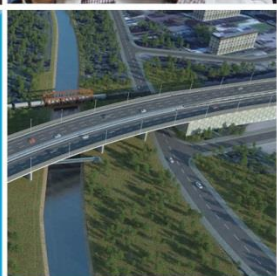
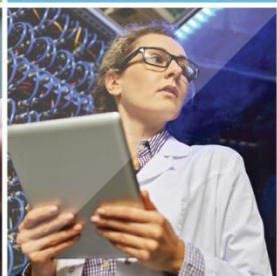




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# CLEAN ENERGY FOR ALL EUROPEANS

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**



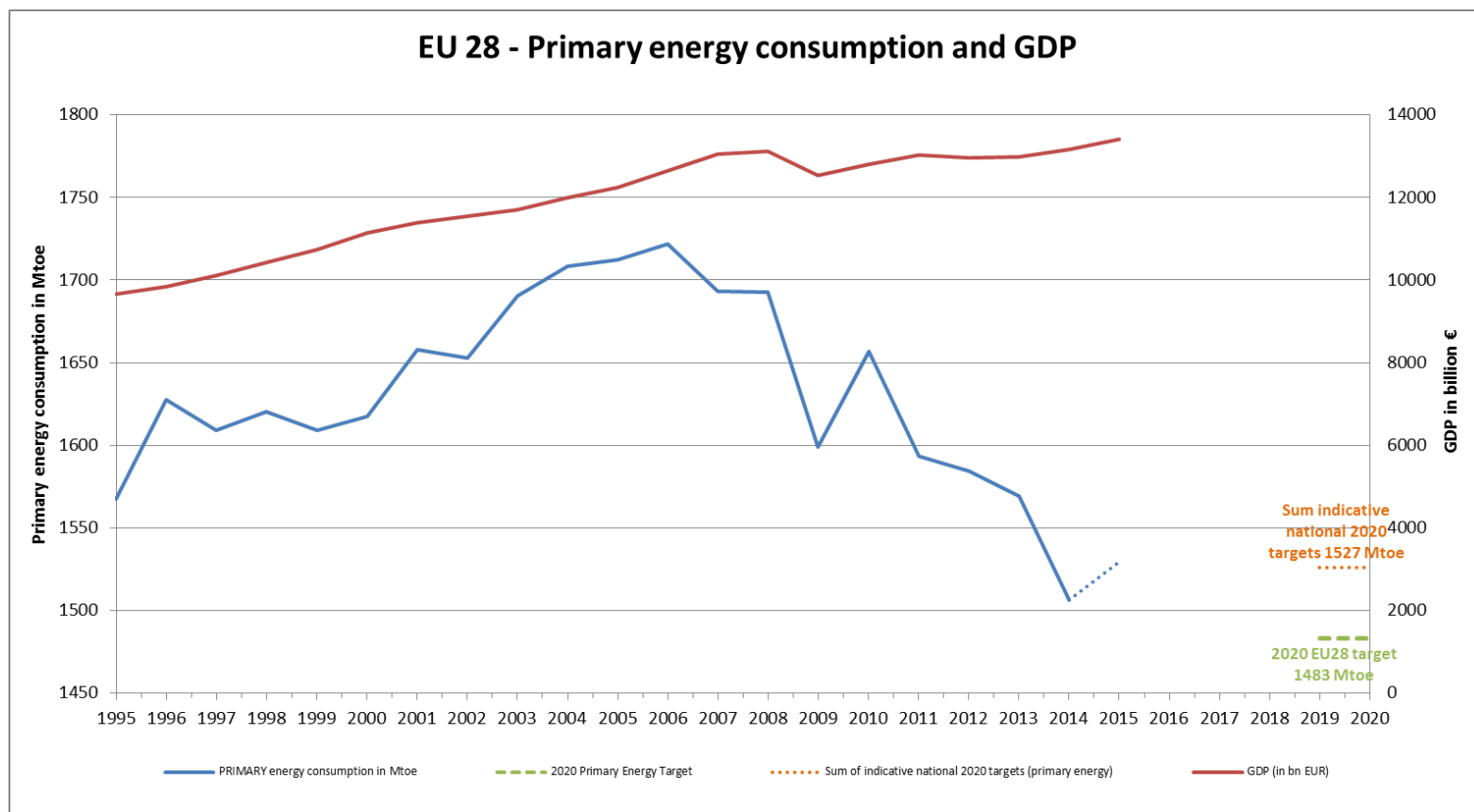
**Decarbonization (Paris Agreement)**



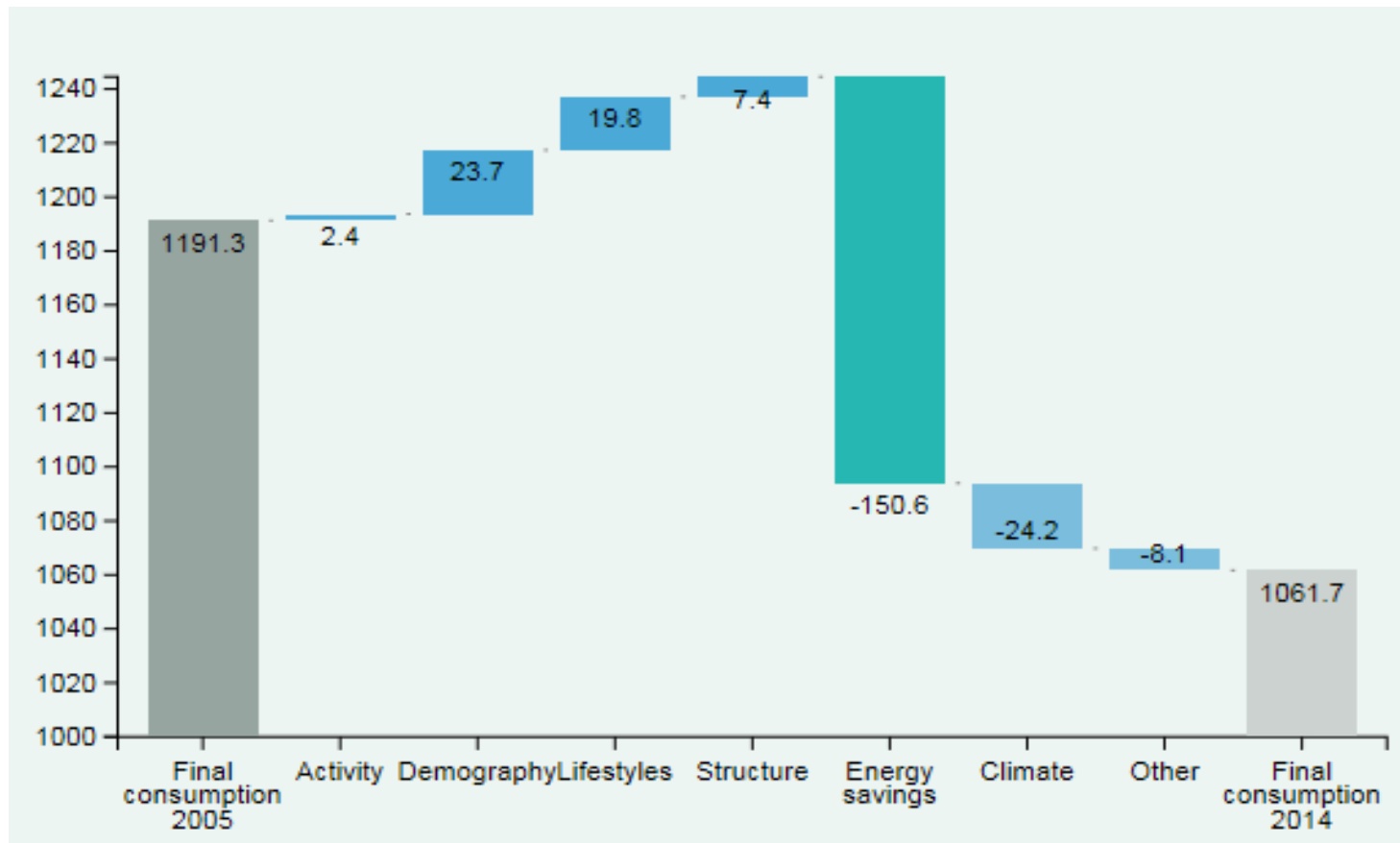
**SUSTAINABLE  
GROWTH**

**Promoting growth, jobs and investments**

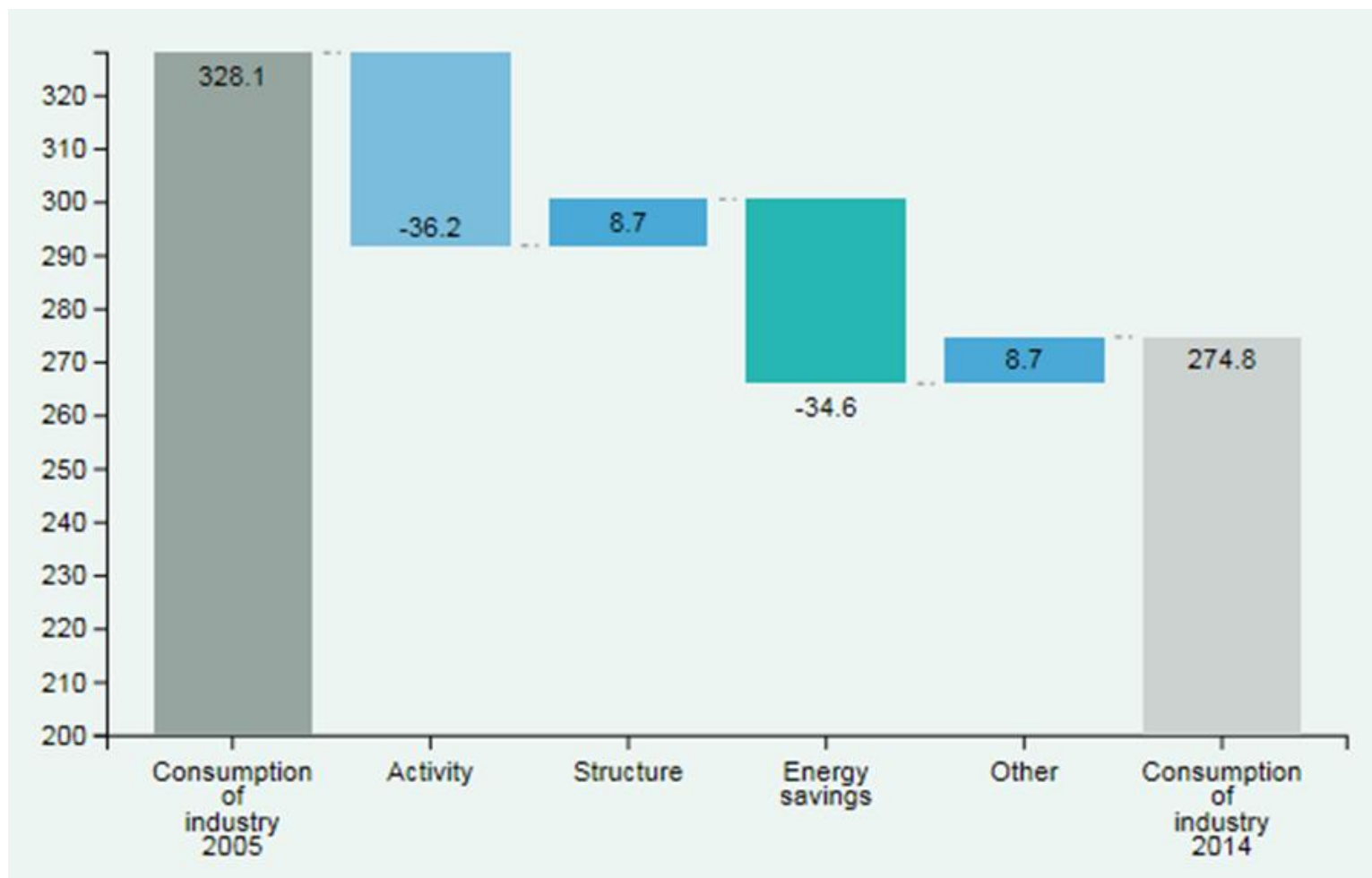
It's not a dream...



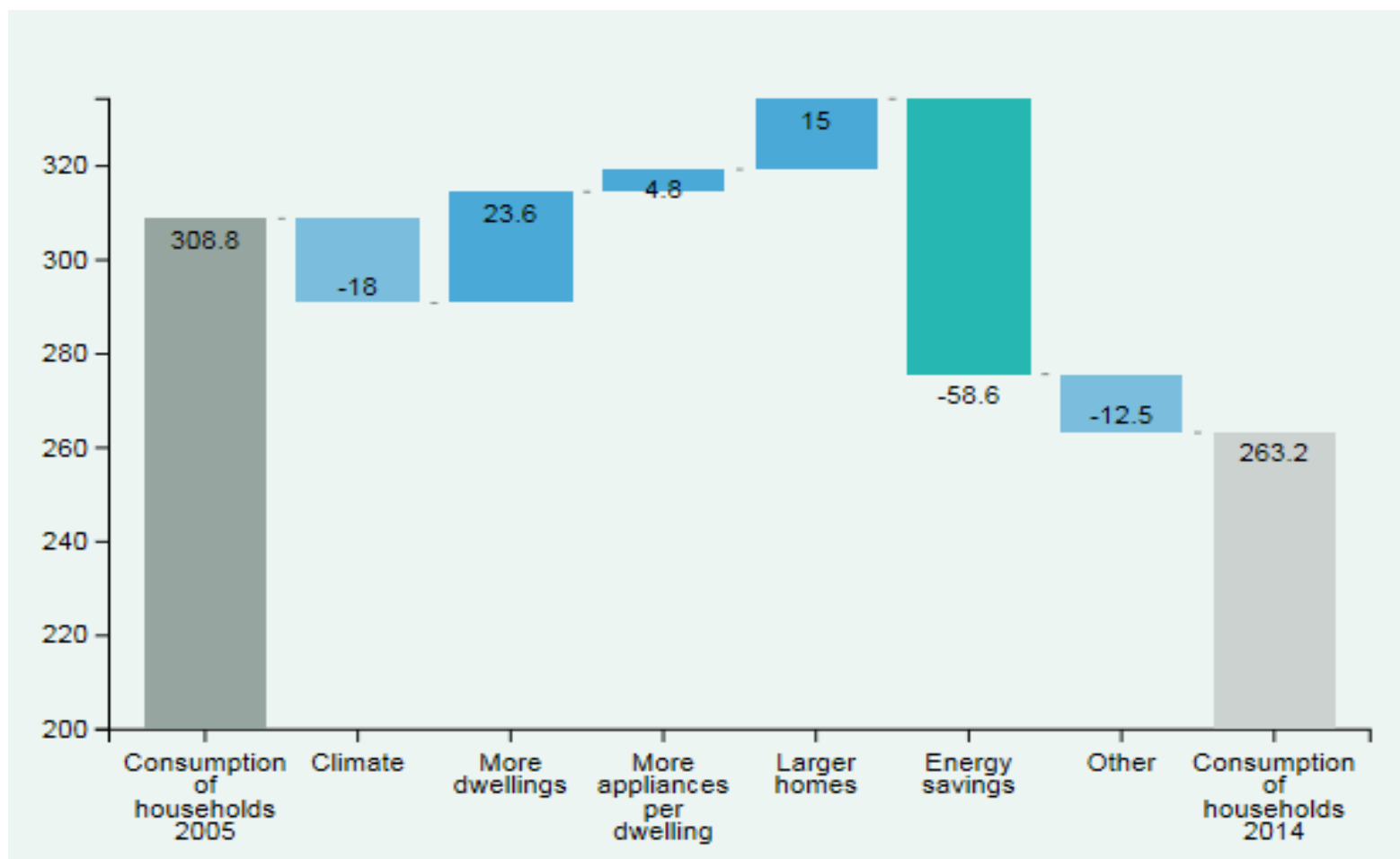
## It's not only the economy...



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

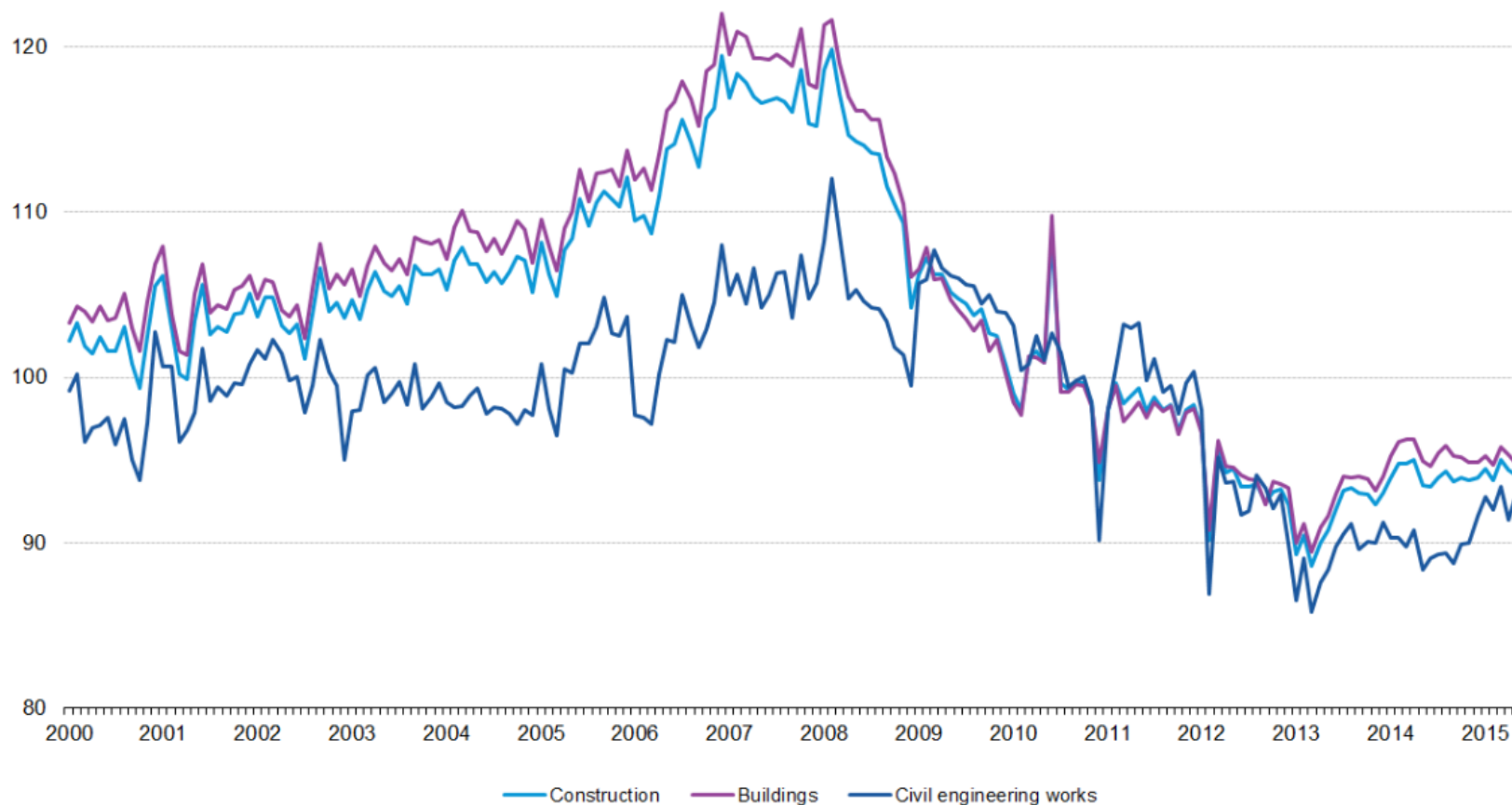


Variation industry energy consumption - European Union - Mtoe (2005-2014), Odyssee-Mure



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.



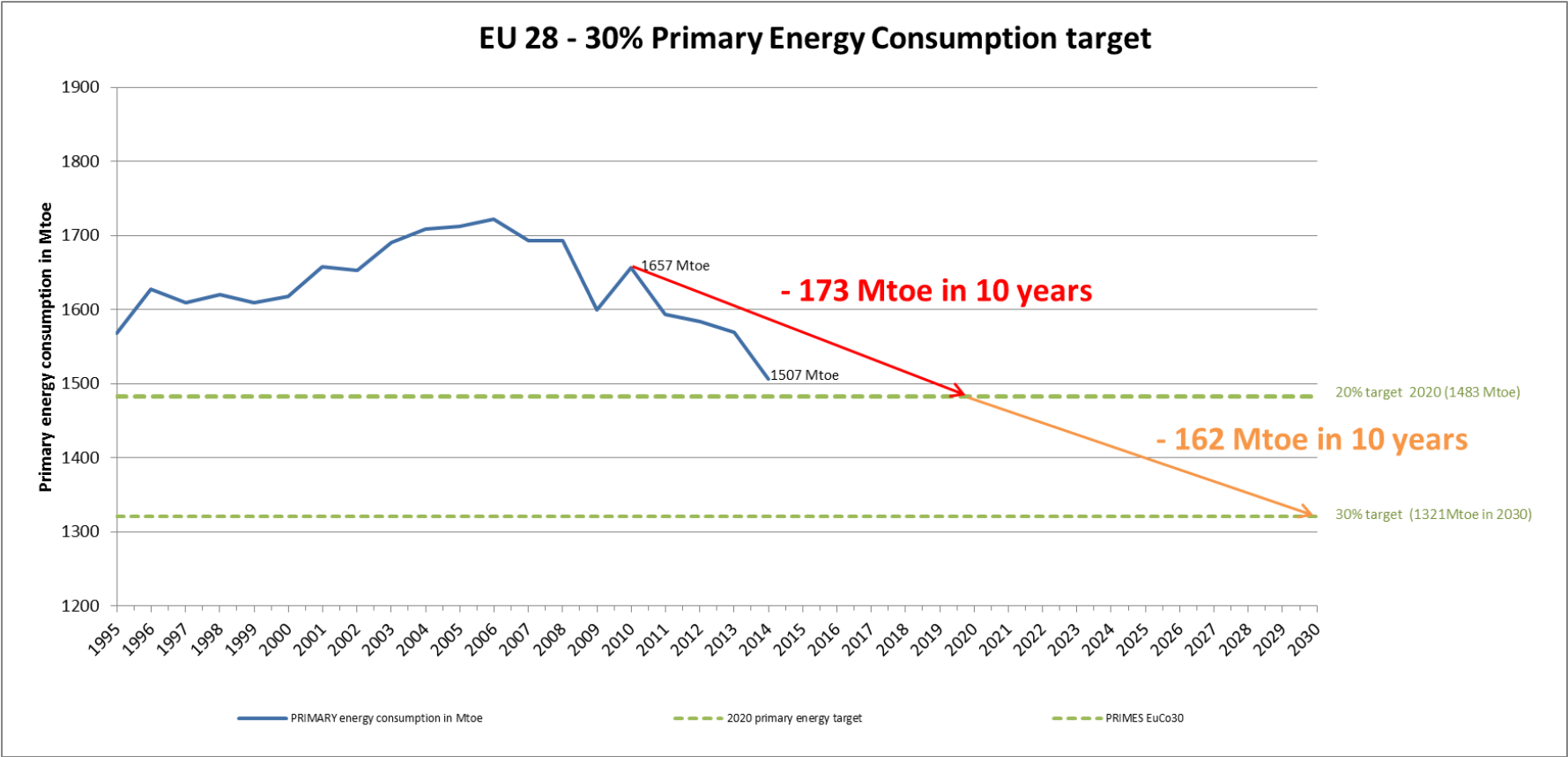
New dwellings built today consume on average 40% less than dwellings built 20 years ago.



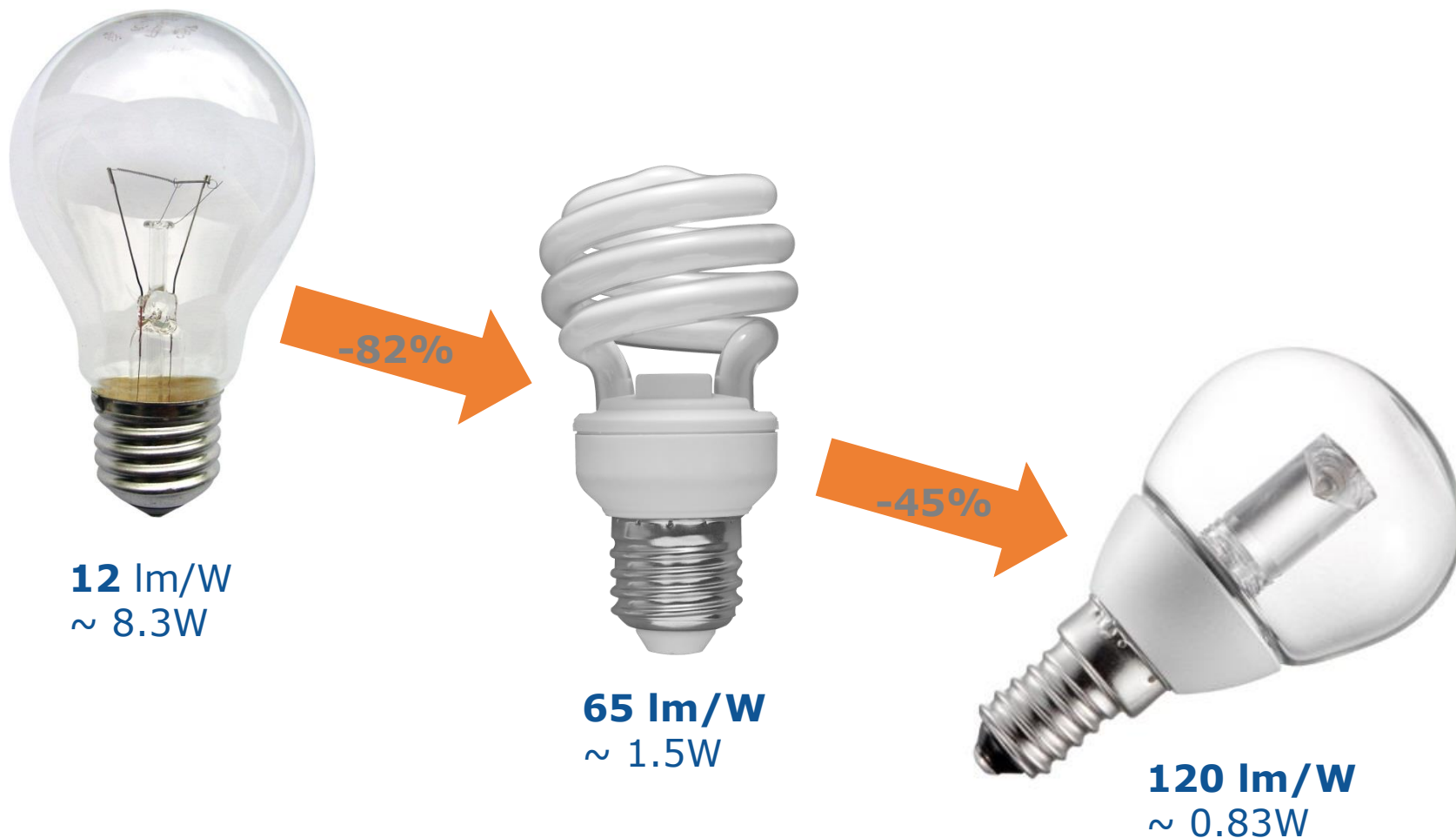
Between 1995 and 2014 the average consumption of new cars in the EU decreased by 34%.

## 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 <sub>2</sub> 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?



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

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



### SAVINGS

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



### SAVINGS

Lower electricity price for households and energy intensive industries

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

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

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



## 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**





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Thank you!

**Paul Hodson**  
**Head of Unit – Energy Efficiency Unit**  
**DG ENER, European Commission**