



# **Energy Efficiency in CHP/DH**

## **EU policies and funding**

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# Major energy challenges in Europe

- Import Dependency
- High Energy Prices
- Decarbonisation

## 2030 targets

- » Greenhouse gas emissions reduction of 40%.
- » EU level target of at least 27% as the share of renewable energy.

### By

- » Greenhouse gas reduction target at EU level, shared equitably among the Member States.
- » A reform of the Emissions Trading System.
- » A new European governance process for energy and climate policies based on Member State plans for competitive, secure and sustainable energy.

While energy efficiency will continue to play a significant role in delivering the Union's climate and energy objectives.

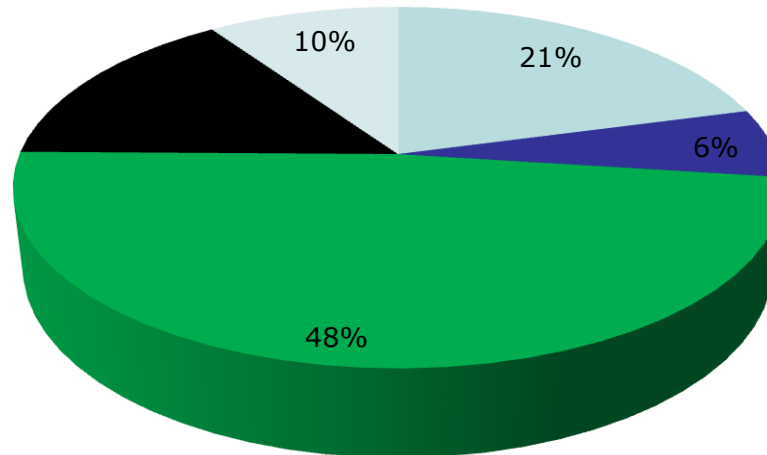
# CHP in the 2030 Framework Opportunities and challenges

- ❖ **Industry and district heating & cooling**
  - ❖ **Expansion driven by EED**
  - ❖ **Flexibility, emission reductions and low-carbon fuels**
- ❖ **Heat demand in industry and buildings**
- ❖ **Insecurity in industrial investment trends**

# The share of fuels in CHP heat and electricity production in 2011

## Fuel used in CHP (2011)

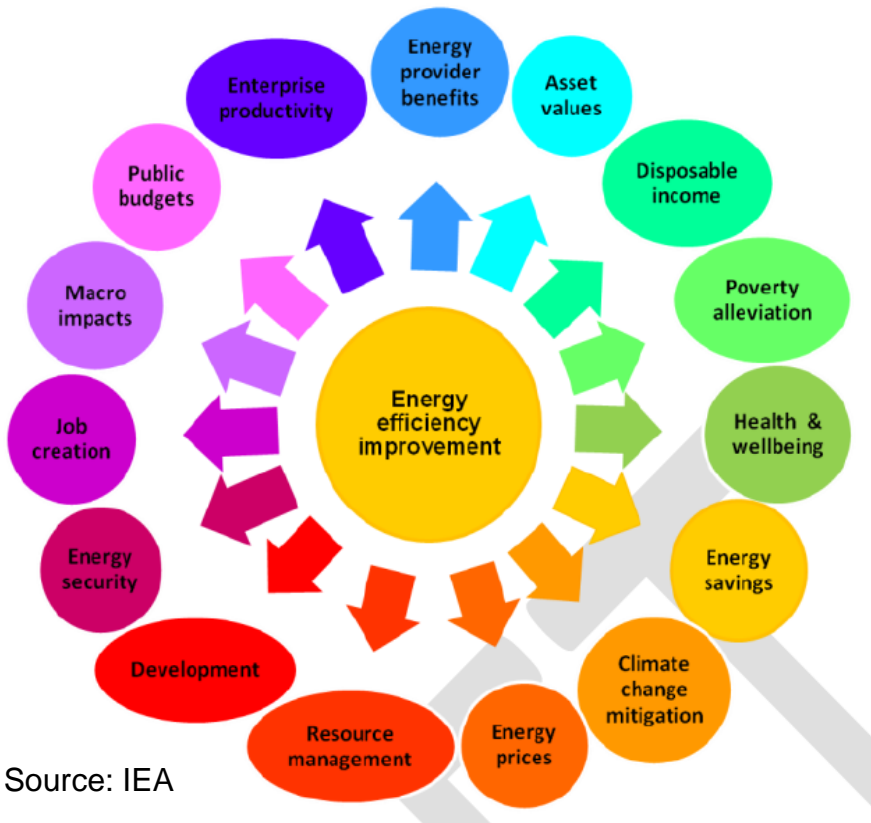
■ Solid fossil fuels and peat   ■ Oil and oil products   ■ Natural gas   ■ Renewables   ■ Other fuels





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# ENERGY EFFICIENCY



- Implementation of the existing framework
- Identify good projects
- Ensuring access to finance
- Define new objectives and policy measures for the future

## How much is needed?

Energy savings potential across sectors requires investment of around € 850 billion (2011-2020)

- Around € 85 billion per year
- Buildings take lion's share of ~ € 60 billion/year



# EU Funding for Sustainable Energy – MFF 2014-2020

- **Cohesion Policy**

- over 23 billion € (estimate!) for energy efficiency, renewable energy, smart grids and urban mobility, including research and innovation in those areas in complementarity with Horizon 2020
- Possibility to invest in large energy infrastructure; transmission and storage
- Other Financial Instruments (e.g. EIB, also in the context of Mediterranean countries FEMIP)

- **Horizon 2020**

- some 5.4 billion € to be allocated to research and innovation in "Secure, clean and efficient energy"

- **Connecting Europe Facility**

- some 5 billion € to be allocated to investments in TEN-E infrastructure of highest European added value

- **Other European Structural and Investment (ESI) Funds**

- European Agricultural Fund for Rural Development
- European Maritime and Fisheries Fund

- **LIFE+** and **COSME** might also be relevant for certain aspects



# Thematic Objectives

Europe 2020

smart

sustainable

inclusive

1. Research and innovation
2. Information and Communication Technologies
3. Competitiveness of Small and Medium-Sized Enterprises (SME)
4. **Shift to a low-carbon economy**
5. **Climate change adaptation and risk management and prevention**
6. **Environmental protection and resource efficiency**
7. **Sustainable transport... and key infrastructure**
8. Employment and support for labour mobility
9. Social inclusion and poverty reduction
10. Education, skills and lifelong learning
11. Increased institutional capacity and effectiveness of public administration

Reflected in PAs and OPs

# Investments in Sustainable Energy in 2014-2020 Cohesion Policy

**"Supporting the shift towards a low-carbon economy in all sectors" – 5 investment priorities proposed by the Commission for ERDF and CF:**

- a) Promoting the production and distribution of RES**
- b) Promoting EE and RES use in SMEs**
- c) Supporting EE and RES use in public infrastructures and in the housing sector (housing only ERDF)**
- d) Developing smart distribution systems at low voltage levels ("smart grids")**
- e) Promoting low-carbon strategies for urban areas**

# Implementation Principles – Energy

- Implement **legislation, policies and measures** that create the favourable investment conditions for EE
- Mainly private sector investment. Ensure **public funding complements or triggers private investment**, leveraging it and not crowding it out
- EE: Consider creating **value for energy savings through market mechanisms** before public funding (energy saving obligations, energy service companies/performance contracting...)
- **Financial instruments** to be used where potential for private revenue or cost savings is large
- For physical investment, **grants to be used primarily:**
  - **to address market failures**
  - **to support innovative technologies**
  - **to support investments that ensure** energy savings and GHG emission reductions above "business as usual", moving towards NZEB



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# Examples for CHP/DH from the 2007-2013 period

## Romania

### Rehabilitating the district heating system in Oradea

Bihor, North-West Romania

This project involves the rehabilitation of the existing urban heating plants and heat supply networks in the Oradea municipality with the aim of reducing CO, SO<sub>2</sub>, NO<sub>x</sub> and dust and improving the energy efficiency of the heating system for more than 141 000 inhabitants. The project includes the installation of a co-generation unit with a gas turbine and heat recovery boiler in the first plant and partial rehabilitation of the transport network.

## Denmark

### Reducing emissions from district-heating schemes in North Jutland

Nordjylland, Denmark

Developing new technologies and Encouraging research and know-how

The FleksEnergi project, a co-operative project between three municipalities in North Jutland (Aalborg, Rebild and Jammerbugt), has, since March 2009, been researching alternative fuel sources for district-heating schemes with the aim of phasing out the use of coal and gas and replacing them with sustainable energy sources such as wind, sun, biomass, process heat and geo-thermal sources.

## Hungary

### Kistelek shows potential of geothermal power

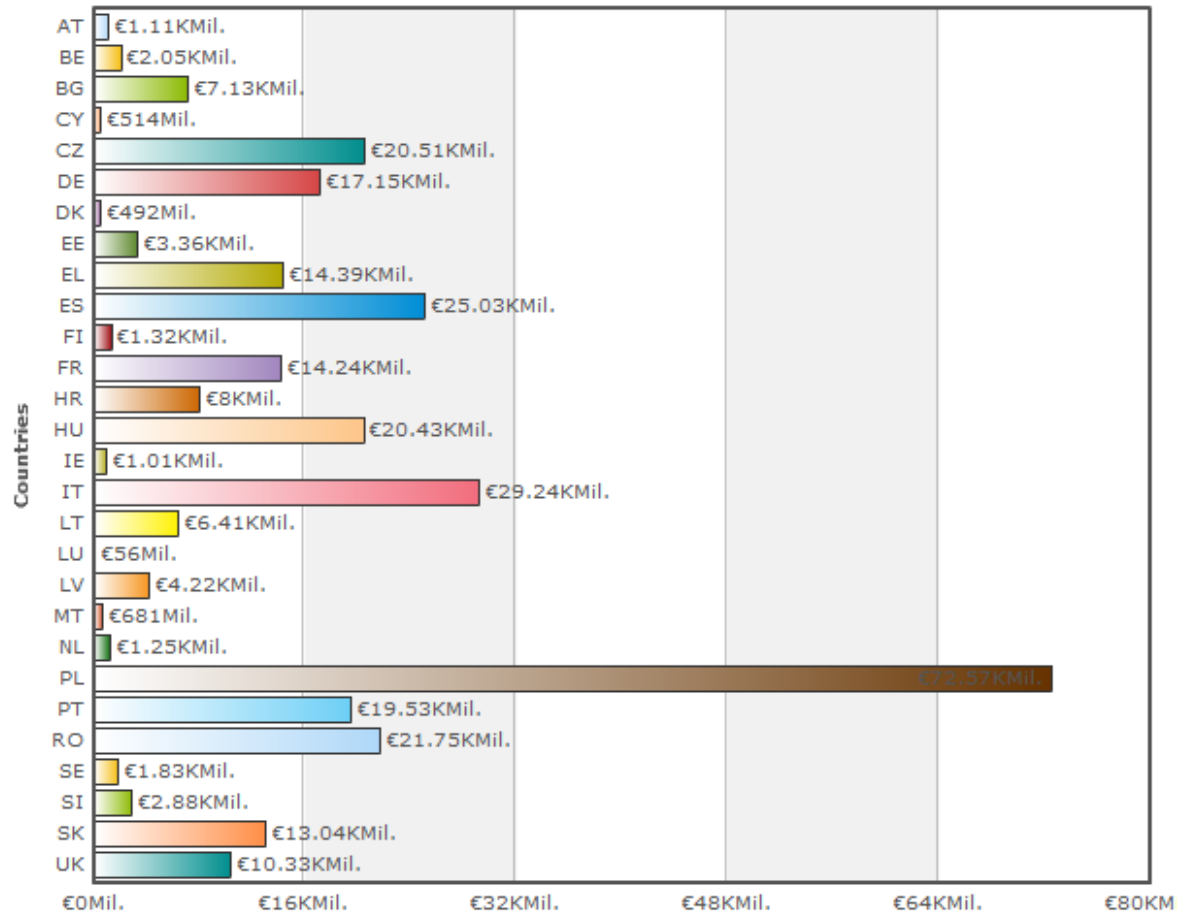
Kistelek, Dél-Alföld, Hungary

Naturally better

A small town in the south of Hungary with a population of roughly 7 600 is leading the way in geothermal energy use. Through a project supported by the ERDF, Kistelek has drilled a well to thermal water 1 700 meters deep and pipelines stretching five kilometres were then built capable of supplying eight public institutions. The project is breaking new ground for the country and as such is being held up as an example to other local councils.

# Cohesion Policy, Total allocations 2014-2020

Total allocations of Cohesion Policy 2014-2020\* (million €, 2011 prices)



Total per country

**Thank You for Your Attention!**

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