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EnRiMa, Introduction to EU Energy Efficiency Policy Context

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Overview

- Introduction

- EU 20-20-20 objectives

- DIR 2012/27/EU

- DIR 2010/31/EU

- EnRiMa

Introduction

- political and environmental targets of the EU:
  – reducing energy consumption

  – increasing energy efficiency

  – reducing carbon dioxide

- energy-intensive sectors with a significant potential for reducing consumption:
  – Buildings 27-30%

  – Transport 26%

  – Manufacturing 25%

Introduction

- existing building stock = 41% of the EU's final energy consumption 1759 Mtoe (2010)

- reducing the energy consumption of buildings = priorities in the EU 20-20-20 objectives on energy efficiency

EU 20-20-20 Objectives

the EU 20-20-20 objectives are:

- – a decrease of 20% in EU greenhouse gas emissions (according to 1990 levels - 4 266 Mt CO_{2equ}. [EU15])
- – a total share of 20% in the EU's energy consumption produced from renewable sources
- – an increase by 20% in the EU's energy efficiency

EU 20-20-20 Objectives

- key factor to achieve the greenhouse gas emissions goal by 2050

  (reduction of 80 - 95% compared to 1990 levels)

- member states have to set **individual national energy efficiency targets** + **minimum requirements** for energy performances of buildings

  (new and major renovated buildings are concerned)

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EU 20-20-20 Objectives

- **goal:** nearly zero-energy building + implementation of energy performance certification

nearly zero-energy building

=

building with a very high energy performance ; low amount of energy required covered by energy from renewable sources

Directives

- the EU developed measures to support such programs (e.g. EU 20-20-20 targets)

- **Directive 2012/27/EU** - directive on energy efficiency

- **Directive 2010/31/EU** - directive for energy performance of buildings

DIR 2012/27/EU

- to achieve the 20% headline target on energy efficiency

- to establish a framework of measures for promoting energy efficiency

- all Member States → shall set individual national energy efficiency targets

DIR 2012/27/EU

- individual national targets → keep the Union's energy consumption under the limits for 2020

  (based on primary energy consumption: 1474 Mtoe)

- long-term strategy beyond 2020 is needed

  (existing building stock = biggest potential sector for energy savings → investments for renovation of buildings)

DIR 2012/27/EU

in 2014 :

3% (total floor area) of the public owned buildings shall fulfill energy performance requirements (art. 4 - DIR 2010/31/EU)

→**EnRiMa focuses on public buildings by designing a decision-support system (DSS) for public building operators**

DIR 2010/31/EU

- to set energy performance requirements for buildings

- member states shall adopt methodologies for calculating the energy performance of buildings including following attributes:
    - thermal attributes
    - thermal insulation
    - thermal energy supply
    - indoor ventilation systems
    - positive gains (solar exposure, natural lighting, etc.)
    - →all these attributes are considered in EnRiMa

DIR 2010/31/EU

- new buildings are bound to these requirements
- shall undergo a feasibility study (renewable energy supply)
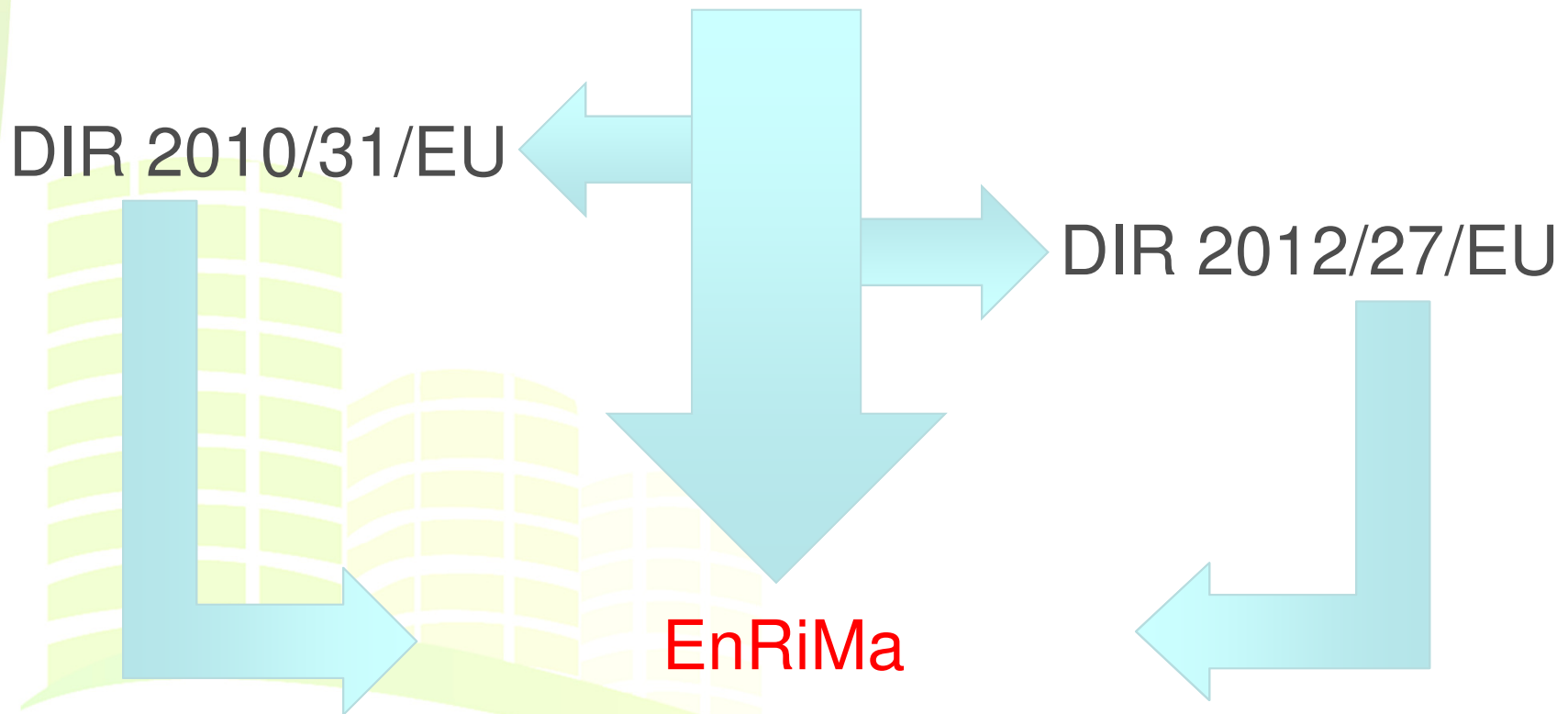- major renovations are also bound to these requirements

exemptions:

officially protected buildings, places of worship, buildings with total floor area < 50 m^2

DIR 2010/31/EU

- new <u>public</u> buildings → nearly zero-energy consumption buildings (beginning 2019)

- new <u>other</u> buildings → nearly zero-energy consumption buildings (beginning 2021)

Thank you!

Questions and comments are very welcome.