



European
Commission



CLEAN ENERGY FOR ALL EUROPEANS

Energy Efficiency



ENERGY EFFICIENCY FIRST PRINCIPLE

WHY?



- **The cheapest energy is the one that we do not consume**
- **Energy efficiency should be considered as a source of energy in itself:**
 - **It is endless**
 - **It is available everywhere**

Energy Efficiency is the most cost-effective way of achieving Energy Union objectives...



Security of supply



Global leadership in renewables



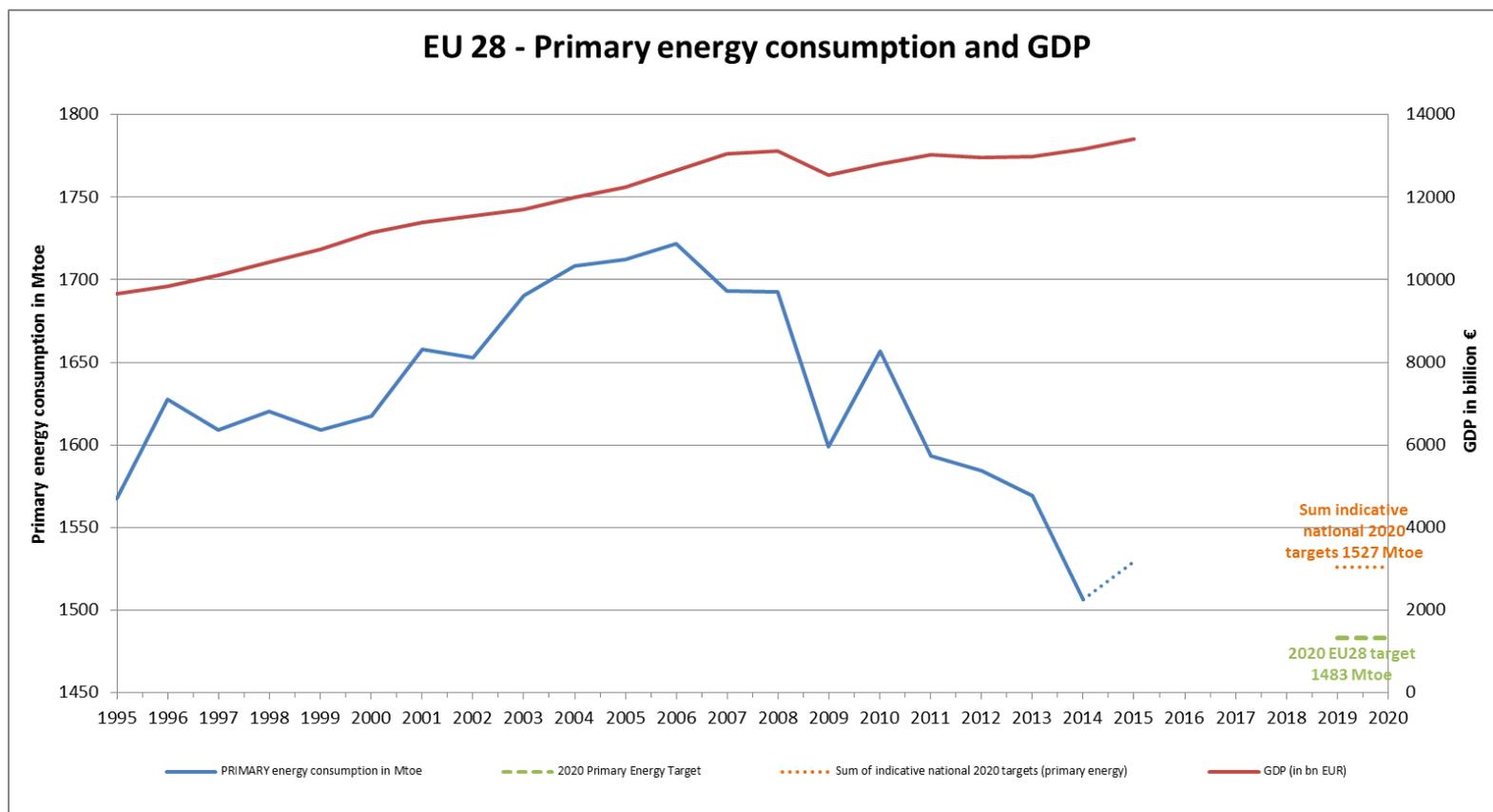
Decarbonization (Paris Agreement)



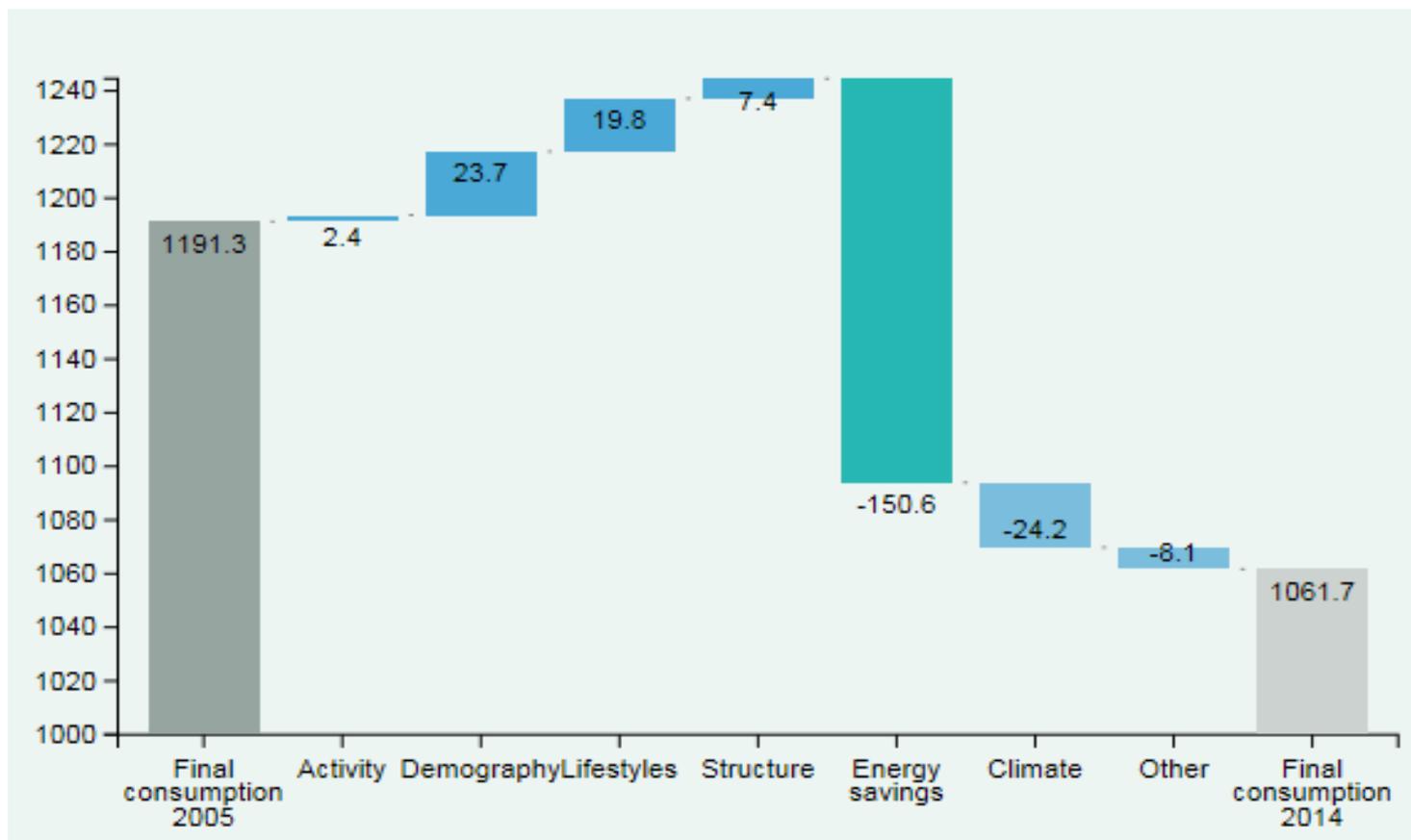
**SUSTAINABLE
GROWTH**

Promoting growth, jobs and investments

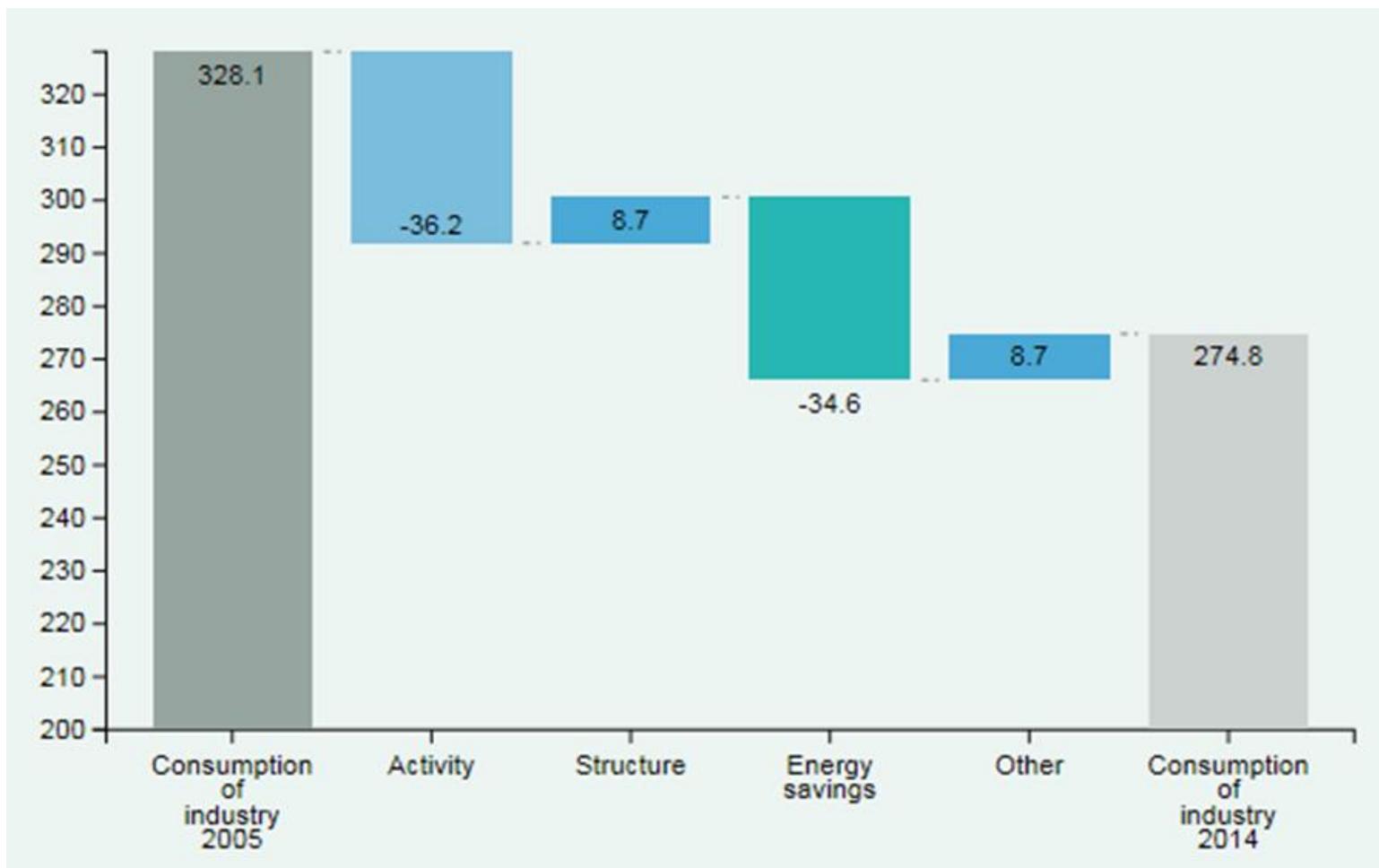
It's not a dream...



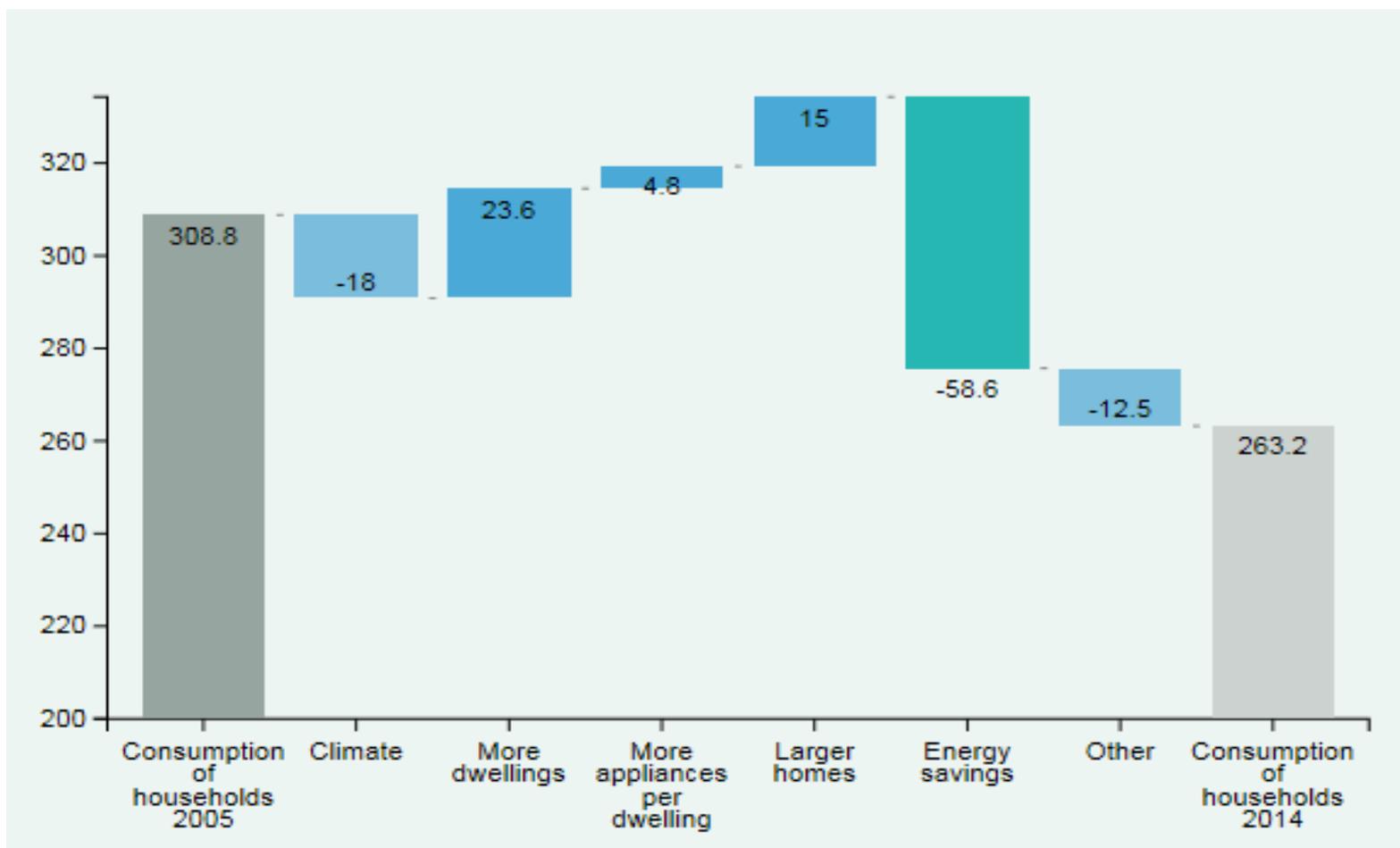
It's not only the economy...



Variation final energy consumption - European Union - Mtoe (2005-2014), Odyssee-Mure

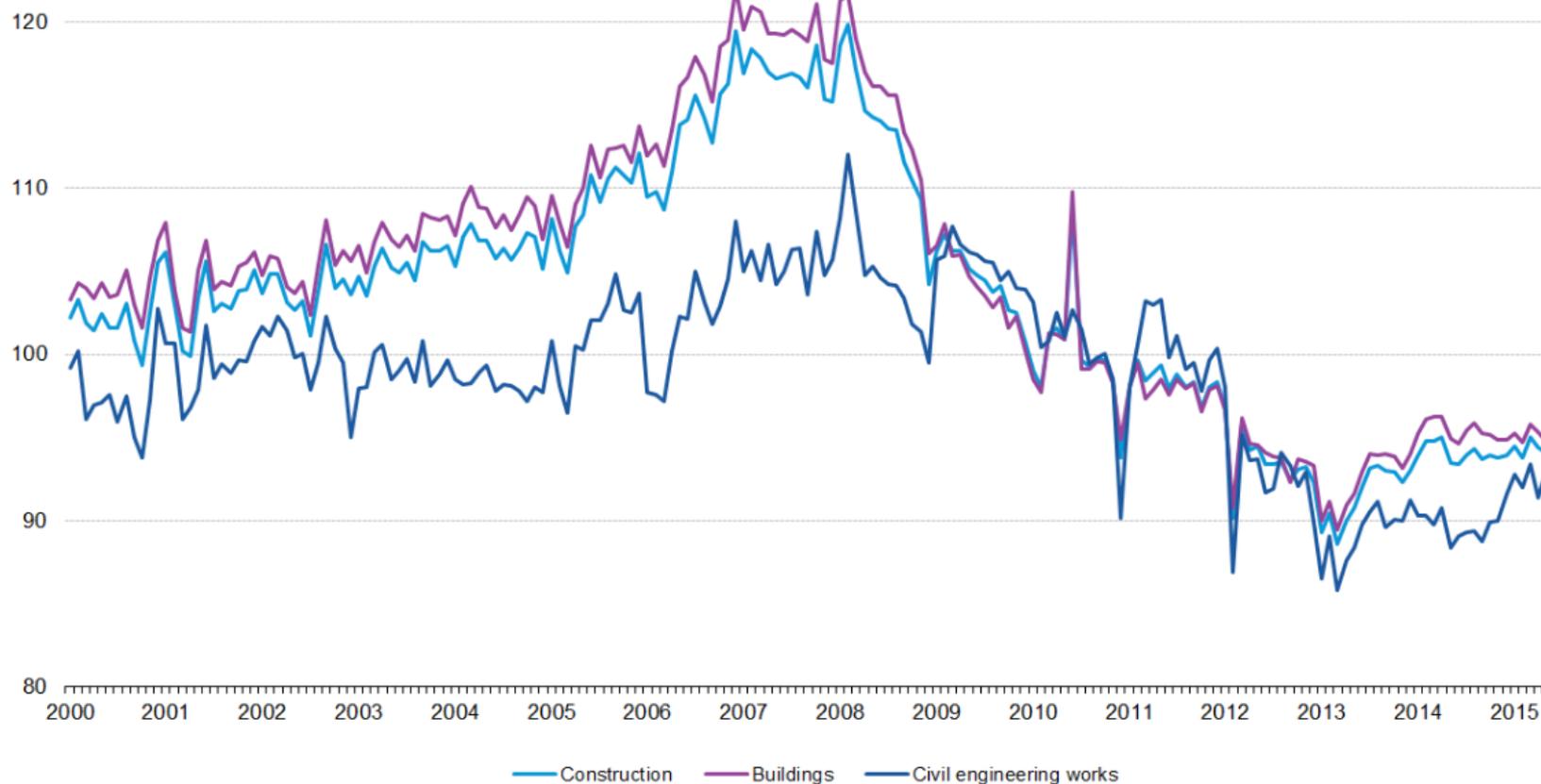


Variation industry energy consumption - European Union - Mtoe (2005-2014), Odyssee-Mure



Variation residential energy consumption - European Union - Mtoe (2005-2014), Odyssee-Mure

Total construction, buildings and civil engineering activity index (2010=100)



Source: Eurostat, data table "sts_copr_a", 2000-2015, monthly data, seasonally and working day adjusted

What is it about?

What is the cause of the progress that Europe is making in energy efficiency?

Behavioural change?

Voluntary upgrades?

"Natural" turnover of capital assets?



The share of refrigerators meeting the highest energy efficiency labelling classes (A+ and above) increased from less than 5% in 1995 to 98% in 2014.



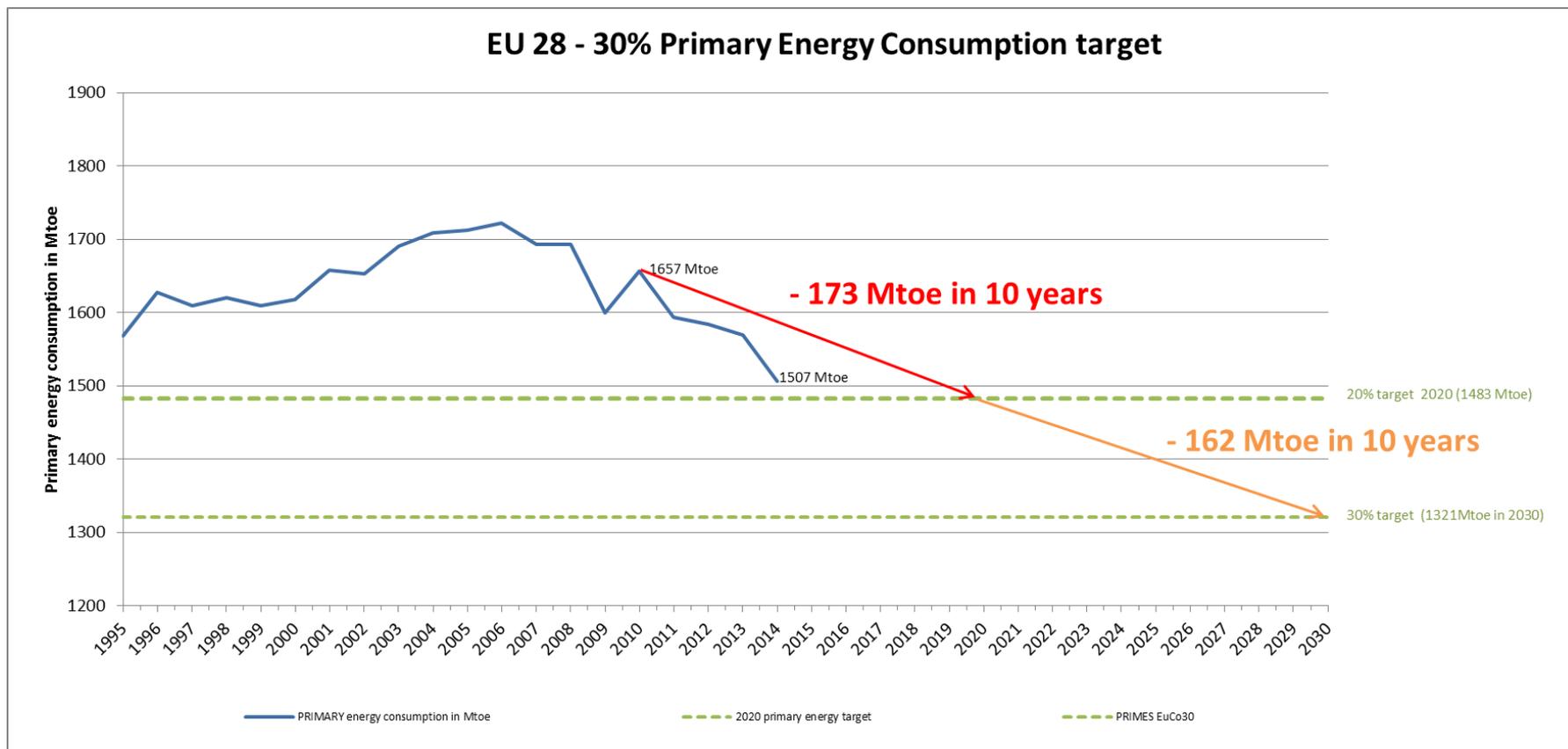
New dwellings built today consume on average 40% less than dwellings built 20 years ago.



Between 1995 and 2014 the average consumption of new cars in the EU decreased by 34%.

EU policy framework for energy efficiency

Objectives	All sectors	Buildings	Products	Transport	Generation
Energy efficiency targets	Art. 1 and 3 EED				
Strategic/long term planning		Art. 4 EED			Art. 14-15 EED
Minimum standards for efficiency and the internal market		Art. 4 EPBD Art. 9 EPBD	Ecodesign Directive	CO ₂ standards	
Accelerate uptake of investments in efficient products, cars and buildings	Art. 4-7 EED Art. 18 EED				
Information of consumers	Art. 9-11 EED Art. 8 EED	Art. 11 EPBD	Labelling Directive		
Removing split incentives, market and regulatory barriers	Art. 19 EED				
Qualification	Art. 16-17 EED 'Build-up skills'				
Financing	Art. 18 EED EU and national funds	'Smart finance for Smart buildings'			



Why do we need new policy then?



12 lm/W
~ 8.3W



65 lm/W
~ 1.5W



120 lm/W
~ 0.83W

THE 30% ENERGY EFFICIENCY TARGET (Articles 1 and 3)

What are the positive impacts compared to a 27% target?



Reduced energy related costs e.g. for households and energy intensive industries

Less thermal generation capacities needed

Reduction in pollution control costs & health damage costs by €4.5 – 8.3 billion



Lower electricity price for households and energy intensive industries

Security of supply: avoided cumulative fossil imports = €70 billion

Decarbonisation is cheaper in the long run (2021-2050): €9 billion/year less

2030 (b.a.u.)	27%	30%
158€ MWh	161€ MWh	157€ MWh

THE 30% ENERGY EFFICIENCY TARGET (Articles 1 and 3)

What are the positive impacts compared to a 27% target?



**SUSTAINABLE
GROWTH**

Up to 400,000 more jobs
in 2030

Up to 0.4% increase of
GDP in 2030 (~ 70 bn €)

What are the positive impacts of the whole 2030 Energy and Climate package compared to business as usual?



**SUSTAINABLE
GROWTH**

Up to 900,000 more jobs
in 2030

Up to 1% increase of GDP
in 2030 (~ 190 bn €)

Policy conclusions for 2030

1. Building renovation has to do more

→ **Review of EPBD**

- Article 2a): Provisions on **long-term building strategies** in Article 4 of EED moved to a new article 2a in the EPBD
- **Simplification** of Article 6. (Member States shall take the necessary measures to ensure....)
- Articles 14 and 15, Annex II –**Inspections** on heating & air-conditioning systems and **Building Automation and Controls**
- Article 8 – **e-mobility** and **smartness indicator**
- Article 10 – linking **EPCs and financing**, and improve **data** quality on building energy use

→ **Review of Art. 7 EED**

- Extended saving obligation for 2021-2030 period - new savings of 1.5% per year
- Simplified and streamlined rules
- Coherence with the EPBD and strengthened social dimension

2. Financing has a more important role to play

→ **Smart Financing for Smart Buildings**

3. Digital/ICT has a big potential to contribute

- a) Capture behavioral change potentials
- b) Contractually guaranteed energy savings as business model
- c) Capture demand response potentials

→ **Development of a 'Smartness indicator for buildings'**

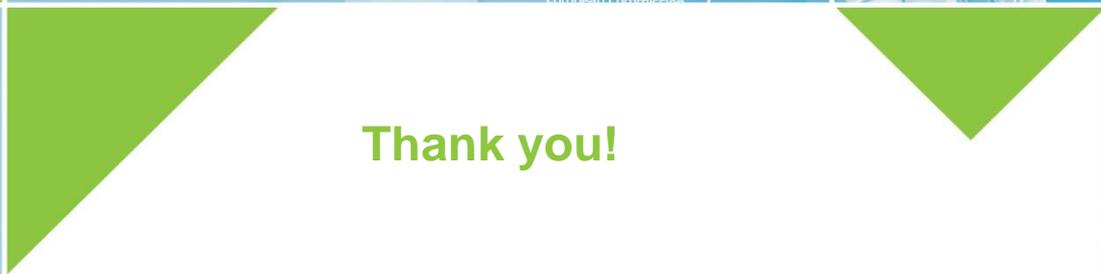
→ **Review of Art. 9-11 EED**

- **Clarification** of the EED provisions on metering and billing for thermal energy
- Ensuring access to **clearer consumption information** and more frequent feedback for consumers in multiple-apartment buildings.
- New meters to be **remotely readable** by 2020, and existing meters to be adapted to be remotely readable by 2027 where this is cost effective.

WHAT PIECES OF LEGISLATION?

- ❖ **Amending Directive 2012/27/EU on Energy Efficiency**
- ❖ **Amending Directive 2010/31/EU on Energy Performance of Buildings**
- ❖ **Ecodesign Working Plan 2016-2019**





Thank you!

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