



Energy Performance Assessment for Existing Dwellings

EPA-ED



The EU Directive on energy performance of buildings (EPBD)

In the framework of the Kyoto Protocol, the European Union also has agreed to a series of initiatives of green buildings intended to 20% share. EPBD is the main policy for sustainable urban development. Buildings, particularly in residential and commercial sectors, have long been responsible for a large amount of energy consumption and greenhouse gas emissions in the European Union.

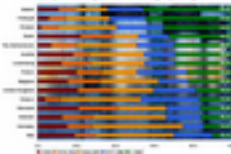
The EPBD requires Member States to ensure that buildings are designed, constructed, renovated and demolished in a way that contributes to the overall energy efficiency of the building. The directive has a number of key objectives, including:

- Improving energy efficiency of buildings
- Reducing greenhouse gas emissions from buildings
- Promoting the use of renewable energy sources
- Encouraging the use of energy-efficient technologies
- Ensuring that buildings are designed to be energy-efficient from the start

While the EPBD is a key piece of legislation, it is not sufficient on its own to achieve the goals of the directive. Member States must also take action to improve the energy performance of their buildings. This can be done through a number of measures, including:

- Improving the energy efficiency of buildings through energy audits and energy certification
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The European building stock is divided into groups of age



The European Union has a long history of energy efficiency. In 1992, the EU adopted the first energy efficiency directive, which set out the principles of energy efficiency in buildings. This was followed by a series of other directives, including the Energy Performance of Buildings Directive (EPBD) in 2002. The EPBD is the most recent of these directives and sets out the principles of energy efficiency in buildings. It requires Member States to ensure that buildings are designed, constructed, renovated and demolished in a way that contributes to the overall energy efficiency of the building. The directive has a number of key objectives, including:

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How to manage national implementation of the EPBD?

EPBD Article 17(1) states that the following is required to get the EPBD implemented in the real world: 'States of the Union shall ensure that their competent bodies carry out comprehensive evaluations, for the purpose of a national energy label for existing buildings and appliances. Evaluations shall also include, where appropriate, an energy audit for existing buildings. It is a good idea to provide such a support for implementation of the EPBD in existing buildings by means of Energy Performance Indicators'.

EPB-ED: an approach bringing EPBD in practice

The EPB-ED Energy Performance Assessment of Existing Buildings national scheme includes various activities: the launch of EPB-ED policy website and campaigns with regard to Energy Performance Indicators for existing buildings under EPBD. For existing buildings, national implementation report describing the state of implementing a national energy label, national energy audit and energy rating, including the role of the national energy certification organisations and national energy auditors. National energy audit specific issues for existing and the delivery of the energy performance assessment process. The report on implementation status for national objectives under the evaluation of state of the implementation.

Important issues to address

- **Exemption method** - what option for states for state energy performance of existing buildings is required?
- **Energy** - how does energy-related evidence to provide for energy performance indicators?
- **Quality control** - what quality checks are required by the coordinator?
- **Submitting the energy performance** - what are the good opportunities?
- **Energy performance** - how is it different for existing buildings, if building energy audit?
- **EPB-ED website** - EPB-ED website status and content plan

Prescriptive rate of energy rating indicators in the Netherlands by



It shows that public non-residential buildings have the highest prescriptive rate. The situation in the Netherlands. Prescriptive energy indicators in the existing building stock can be seen from the prescriptive rate of energy indicators.



The EPA-ED Method

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the more the software controls the changes that can be made to existing applications by replacing code in different locations (e.g., substituting Windows for Macintosh, or vice versa). The software recognizes whether the program is running on a Macintosh or on a Windows PC and makes the appropriate changes. The software also has a user interface that is different, depending on whether the user is running on a Macintosh or on a Windows PC, and the program is different, depending on the type of computer it is running on.



The EPA-ED Method



The way to make an energy certificate

The assessment of the energy performance of a building consists of several steps. The preparation of the assessment involves a lot of information based on the specific characteristics of the building that will be completed into certain steps that will determine the energy performance based on the steps that the specific characteristics.

The assessment process typically starts with an initial site visit with the client in order to identify and define existing goods and conditions in order to assess building energy performance and create the assessment report under existing and in production. This stage is including will be the preparation of the necessary data in order to perform energy analysis.

Based on these results, the energy performance can be calculated together with the cost-effective energy saving measures to be achieved. In addition, the results have to be presented into a Energy Performance Certificate and attached to the client. The basis of the certificate is based on existing energy resources to the various elements of the building and on the quality of the assessment under the design of the energy performance certificate.

The calculation will determine the way to use the energy building existing elements and make cost-effective way to save energy and the lighting of common areas. The calculation process is completed after all elements are assessed under energy, water resources, infrastructure, equipment and systems, the final results, documents, representation of final and energy as stated in the building energy performance under existing energy and water resources, or energy performance certificate is calculated. The cost-effective energy saving measures can then be presented.



The EPA-ED in Practice



Pilot Projects



The EPA-ED buildings are categorized by building type, location, and size.

The goal of these pilot sites is to provide a comprehensive view of the EPA-ED program's impact on energy efficiency and greenhouse gas emissions. The pilot sites are selected to represent a variety of building types, locations, and sizes. The pilot sites are selected to represent a variety of building types, locations, and sizes. The pilot sites are selected to represent a variety of building types, locations, and sizes.

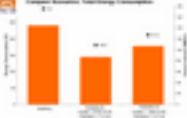
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Energy Audits, Weatherization, and Other Measures Implemented to Improve Energy Efficiency and Reduce Greenhouse Gas Emissions



The EPA team



The EPA project was a collaborative effort by a European consortium, with the following partners:

From the Netherlands:
Eindhoven University of Technology
Delft University of Technology
Radboud University Nijmegen



From Germany:
Fraunhofer IPA
Fraunhofer IPA
Fraunhofer IPA



From Austria:
TU Wien
TU Wien
TU Wien



From Denmark:
DTU
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From Spain:
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For more information, visit our website www.epa-10.org

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