



## **15.as Jornadas de Climatização A Climatização na Indústria**

### **Energy Efficiency in Industry**

Lisbon, 22 October 2015  
Auditório da Sede Nacional da Ordem dos  
Engenheiros

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Energy Efficiency Unit  
DG ENER, European Commission**



# Agenda

**1. European Energy Union**

**2. Energy in industry**

**3. Energy efficiency**



# Energy in the EU

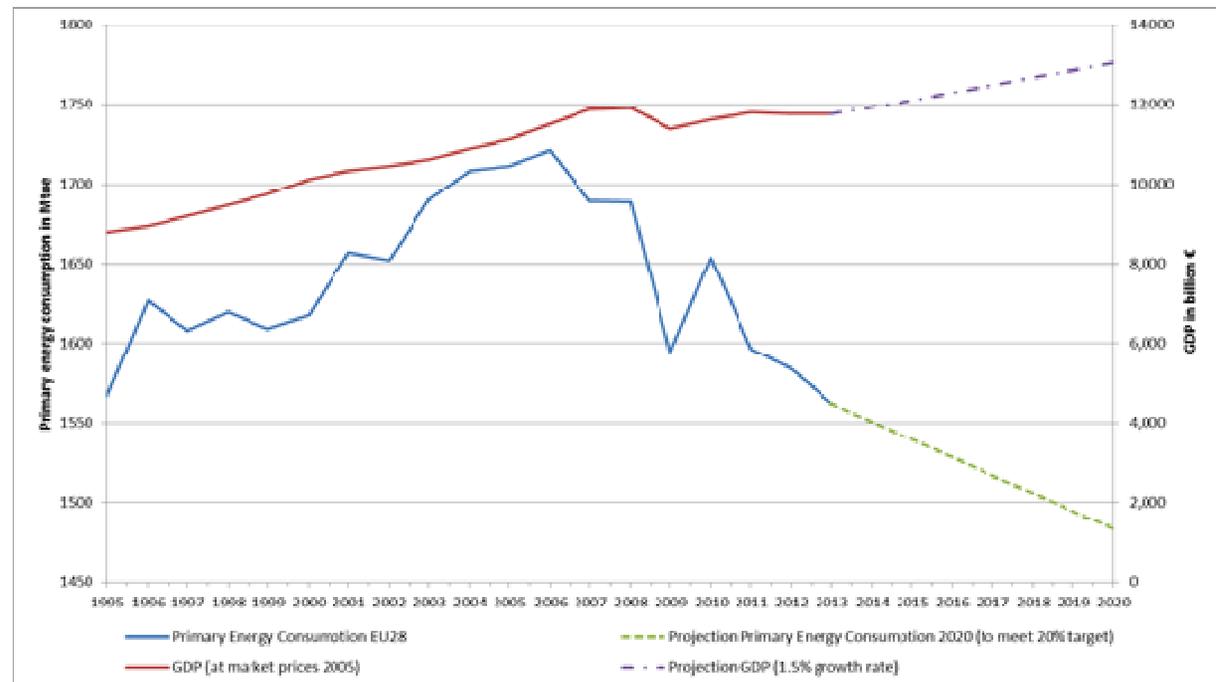
## Results achieved... (I)

- Greenhouse gas emissions **fell 18%** (1990-2011).
- **Energy efficiency** savings: 15.5 % (2013).
- Share of **Renewables**: 15.0% (2013).
- European renewable energy businesses have a combined annual turnover of €129 billion, **employing over 1 million people.**

# Energy in the EU

## Results achieved... (II)

Energy efficiency of the EU economy is steadily increasing; and **economic growth is being decoupled from energy consumption.**



Source: Energy Efficiency Communication 2014 – COM(2014) 520



# Energy in the EU

## To be improved...

- EU: the **largest energy importer** in the world.
- **Competitiveness** of energy prices (higher than in the US).
- Internal energy market **not yet completed**.
- 12 Member States still **insufficiently connected**.
- **Transparency** of gas markets.
- **Overdependence** on single supplier.



*"I want to reform and reorganise  
Europe's energy policy  
in a new European Energy Union."*

**Jean Claude Juncker**



# The way towards: **The Energy Union**

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## **Where** we want to go:

A secure, sustainable, competitive, affordable energy for every European

## **What** this means:

Energy security, solidarity and trust  
A fully integrated internal energy market  
Energy efficiency first  
Transition to a long-lasting low-carbon society  
An Energy Union for Research, Innovation and Competitiveness

## **How** we want to reach it:





## Our vision of an Energy Union

- True **solidarity and trust**; speaking with **one voice** in global affairs.
- An **integrated** continent-wide energy system.
- Sustainable, low-carbon and climate-friendly **economy**.
- Strong, innovative and **competitive** European economy.
- **Citizens** taking ownership of the energy transition.

- 1 Secure supplies**
- 2 Internal energy market**
- 3 Energy efficiency**
- 4 Emissions reduction**
- 5 Research & Innovation**



# 1 | Secure supplies



**We have to become less dependent on energy from outside the EU**

This means increasing transparency on gas supply; diversifying sources, supplies and routes; working together on security of supply and developing a stronger European role in global energy markets.

## 2 | Internal energy market



**Energy should flow freely across the EU – without any technical or regulatory barriers**

This means connecting markets through interconnections and implementing and upgrading the internal market's software while enhancing regional cooperation and empowering consumers.

## 3 | Energy efficiency



# Rethink energy efficiency as an energy source in its own right

This means increasing energy efficiency, in particular in the building sector, and promoting an energy-efficient and decarbonized transport sector as well as efficient products.

## 4 | Emissions reduction



**An ambitious climate policy is an integral part of our Energy Union**

The next challenge will be to enforce the 2030 energy and climate framework, while becoming the number one in renewables.

## 5 Research & innovation



### Developing EU technological leadership in low carbon technologies

This will reduce energy consumption, empower consumers, create huge industrial opportunities and boost growth and jobs.

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## Energy efficiency progress can be observed across all sectors



The share of refrigerators meeting the highest energy efficiency labelling classes (A and above) increased from less than 5% in 1995 to more than 90% 15 years later.



EU industry improved its energy intensity by almost 19% between 2001 and 2011, compared with 9% in the US.

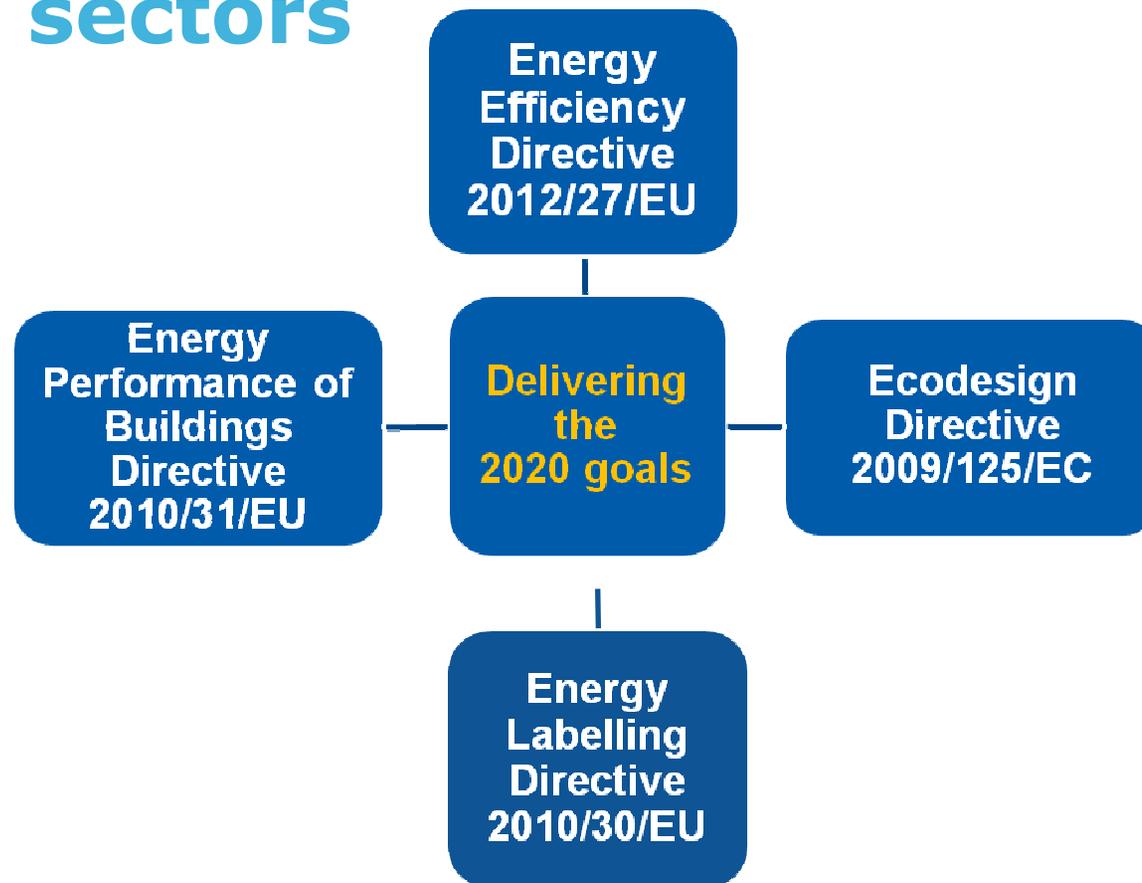


Between 1995 and 2010 the average consumption of new cars in the EU decreased by 27%.



New dwellings built today consume on average 40% less than dwellings built 20 years ago.

# Framework Energy Efficiency Policies on all sectors



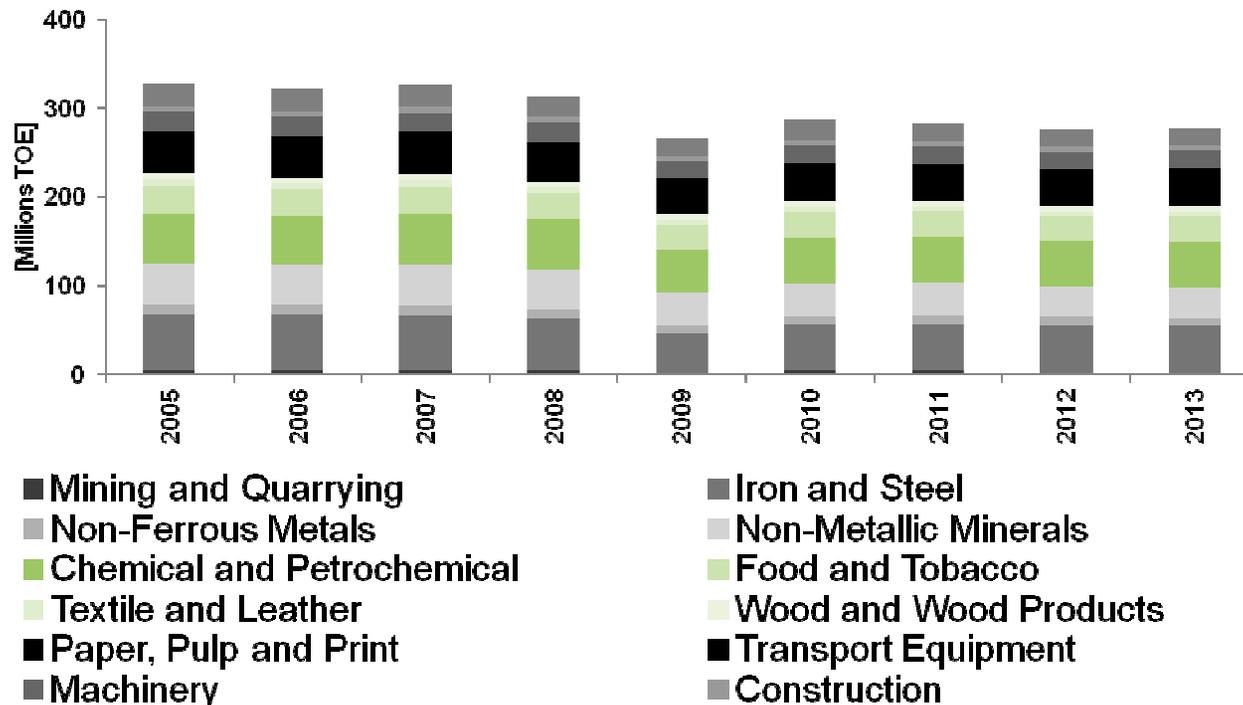


## Energy in Industry (I)

- Industry is one of the **largest consumers of energy** in Europe.
- **Several barriers** prevent the exploitation of the full energy efficiency potential in industry.

# Energy consumption in industry (I)

Industry: Final energy consumption



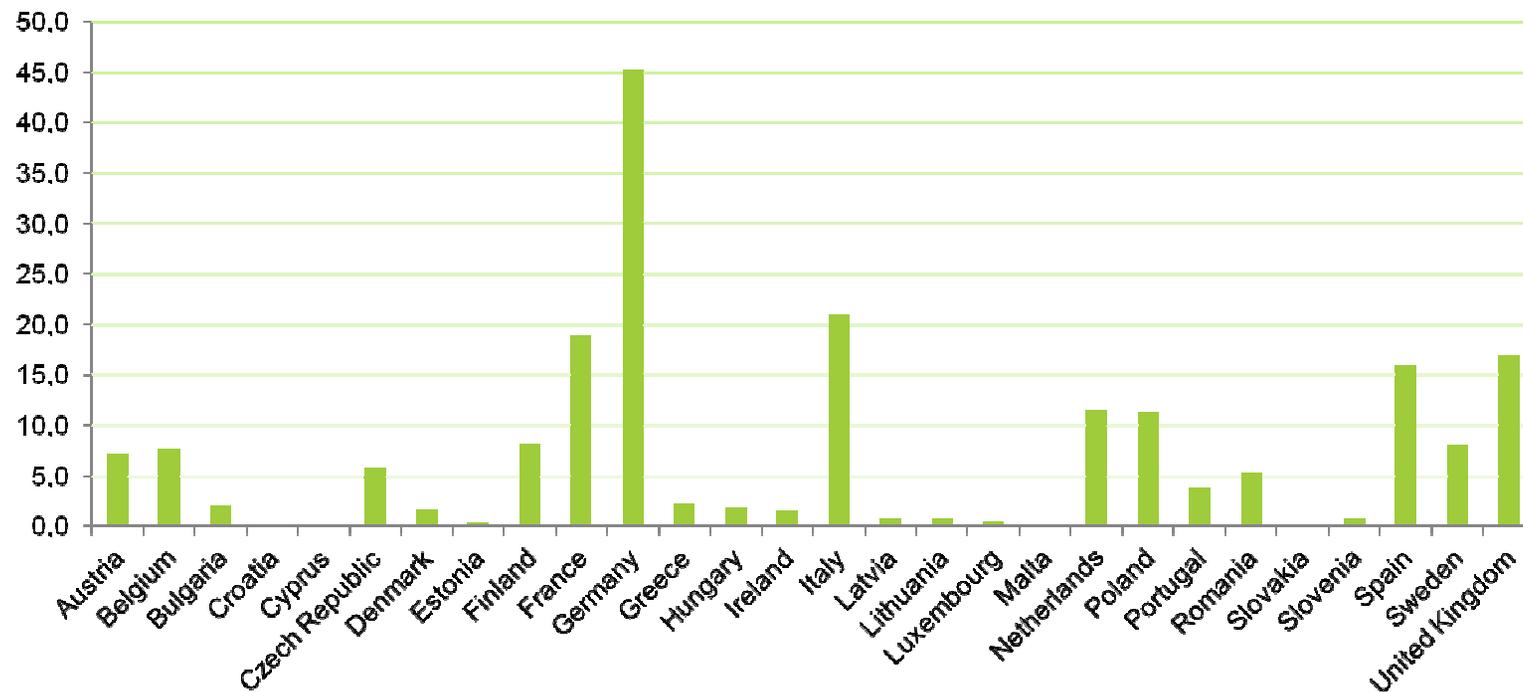
**- 22%**  
technical  
potential

**- 5 to  
8%**  
2-5 years  
payback

Source: European Commission based on Eurostat data, ICF (2015 – ongoing)

# Energy consumption in industry (II)

## Heating and cooling consumption in industry, EU28 (2012), Mtoe





## Energy in Industry (II)

- Policies and programmes to support EE **investments**:
  - **Article 8 EED** tackles information barriers by requiring that large enterprises undertake **energy audits** every 4 years;
  - Numerous initiatives exist at **national and local level** (e.g. voluntary agreements, efficiency networks, SMEs instruments);
  - Specific instruments and topics to support **Research & Innovation** in **Horizon 2020**.

# EED - Article 8



## Obligations for large enterprises

- All sectors:
  - >> Not only industry;
  - >> No exclusion of ETS sectors.
- Harmonised EU definition of large enterprises (= those that are not SMEs).

## Sustained energy efficiency improvements

- Energy or Environmental Management Systems
  - **Awareness at all levels of the organisation;**
  - **Regular energy review process;**
  - **Continuous improvement.**
- High quality, expertise and adequate supervision.

# EED - Article 8



## Broad scope of national promotion activities (compulsory for Member States)

- **Training programmes** for auditors;
- Programmes encouraging **SMEs** to undergo energy audits and implement their recommendations;
- Programmes raising awareness among **SMEs** of energy managements systems.

## These may encompass support schemes

### For SMEs

- ✓ To cover the costs of an energy audit;
- ✓ To support the implementation of the recommendations from an energy audit.

### General incentive or support schemes

- ✓ For the implementation of recommendations from energy audits and similar measures.

# Horizon 2020



Code	Call 2015 Topics	Type	Budget (M€)	Deadline
EE-02	<i>Design for new highly performing buildings</i>	IA	9	4 Feb.
EE-18	<i>Heat recovery in large industrial systems</i>	RIA	10.6	4 Feb.
EE-06	Demand response in blocks of buildings	IA	8	4 June
EE-11	ICT for energy efficiency	RIA	8.5	
EE-13	District heating and cooling	RIA	5.3	
EE-05	Buildings renovation	CSA	59.3	4 June
EE-07	Capacity building of public authorities	CSA		
EE-09	Empowering stakeholders	CSA		
EE-10	Consumer engagement	CSA		
EE-14	Efficient heating and cooling	CSA		
EE-15	EU product efficiency legislation	CSA		
EE-16	Energy efficiency in industry	CSA		
EE-17	Innovation through large buyer groups	CSA		
EE-19	Attractiveness of investments	CSA		
EE-20	Project development assistance	CSA		
EE-21	Energy services and financial schemes	CSA		



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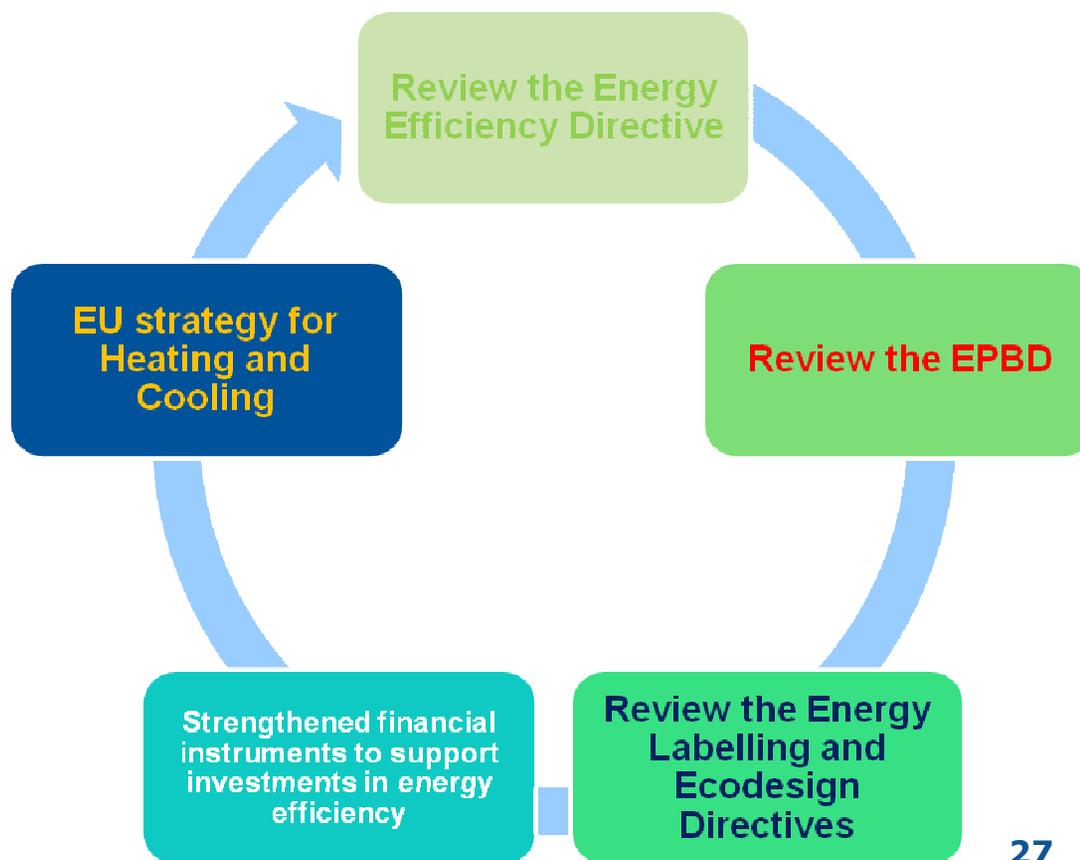
## 3 | Energy efficiency



# Rethink energy efficiency as an energy source in its own right

This means increasing energy efficiency, in particular in the building sector, and promoting an energy-efficient and decarbonized transport sector as well as efficient products.

# Energy efficiency Concrete actions





## Review the Energy Efficiency Directive

# July 2014 Communication: Proposal of the European Commission

30% savings target by 2030 (vs. 2007 reference):

- EU target; flexibility for Member States;
- Based on absolute primary energy consumption;
- Review in 2017.

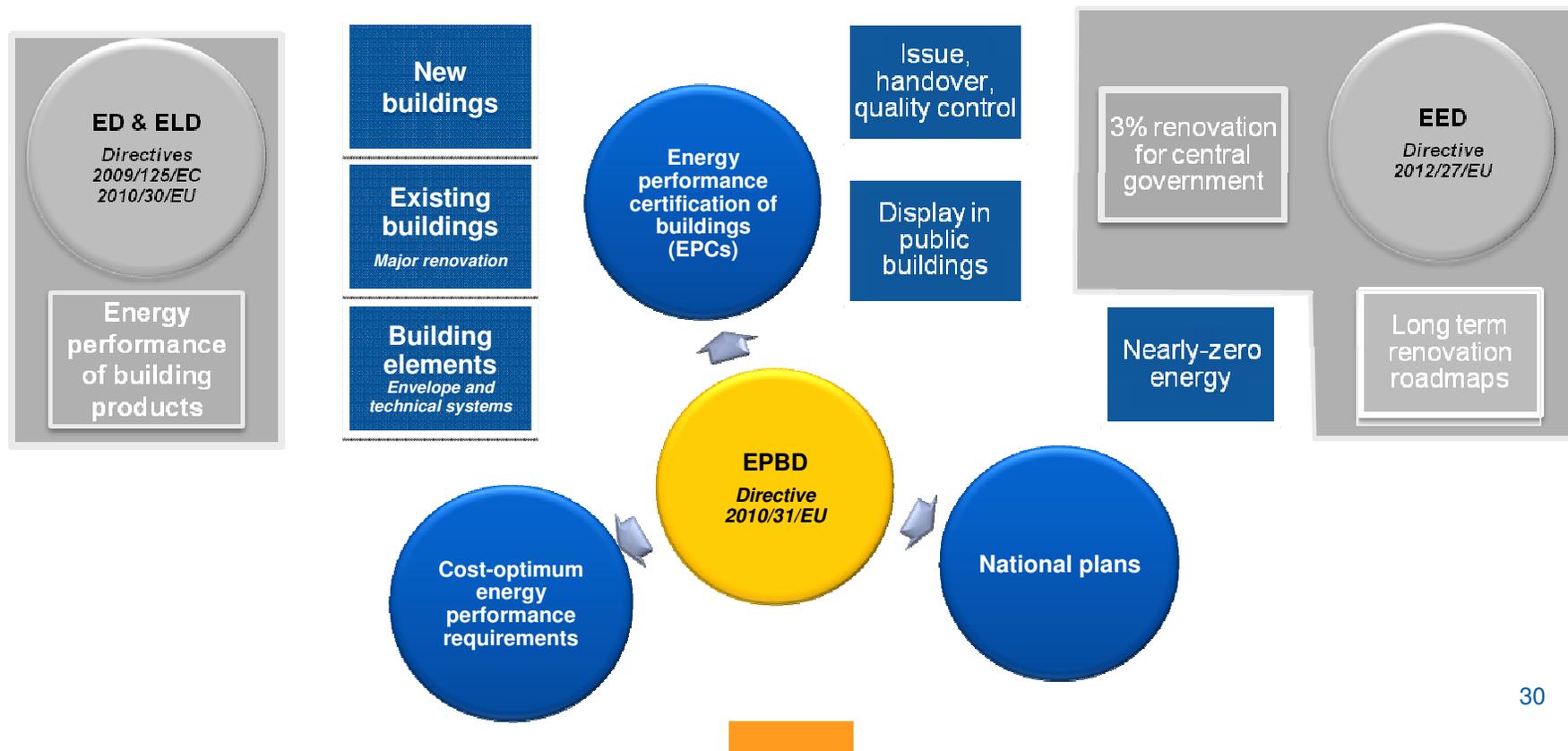


## Review the Energy Efficiency Directive

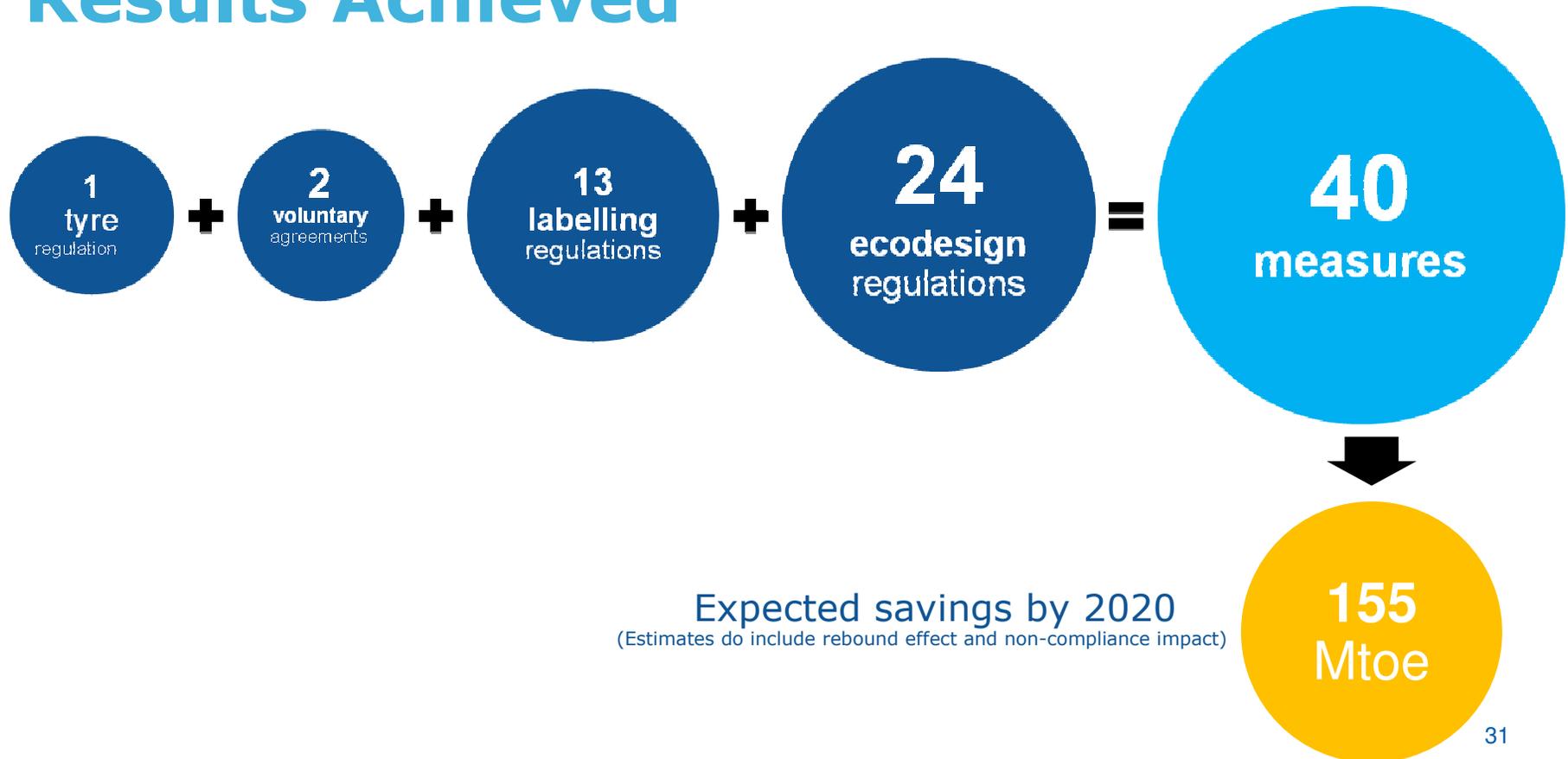
# European Council Conclusions (October 2014)

- The indicative target at the EU level of at least 27% should
  - Be delivered in a cost-effective manner;
  - Respect the effectiveness of the ETS-system in contributing to the overall climate goals;
  - Be reviewed by 2020, **having in mind an EU level of 30%**.
- European Commission to propose
  - Priority sectors in which significant energy-efficiency gains can be reaped;
  - Ways to address them at EU level, with the EU and the MS focusing their regulatory and financial efforts on these sectors.
- EE targets will not be translated into nationally binding targets
- Member States are free to set their own higher national targets

## Energy efficiency instruments in buildings

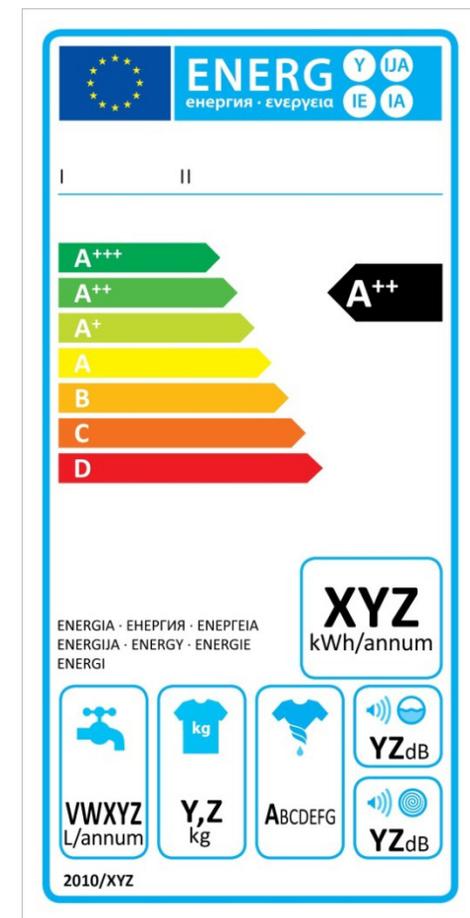


## Ecodesign and Energy Labelling: Results Achieved

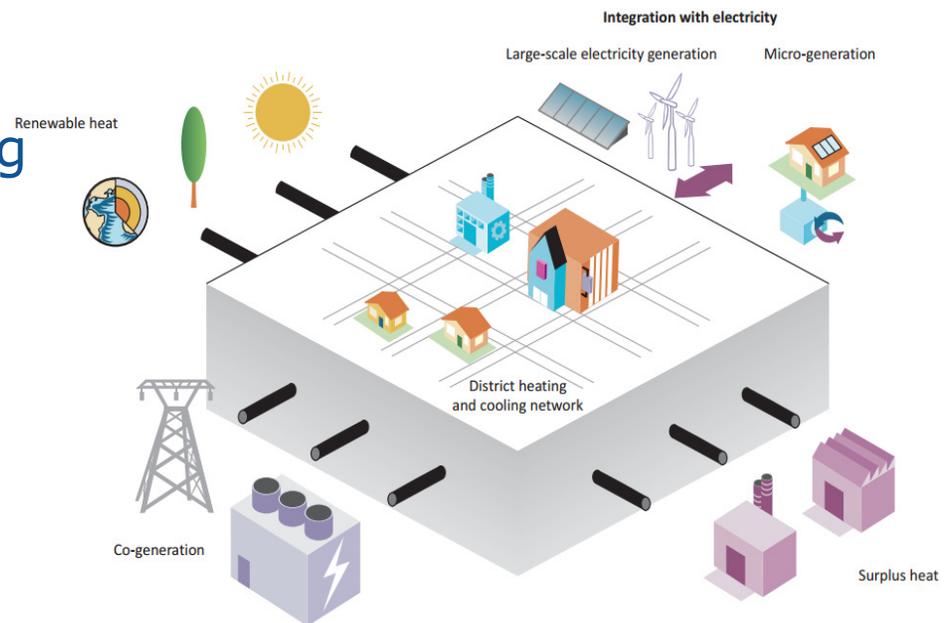


## Next steps on Energy Labelling

- Review Energy Labelling Directive and some parts of Ecodesign Directive:
  - » Improve **effectiveness of the label** (e.g. back to A to G, including rescaling);
  - » **Strengthen compliance** (e.g. through better market surveillance and product registration).

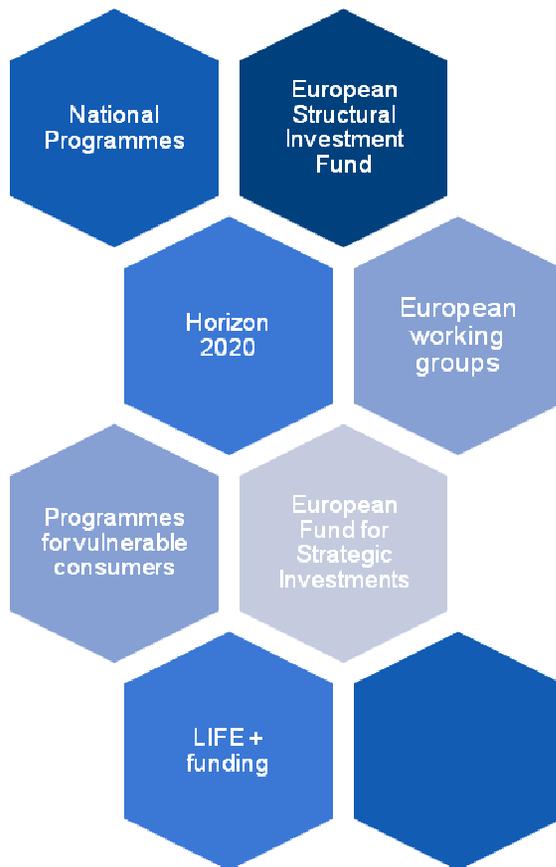


- Communication foreseen by **early 2016**.
- Broad **consultation of stakeholders**.
- Will tackle heating and cooling consumption in **buildings, industry**, linking with **electricity** system, **waste heat**.
- **Input to the review** of ongoing initiatives (Energy Efficiency Directive, the Energy Performance of Building Directive and the Renewables Energy Directive).

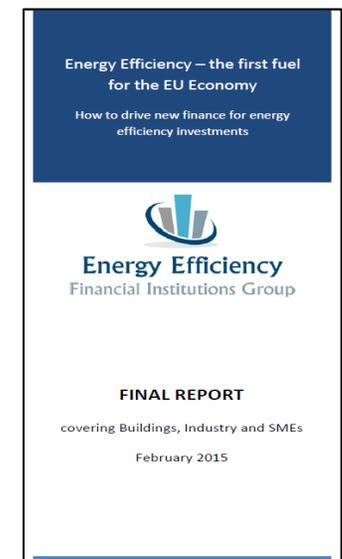




## Strengthened financial instruments to support investments in energy efficiency



- **EEFIG** work continues – regional targeted events.
- **Efforts to enhance the project development facilities** – speeding up the development of project pipelines.

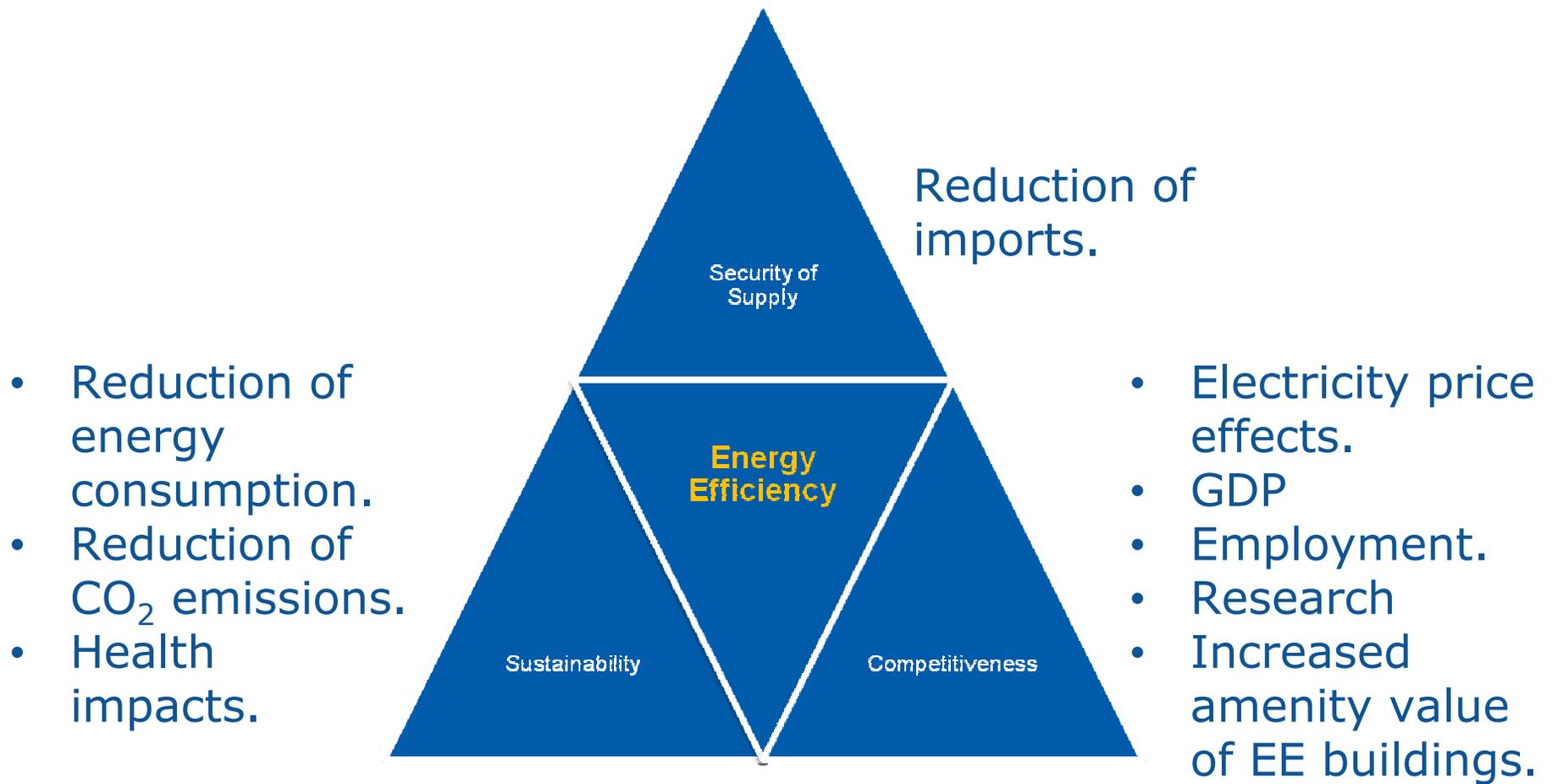




Strengthened financial instruments to support investments in energy efficiency

## Smart Finance for Smart Buildings Initiative:

- Development of a **robust project database** for tracking and interpretation of projects' energy and financial performance;
- Development of the **common "language" to understand the energy efficiency investment** fundamentals based on evidence;
- Joint work with the financial sector and market participants towards the **commonly accepted framework** (standard underwriting procedures, contract elements, protocols, etc.).
- Voluntary agreement?





European  
Commission



**Thank you!**

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