zukunft-haus.info/effizienzhausplus)

<http://www.energy-efficiency->

[watch.org/fileadmin/eew\\_documents/Documents/EEW2/Germany.pdf](http://www.energy-efficiency-watch.org/fileadmin/eew_documents/Documents/EEW2/Germany.pdf))

