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New ITS Project Sustainable Energy Activity in EaP Countries

BUILDING PARTNERSHIPS FOR ENERGY SECURITY

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INOGATE New ITS Project



EU Legislation on Energy Efficiency (EE)

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Which Energy Efficiency Directives are part of the EnC Treaty acquis?



Following Directives are part of the Energy Community *acquis**:

1. Directive 2006/32/EC on **energy end-use efficiency** and energy services.
2. Directive 2010/31/EU on the **energy performance of buildings**.
3. Directive 2010/30/EU on the indication by **labelling** and standard product information of the consumption of energy and other resources by energy-related products, as well as a set of implementing directives/delegated acts.

**Based on three Ministerial Council decisions adopted in December 2009, September 2010 and October 2011 respectively.*



Note...New Energy Efficiency Directive



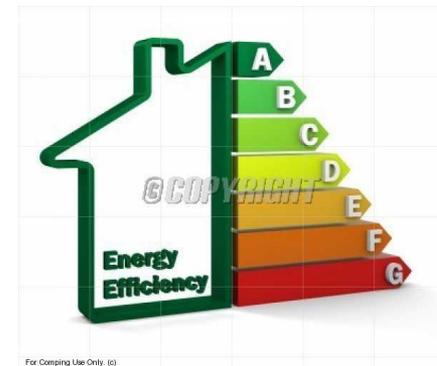
- New Directive adopted in the EU in October 2012:
- Directive 2012/27/EU **on energy efficiency**, amending Directives 2009/125/EC and 2010/30/EU and **repealing** Directives 004/8/EC and **2006/32/EC**
- However, Directive 2006/32/EC still part of the acquis under the Treaty.
- Consideration for possible adoption of the new Directive 2012/27/EU in 2013.



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Directive 2006/32/EC on energy end-use efficiency and energy services Directive 2006/32/EC on energy end-use efficiency and energy services



Key issues of the energy end-use efficiency directive



- The objective of the Directive is **to promote energy efficiency and energy services** and to develop the market for these.
- Directive aims to remove barriers to realization of the energy savings potential:
 - informational,
 - financial,
 - institutional and other barriers
- It does so by laying down requirements in a number of areas:.....

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Directive 2006/32/EC on energy end-use efficiency and energy services



Promotes improvement of end-users' energy efficiency and helps remove barriers and does this by laying down requirements in several areas:

- Setting energy **savings targets** and preparation of **National Energy Efficiency Action Plans (NEEAPs)**,
- Promotes the exemplary **role of the public sector**,
- Promotes setting energy efficiency **criteria in public procurement**,
- Requires high quality **energy audits**,
- Procedures for **monitoring and verification** of energy savings, and other measures to promote energy efficiency and energy services;

Some definitions:

- **Energy efficiency** – a ratio between an output of performance, service, goods or energy and an input of energy”.
- **Energy savings** – an amount of saved energy determined by measuring and/or estimating consumption before and after implementation of one or more energy efficiency improvement measures.
- **Energy service** – the physical benefit, utility or good derived from a combination of energy with energy efficient technology and/or with action, which is delivered on the basis of a contract and has proved to lead to verifiable and measurable or estimable energy efficiency improvement or saving.



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Energy saving targets



- A general target of 1% per year for 9 years (for EnC CPs the savings is measured from January 1, 2010).
- An intermediate indicative energy savings target is established for the 3rd year of application of the Directive.
- CPs must assign one or more new or existing independent authority / agency to oversee implementation of this Directive and achievement of set targets.

National Energy Efficiency Action Plans (NEEAP)



- NEEAPs will describe energy efficiency measures planned to reach the set targets and to satisfy requirements regarding exemplary role of the public sector and provision of information and advice to the final customers.
- 3 NEEAPs:
 - First by 30 June 2010;
 - Second by 30 June 2013;
 - Third by 30 June 2016
- 1st NEEAP – forward looking
- 2nd and 3rd to include analysis and evaluation of preceding NEEAP

Energy efficiency in the public sector



- It is required that the public sector fulfils and exemplary role in the context of this Directive.
 - Public sector must take measures to improve energy efficiency at different levels (national, regional and/or local);
 - Public sector must apply *at least two* requirements related to the 6 energy efficiency public procurement measures listed in Annex VI (*procurement of energy efficient vehicles, equipment; use of audit; purchase or rent of energy efficient buildings; use of financial instruments*).

Procurement guidelines and implementation agency



- Public sector needs to ensure availability and publication of public procurement guidelines that take into account energy efficiency.
- A body to manage and implement these activities – can be the same authority/agency (can be the same as mentioned earlier).

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Energy distributors, DSOs and retail companies



- Countries shall ensure certain obligations on distributors, DSOs and retail companies:
 - To provide on request (but not more than once per year) aggregate statistical information on end consumers, including current consumption, for purpose of designing of EE programs;
 - To refrain on activities that might impede the demand for energy services and other EE improvement measures.
- Countries can also make one or more of the following requirements to be complied with by distributors, DOSs and retail companies:
 1. Ensure offer of energy services to their customers
 2. Ensure offer of energy audits
 3. Contribute to EE funds

Availability of information and certification schemes for technical competence



- CPs have to ensure transparent and widely available information on energy efficiency mechanisms and financial and legal frameworks which are adopted to ensure meeting of set energy efficiency targets.
- Also, where deemed necessary, ensure proper accreditation in order to ensure high level of technical competence. e.g.:
 - Accreditation body and/or qualification scheme for energy auditors,
 - Regulations specifying the qualifications and responsibilities of energy auditors, installers, etc.

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Financial instruments



- The Contracting Party will amend national legislation and regulations that impede or restrict the use of financial instruments for energy savings.
- CPs need to first identify and then remove barriers for use of financial instruments for energy efficiency in the private and public sectors.
- The financial instruments for energy savings include funds, subsidies, tax deduction, tax credit, loans, third –party financing, energy performance contracting, etc.
- Countries are responsible to provide model contracts for those financial instruments available.

Energy performance contracts



- A contractual arrangement between the ESCo and its client for an energy efficiency investment.
- The payment of the service delivered is based (fully or in part) on the achievement of energy efficiency improvements.
- Energy Service Performance Contracts - outsourcing of a full project cycle to a service provider, from development to financing in case of a third party financing (financing for the service provided by the third party, e.g. bank or ESCo).

Funds and funding mechanisms



- The Contracting Party may decide to establish a fund or funds to subsidise the delivery of energy efficiency programs and to promote development of a market for energy efficiency measures.
 - For this, legal and regulatory framework needs to be developed and funding sources for the fund secured;
- Established the funds may provide for grants, loans, financial guarantees and/or other types of financing that will ensure achieving of results;
- The funds shall be open to all providers of energy efficiency improvement measures, such as ESCOs, independent energy advisors, energy distributors, etc.

Energy tariffs



- CPs have to ensure that any incentives in transmission and distribution tariffs that unnecessarily increase the volume of distributed or transmitted energy are removed.
 - An example of such an incentive could be inappropriately large shares of fixed charges and very small shares for variable charges (this should be address through the tariff reform).

Energy audits



- A procedure to obtain knowledge of the existing energy consumption of a [...building/industrial operation..], identify and quantify cost-effective energy savings opportunities.
- Obligations to ensure availability of high – quality energy audit schemes
 - carried out in an independent manner, to all final consumers, including smaller domestic, commercial and small and medium-sized industrial consumers ;
 - the energy audit schemes should not be unnecessarily complicated or expensive.

Metering



- Contracting Party have to ensure that (as it is technically possible, financially reasonable and proportionate in relation to the potential energy savings)
 - final customers are provided with meters that actually reflect the final customers' actual energy consumption and that provide information on the actual time of use.
- Replacement of meters – if it is technically possible and cost effective.
- New connections – obligation for individual meters.

Informative billing



- The Contracting Party shall ensure that where appropriate, billing is based on actual energy consumption and is presented in a clear and understandable terms.
- Where appropriate, the following information should be made available to final customers, in or with the bills:
 - Current prices and consumption of energy;
 - Comparison of consumption with consumption from the same period in the previous year;
 - If possible, a benchmark for the same user category;
 - Contact information for organisations, energy agencies or similar bodies from which information may be obtained on available energy efficiency measures.



DIRECTIVE 2010/31/EU ON THE ENERGY PERFORMANCE OF BUILDINGS

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Objectives



- Directive aims to promote the energy performance of buildings, taking into account climatic and local conditions, indoor climate requirements and cost-effectiveness.
- Under this Directive, the Contracting Parties should
 - apply requirements as regards the energy performance of **new and existing buildings**,
 - ensure the certification of their energy performance and
 - require the regular inspection of boilers and air conditioning systems in buildings.
- Recast of the Directive was adopted in 2010 (to replace 2002/91/EC) in order to strengthen the energy performance of buildings requirements.

Number of requirements:

Directive lays down requirements as regards:

- General framework for a methodology for calculation of integrated energy performance of buildings;
- The application of minimum requirements to the energy performance of the **new buildings and existing buildings**
 - Existing buildings subject to major renovations
 - Building elements that are part of the building envelope which have significant impact on the envelope when they are retrofitted / replaced;
 - Technical building systems whenever they are installed, replaced or upgraded.
- Plans for increasing number of nearly zero-energy buildings
- Energy certification of buildings and independent control of certificates;
- Regular inspection of heating and air-conditioning systems.



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Methodology for calculation



- CPs are required to apply a methodology for calculation of energy performance of buildings in accordance with the general framework set in Annex 1 of the Directive.

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Setting of energy performance requirements



- CP have to take measures to ensure that **minimum energy performance requirements for buildings are set** to achieve cost-optimal levels.
 - Cost-optimal level means the energy performance level which leads to the lowest cost during the estimated economic lifecycle.
- CPs may differentiate between new and existing buildings and between different categories of buildings.
- Requirements will take account of general indoor climate conditions and the designated function of the building.
- Minimum requirements should be reviewed at regular intervals and, if necessary, updated to reflect technical progress in the building sector.

Possibility not to apply the requirements



Contracting Parties may decide not to set or apply the requirements to some categories of buildings:

- a) Buildings protected as part of a designated environment
- b) Buildings of their special architectural or historical merit;
- c) Buildings used for religious activities;
- d) Temporary buildings with a time of use of two years or less, industrial sites, non-residential agricultural buildings;
- e) Residential buildings for a limited annual time of use;
- f) Stand-alone buildings with a total useful floor area of less than 50 m².

New buildings



CPs should take the measures to ensure that new buildings meet the minimum energy performance requirements.

- Before construction starts - to ensure consideration of technical, environmental and economic feasibility of high-efficiency alternative systems such as those listed below:
 - a) Decentralized energy supply systems based on energy from renewable sources;
 - b) cogeneration;
 - c) district or block heating or cooling, particularly where it is based entirely or partially on energy from renewable sources;
 - d) heat pumps.

Existing buildings



- Contracting Parties shall take measures to ensure that when buildings undergo major renovation, the energy performance of the building is upgraded in order to meet set minimum energy performance requirements.
- Those requirements shall be applied to the renovated building or building unit as a whole.
- Contracting Parties should encourage the consideration of high efficiency alternative system (as listed for new buildings).

Technical building systems



- Technical building systems, system requirements should be set for the purpose of optimizing the energy use (new or replacement / upgrading of technical systems).
- Technical building system' relates to technical equipment for the heating, cooling, ventilation, hot water:
 - heating systems;
 - hot water systems;
 - air-conditioning systems;
 - large ventilation systems;
- Also, CPs should encourage the introduction of intelligent metering systems whenever a building is constructed or undergoes major renovation.

Nearly zero-energy buildings



“Nearly zero-energy building” is described as a building that has a very high energy performance.

The nearly zero or very low amount of energy required should be covered to a significant extent by RES energy.

- Contracting Parties shall develop plans for increasing the number of nearly zero-energy buildings.
- Contracting Parties shall ensure that:
 - by 30 June 2021, all new buildings are nearly zero- energy buildings; and
 - after 30 June 2019, new buildings occupied and owned by public authorities are nearly zero-energy buildings.

Financial incentives and market barriers



- Contracting Parties should consider the most relevant instruments to facilitate improvements in the energy performance of buildings and the transition to nearly zero- energy buildings.
- Contracting Parties shall develop, by 30 June 2013, a list of the existing and potential instruments used to promote improvements in the energy performance of buildings.
 - Taking into consideration the most relevant such instruments for national circumstances.

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Energy performance certificates



- Contracting Parties should establish a system of certification of the energy performance of buildings.
- The energy performance certificate must include the energy performance of a building and reference values in order to make it possible to compare and assess its energy performance.
- The energy performance certificate should include recommendations for further cost-effective improvements (if applicable and technically feasible).
- The certificate should inform about where the owner or tenant can receive more detailed information, including the recommendations made in the energy performance certificate.

Issue of energy performance certificates



- Energy performance certificate should be issued for:
 - Buildings which are constructed, sold or rented out
 - Buildings where useful floor area over 500 m² is occupied by a public authority and frequently visited by the public.
 - On 30 September 2015, this threshold shall be lowered to 250 m².
- CPs shall require that, when buildings or building units are constructed, sold or rented out, the energy performance certificate or a copy thereof is provided.
- Where available , the energy performance indicator should be stated in the advertisements in commercial media.

Inspection of systems



- Inspection of heating systems
 - Contracting Parties must lay down the **measures to establish a regular inspection** of the accessible parts of systems used for heating buildings, such as the heat generator, control system and circulation pump(s), with boilers of an effective rated output for space heating purposes of more than 20 kW
- Inspection of air-conditioning systems
 - Contracting Parties must lay down the measures to establish a regular inspection of the accessible parts of air-conditioning systems of an effective rated output of more than 12 kW.
- Alternatively, CPs may opt to take measures to ensure the provision of advice to users concerning heating systems and their modifications / replacement of air-conditioning systems or modifications.

Independent experts



Contracting Parties must ensure that

- energy performance certification of buildings and
- inspection of heating systems and air-conditioning systems

are carried out in an independent manner by qualified and/or accredited experts, whether operating in a self-employed capacity or employed by public bodies or private enterprises.

- Experts shall be accredited taking into account their competence.
- Contracting Parties shall make available to the public information on training and accreditations.

Information



Contracting Parties should take the necessary measures to inform the owners or tenants of buildings or building units:

- on cost-effective ways to improve the energy performance of the building;
- on energy performance certificates and inspection reports,
- on financial instruments available to improve the energy performance of a building.

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DIRECTIVE 2010/30/EU ON LABELLING OF ENERGY- RELATED PRODUCTS



Why?

- The energy consumption of equipment varies considerably from model to model even if the equipment will provide the same service (e.g. cooling, heating, hot water, etc.).
- Furthermore, inefficient equipment may have the same purchase price as the efficient equipment.
- One tool in energy efficiency efforts is to help consumers make a **choice** in purchasing based on the correct **information provided**.



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Directive 2010/30/EU



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- This Directive establishes the legal framework for labelling and consumer information regarding energy consumption for energy-related products, i.e. products which are likely to have a direct or indirect impact on energy consumption.
- The delegated regulations deal with the labelling of specific energy-related products in greater detail.



Scope



- Energy-related products which have a significant direct or indirect impact on the consumption of energy and, where relevant, on other essential resources during use.
- “*Energy-related product*” - any good having an impact on energy consumption during use, including parts intended to be incorporated into energy-related products covered by this Directive.

Responsibilities of Contracting Parties



- Contracting Parties shall ensure:
 - All suppliers and dealers in their territory fulfil the obligations laid down in Articles 5 and 6 of this Directive;
 - Display of other labels which do not comply with the requirements is prohibited, if such display is likely to mislead or confuse end-users with respect to the consumption of energy;
 - Introduction of labels is accompanied by educational and promotional information campaigns.
- Measures for non-compliance to oblige supplier to comply or prohibiting placing of products on the market

Responsibilities of suppliers



- Contracting Parties shall ensure respective responsibilities for suppliers to properly display labels and provide fiches with products are clarified and the technical documentation made available.
- Suppliers should be obliged to:
 - Supply a label and a fiche in accordance with this Directive;
 - Produce technical documentation which is sufficient to enable the accuracy of the information contained in the label and the fiche to be assessed.

Responsibilities of dealers



- Contracting Parties shall ensure that:
 - Dealers display labels properly, in a visible and legible manner, and make the fiche available in the product brochure;
 - Whenever a product covered is displayed, dealers attach an appropriate label, in the clearly visible position and in the relevant language version.
- If product sold in a way where end users do not see it displayed (e.g. Internet), users are provided with the information specified on the label for the product and in the fiche *before* buying the product.

Public procurement, incentives



- Making effort to procure only such products which comply with the criteria of having the highest performance levels and belonging to the highest energy efficiency class.
- Contracting Parties may require the contracting authorities to procure only products fulfilling those criteria. Contracting Parties may make the application of those criteria subject to cost-effectiveness.
- Where Contracting Parties provide any incentives for a product covered by a delegated act, incentives shall aim at the highest performance levels including the highest class of energy efficiency.

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Thank you for your attention!



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