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## VORTRAG/ LECTURE 01

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# Towards COP 24 – the importance of the Energy Efficiency Directive and the Clean Energy Package

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# OUTLINE

- A brief look back
- 25 years on
- Towards COP24 and beyond – looking ahead
- The Clean Energy for All Europeans package
- The revised EPBD
- The revised EED

## 1993 (1/2)

- Launch of the "Single Market"
- 1 year after the negotiation of the UNFCCC
- Council Directive 93/76/EEC of 13 September 1993 to limit carbon dioxide emissions by improving energy efficiency (SAVE)

## 1993 (2/2)

### ○ SAVE Directive:

- ...“Whereas the billing, to occupiers of buildings, of heating, air-conditioning and hot water costs calculated, in an appropriate proportion, on the basis of actual consumption will contribute towards energy saving in the residential sector; whereas it is desirable that occupants of such buildings should be enabled to regulate their own consumption of heat, cold and hot water; whereas the recommendations and resolutions adopted by the Council on the billing of heating and hot water costs (6) have been applied in only two Member States; whereas a significant proportion of heating, air-conditioning and hot water costs are still being billed on the basis of factors other than energy consumption;” ...
- ...“Article 3  
**Member States shall draw up and implement programmes** on the billing of heating, air-conditioning and hot water costs calculated, in an appropriate proportion, on the basis of actual consumption. **These programmes shall enable the cost of these services to be apportioned among the users of all or part of a building on the basis of the specific quantities of heat, of cold and of hot water consumed by each occupier.** This shall apply to buildings or parts of buildings supplied by a collective heating, air-conditioning or domestic hot water installation. **Occupants of such buildings should be enabled to regulate their own consumption of heat, cold or hot water”**...

## 25 years on

- Buildings in the EU single largest sector of final energy consumption, ca. 40%
- Majority of needs still met by fossil fuels (mainly gas)
- In residential stock, >70% is for space heating
- Industry figures suggest
  - >80% of windows single glazing / early double glazing
  - Ca. 500 mio. radiators without TRVs
  - Significant share of relevant multi-occupant stock still not sub-metered in certain Member States

# 25 years on

EU homes could save 130 TWh of energy per year by installing TRVs on radiators that don't have them. Also upgrading TRVs over 20 years old would increase this to 160 TWh.

This would reduce EU CO<sub>2</sub> emissions by 29 million tonnes.

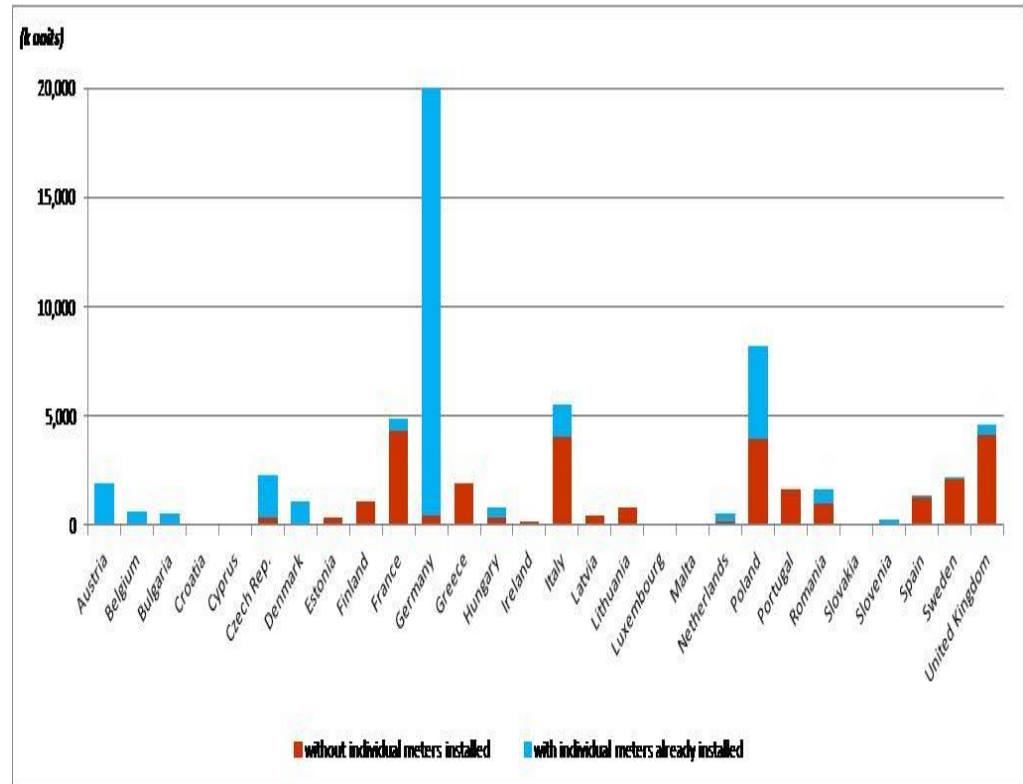
EU citizens would save nearly €12 billion per year on their energy bills.

The cost of these upgrades would be paid back in energy savings in 2 years.

For every €1 spent there would be over €7 in savings.



## Stock of dwellings in multi-apartment buildings with collective central heating systems

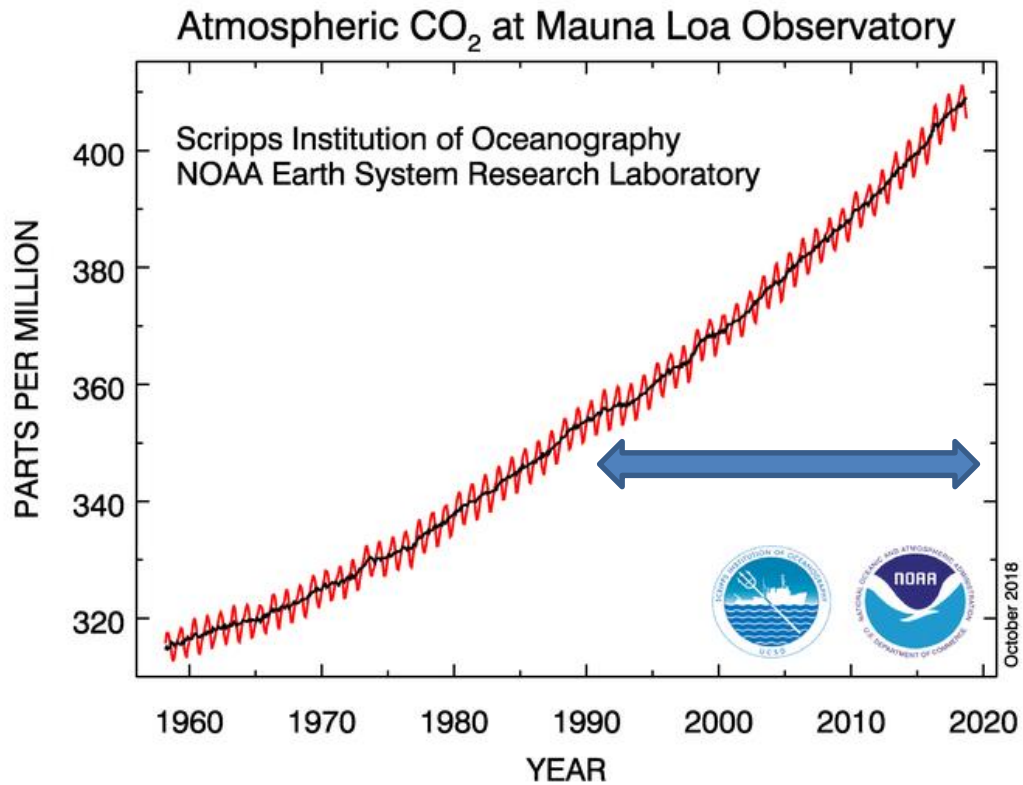


Source: Empirica calculations of 2016, based on JRC and EVVE estimates and ODYSSEE data

Cf. Commission Impact Assessment for the proposal to revise the EED

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016SC0405>

25 years on





# Looking ahead

## SR5 - Key Messages - Summary

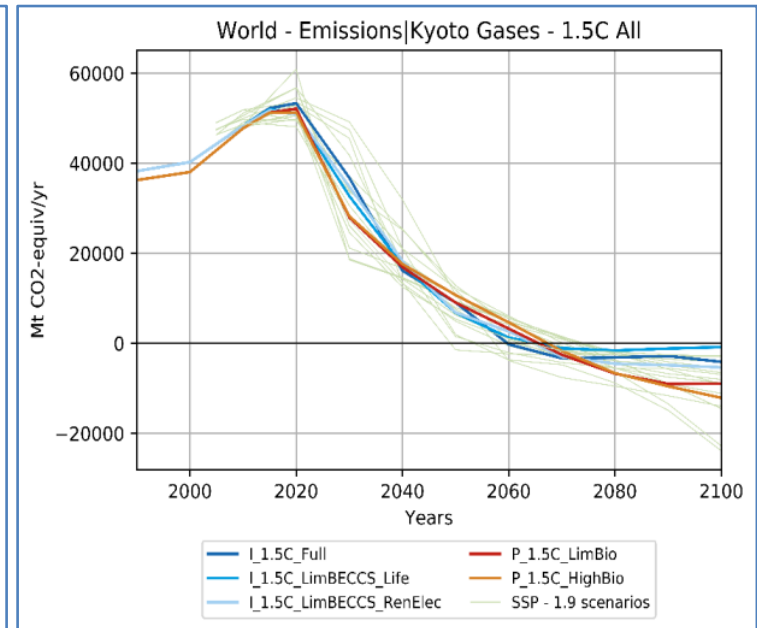
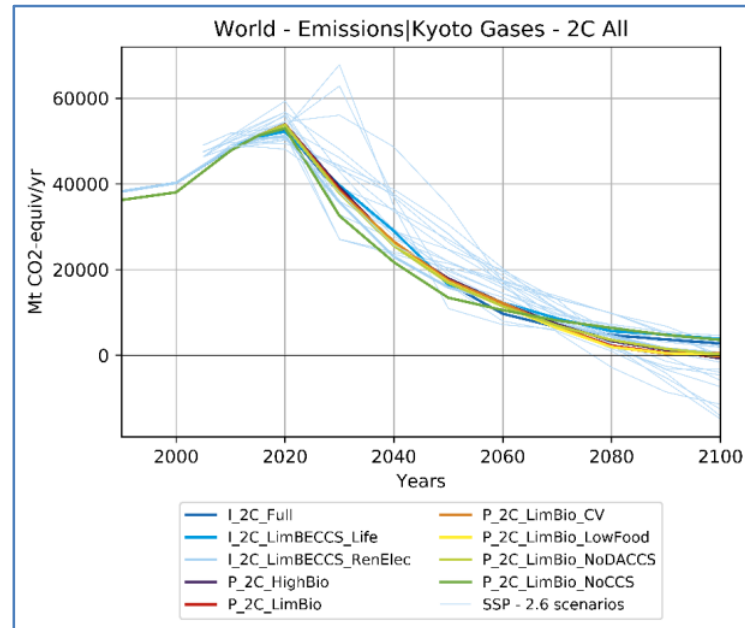


1. Climate change is already affecting people, ecosystems and livelihoods all around the world
2. Limiting warming to 1.5C is not impossible but would require unprecedented transitions in all aspects of society.
3. There are clear benefits to keeping warming to 1.5C compared to 2C, or higher. Every bit of warming matters.
4. Limiting warming to 1.5C can go hand-in-hand with achieving other world goals.



# Looking ahead

Well below 2°C and 1.5°C projections.



Note: POLES model (P), IMAGE model (I) and comparable runs from other sources (SSP – 1.9).

Source: JRC and Netherlands Environmental Assessment Agency (2018 upcoming),  
Low carbon scenarios for meeting 2°C and 1.5°C

## Looking ahead

- COM bid for a EU Long-term Decarbonisation strategy under development:
  - Due for adoption within weeks
  - To consider scenarios of -80% to -100% by 2050
- Implications for buildings
  - Significant reduction in energy needs for space heating required
  - Building envelope, and existing stock, is key
  - Renovation rates AND depth must go up
  - Fuel shift – notably electrification
  - BACS, automation, smartness

# CLEAN ENERGY FOR ALL EUROPEANS

Clean Energy for All Europeans Package (30/11/2016)

## THE RIGHT REGULATORY FRAMEWORK FOR POST – 2020



**Energy Union Governance**



**Energy Efficiency**  
(Energy Efficiency Directive, European Performance of Buildings Directive)



**Renewables**  
(Revised Renewable Energy Directive)



**New Electricity Market Design**  
(including Risk Preparedness)



**Energy prices and costs report**



**Energy Efficiency Directive**

- Binding 30% energy efficiency target for 2030;



**Ecodesign Working Plan**  
2016-2019

- List of new product groups;
- Contribution to circular economy objectives;



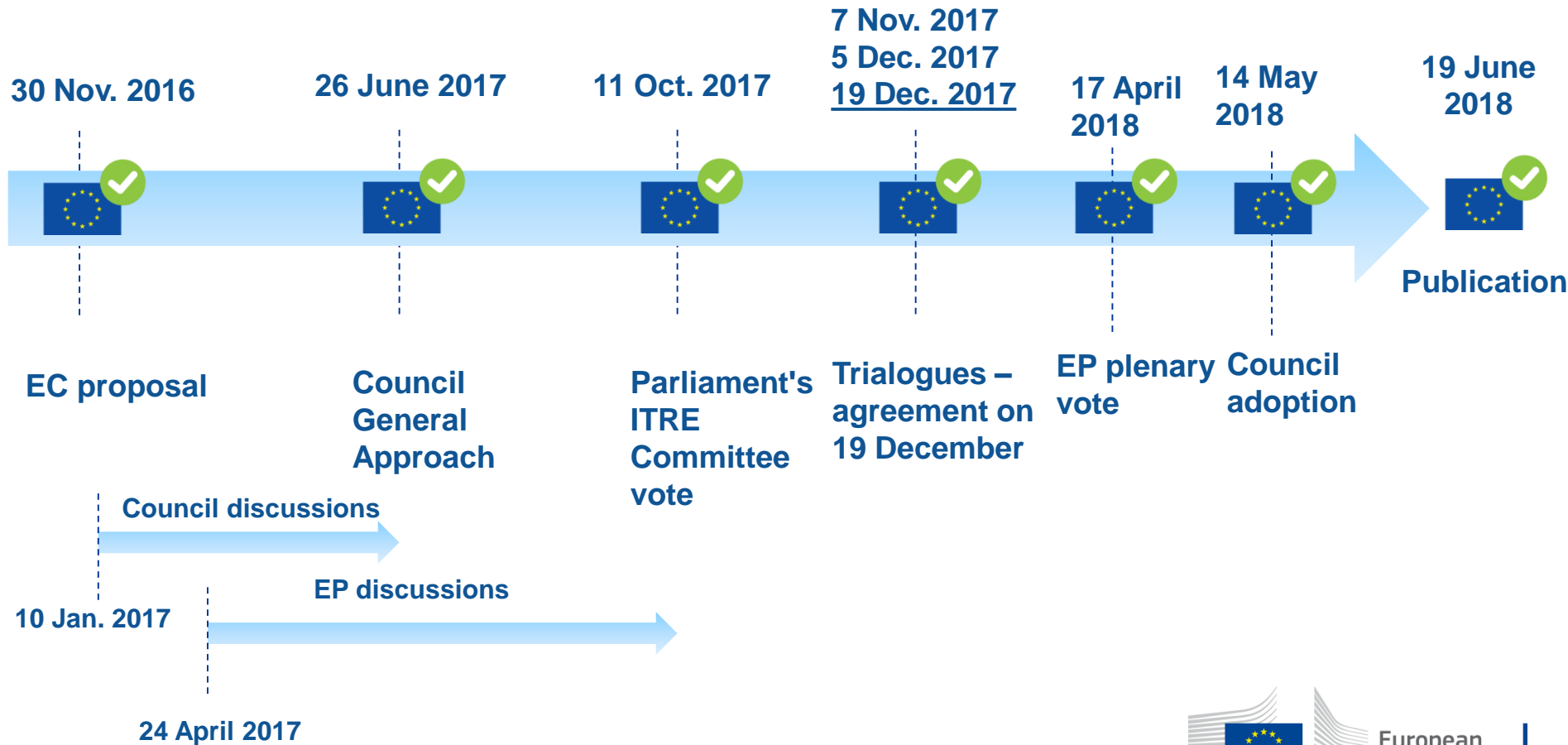
**Energy Performance of Buildings**

- Supportive of renovation;
- Smarter – ICT, smart buildings;
- Simpler;

# CLEAN ENERGY FOR ALL EUROPEANS

## EPBD review: the process

### FROM EC PROPOSAL TO PUBLICATION



# CLEAN ENERGY FOR ALL EUROPEANS

## Directive (EU) 2018/844 amending Directive 2010/31/EU and Directive 2012/27/EU

### TIMELINE

April 2018

- European Parliament vote – 17/04/2018

May 2018

- Council vote – 14/05/2018
- EP/Council signature – 30/05/2018 Plenary

June - July  
2018

- Publication in OJ – 19 June 2018
- Entry into force – 9 July 2018 (20 days after OJ publication)

March 2020

- Transposition deadline 10 March 2020 – 20 months after entry into force

## Main outcomes of the revision

### A STRENGTHENED DIRECTIVE

- ✓ Stronger **long term renovation strategies** for Member States, aiming at decarbonisation by 2050 and with a solid financial component.
- ✓ A **Smart Readiness Indicator** for buildings.
- ✓ Targeted support to **e-mobility** infrastructure deployment in buildings' car parks.
- ✓ Enhanced **transparency** of national building energy performance calculation methodologies.
- ✓ Reinforcement of **building automation**: additional requirements on room temperature level controls, building automation and controls and enhanced consideration of typical operating conditions.

## Focus on long-term renovation strategies

### A MAJOR INSTRUMENT FOR RENOVATION IN THE EU



#### Long term building renovation strategies (Article 2a)

Stronger reference to **energy poverty** and **solid financial component** (effective use of public funding; aggregation; de-risking).



Requirement for Member States to:

- Establish comprehensive strategies aiming at a highly efficient and **decarbonised building stock** by **2050** and at a cost-effective transformation of existing buildings into **nearly zero-energy buildings**.
- Set up a roadmap with measures, **measurable** progress indicators and indicative milestones for **2030, 2040** and **2050**.
- Carry out a **public consultation** on the strategies prior to submission to the Commission, and consultation in an inclusive way during implementation.



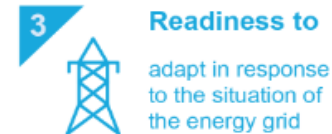
## Smart Readiness Indicator for buildings

### BUILDING-LEVEL SMARTNESS

- ✓ The SRI will be an optional common Union scheme for rating the smart readiness of buildings.

### Smart Readiness Indicator - SRI

Measure the technological readiness of your building



- ✓ The SRI will be established through two legal acts: delegated act for the definition and calculation methodology; implementing act for the technical modalities of implementation. By 31 Dec. 2019.
- ✓ Motivation: recognition of progress towards smart building systems and their added value for building users, energy consumers and energy grids.

## Focus on inspections & building automation

### A GREATER ROLE FOR AUTOMATION



Inspections on heating & air-conditioning systems are updated (Articles 14 and 15) – new provisions on self-regulating devices (Article 8(1))



**Thresholds** for inspections are set up at **70 kW** for both heating and air-conditioning systems.



**Alternative measures** to mandatory inspections based on advice are kept, with reporting to the Commission.



installation of **building automation and control systems** in large non-residential buildings by **2025**

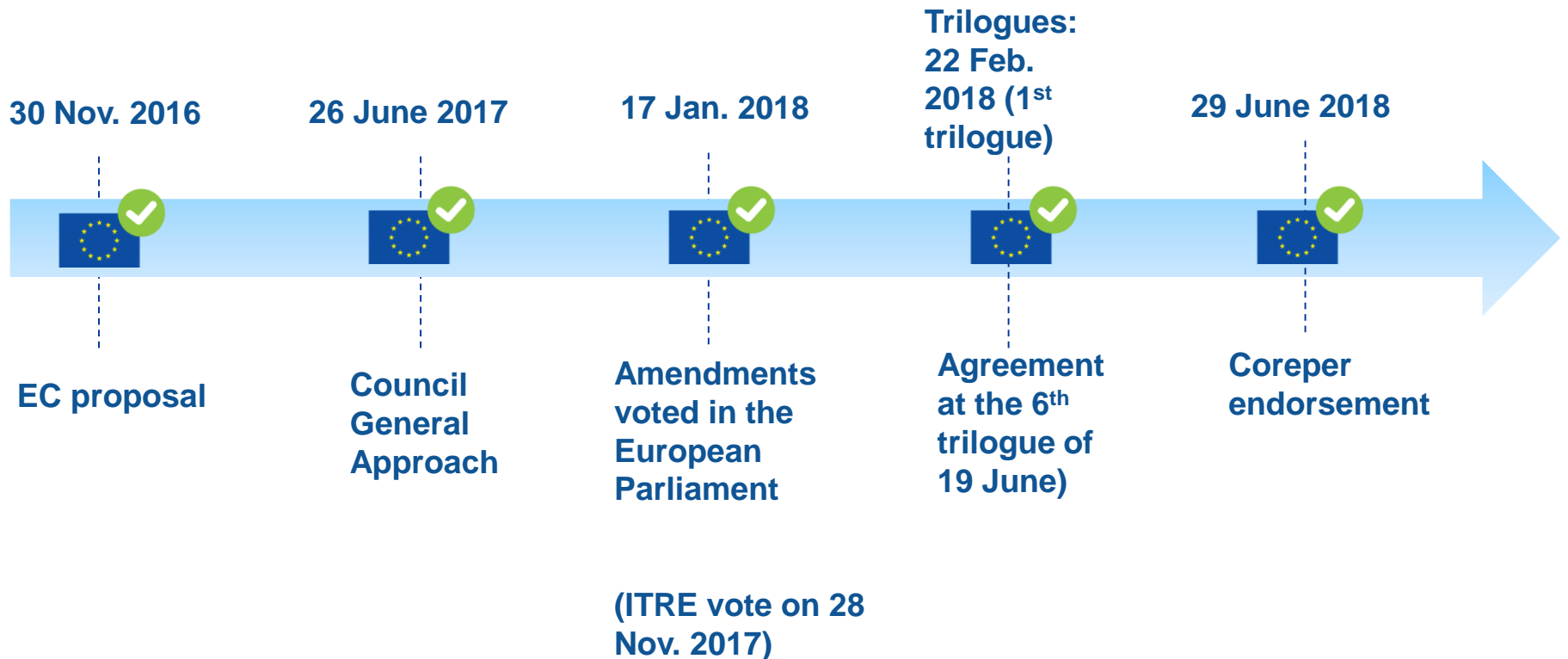


Additional requirements on the installation of **self-regulating devices** for room temperature level control **in new buildings or when heat generators are replaced.**

# CLEAN ENERGY FOR ALL EUROPEANS

EED: from the Commission proposal to the final text

UPDATED POLICY FRAMEWORK IN VIEW OF 2030 - NEGOTIATION TIMELINE Slide 1/2



## EED: from the Commission proposal to the final text

### UPDATED POLICY FRAMEWORK IN VIEW OF 2030 - NEGOTIATION TIMELINE Slide 2/2

~ Nov.-Dec.  
2018



EP plenary  
vote (ITRE vote  
on 10/07)

+ Council  
adoption

?



Publication  
in the  
Official  
Journal

?



Entry into force

- EED
- RED II
- Governance Regulation

# CLEAN ENERGY FOR ALL EUROPEANS

## Overview - main outcomes of the EED revision

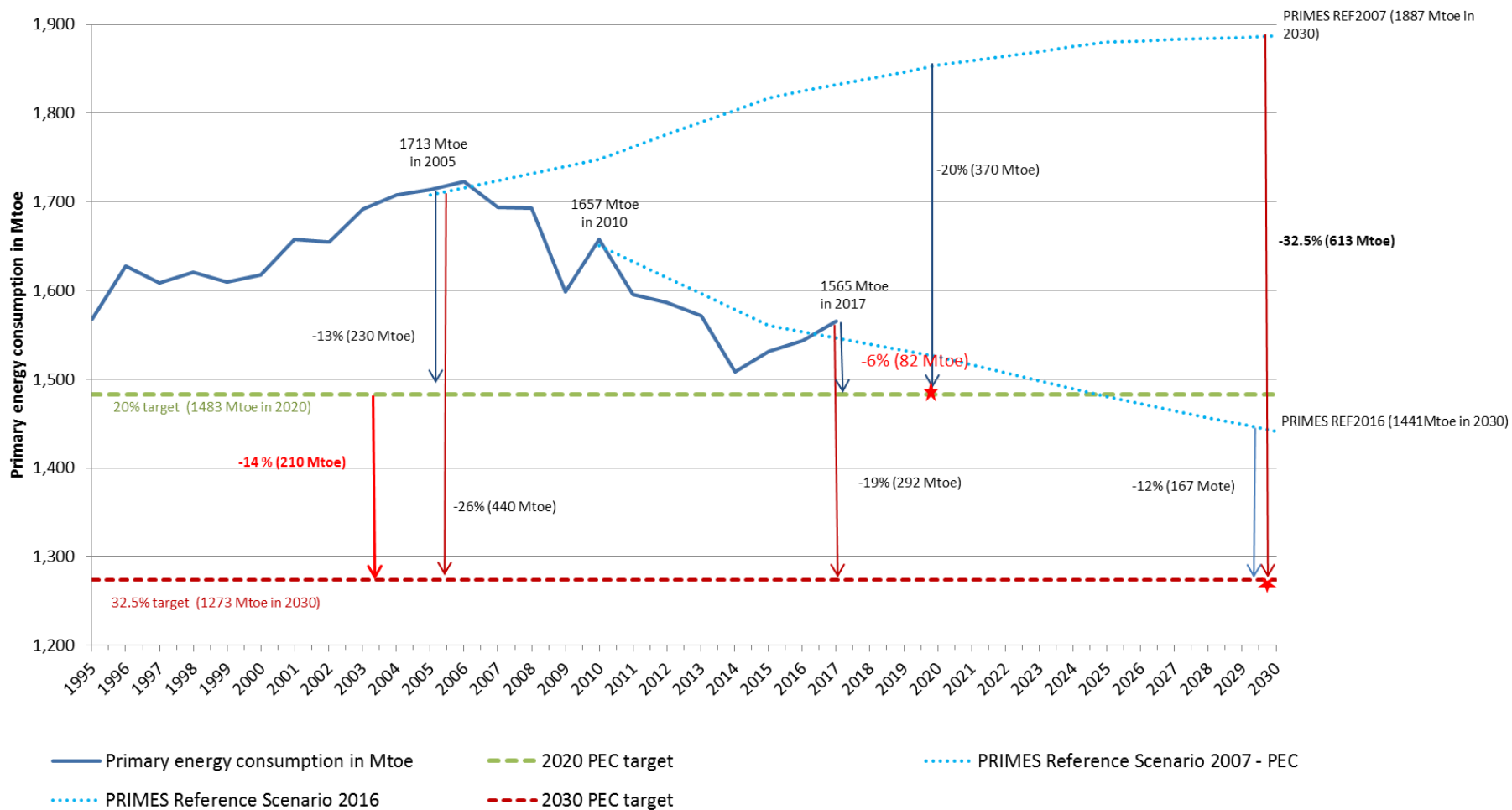
### MAIN CHANGES

- ✓ A **new energy efficiency headline target** for the EU for 2030 of **32.5%**, with an upwards revision clause by 2023
- ✓ Extended **energy savings obligation** to achieve new annual energy savings of at least 0.8% (of final energy consumption) for the next period 2021-2030 and beyond, coming from new energy efficiency renovations or other measures in end-use sectors (11% more ambitious than in the current period).
- ✓ Strengthened rules on **individual metering and billing of thermal energy** (better information for consumers)

*Member States will then have 18 months to transpose the new elements of the Directive into national law and 22 months for provisions on metering and billing*

# CLEAN ENERGY FOR ALL EUROPEANS

## EU 32.5% Primary Energy Consumption Target



# CLEAN ENERGY FOR ALL EUROPEANS

## National energy efficiency contributions (Governance) – ambition and progress



In case of an ambition gap the Commission may issue recommendations to Member States whose contributions it deems insufficient in the draft plans



If the contributions are insufficient in the final plans, the Commission shall take EU measures



The Commission shall assess the progress made at Union level and made by each Member State by 31 October 2021 and every two years thereafter



*If progress made by Member States towards meeting their targets is insufficient (**individual delivery gap**), the Commission shall issue recommendations to MS concerned*



*Additional assessment in 2022, 2025 and 2027 → if progress towards collectively achieving the Union's target is insufficient the Commission shall propose EU measures.*



*In case of **collective delivery gap** the Commission may issue recommendations to all MS and if appropriate take EU measures.*

## Energy saving obligation (Art. 7, 7a, 7b & Annex V)

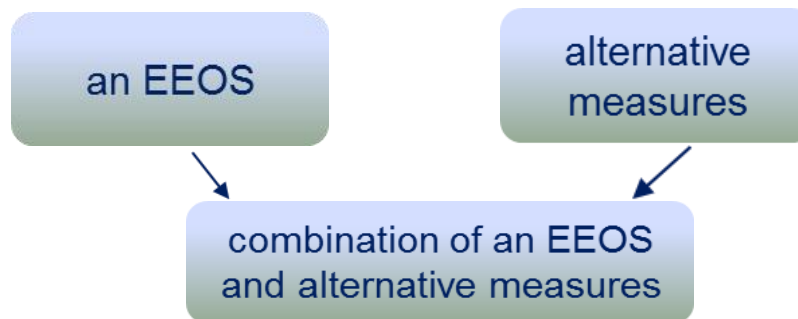
Updated framework for calculation of savings requirements and policy measures



### New structure for amended text on energy saving obligations:

- Article 7 - general rules on the savings requirement
- Article 7a – rules for energy efficiency obligation schemes
- Article 7b – rules for alternative policy measures and
- Annex V - common methods and principles of calculation

### Savings can be achieved via:





## Energy saving obligation (Art. 7, 7a, 7b & Annex V)

Extended obligation beyond 2020 – 0.8% new annual energy savings of final energy consumption



As a minimum Member States should achieve new savings of **0.8%** (each year) from 1 January 2021 to 31 December 2030 and for ten-year periods after 2030, unless reviews by the Commission by 2027 conclude that this is not necessary.

This is about 11% more ambitious than for the 2014-2020 period.



The calculation baseline changed from energy sales to **final energy consumption** (averaged over the three previous years before 2019) which also covers the energy use in transport.



Art. 7 allows a range of possibilities (Art. 7(2)&(4)), including calculating the energy savings obligation from energy sales, as long as the **net new savings equal 0.8%** per year are achieved.

## Metering and billing (Art. 9-11 & Annex VIIa)

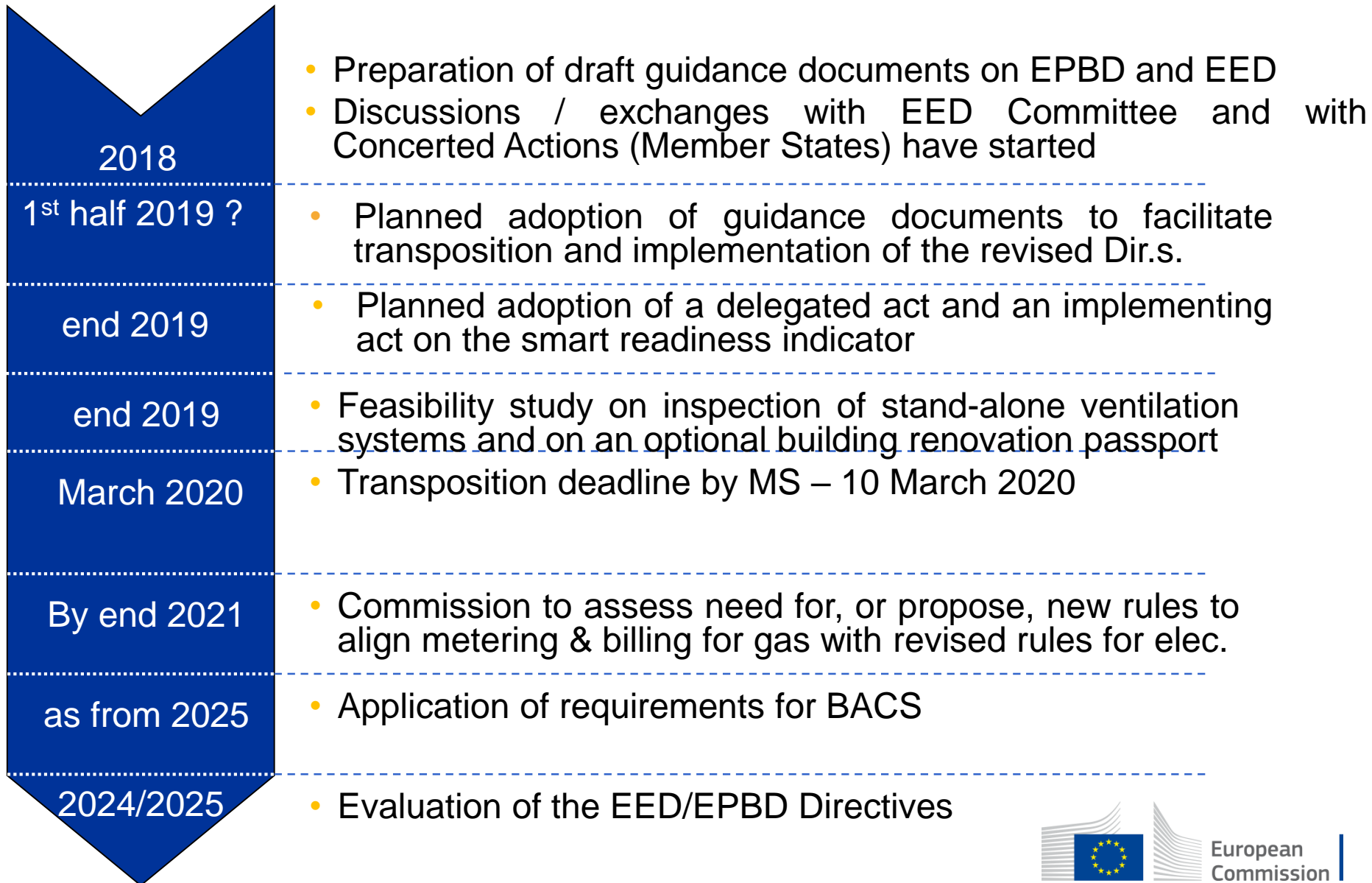
### Clearer and strengthened rules - empowering and informing consumers



- ✓ **Clarification** of requirements related to metering and billing of thermal energy e.g. district heating network/common boiler in multi-apartment buildings.
- ✓ Rights also applicable to consumers in multi-apartment or multi-purpose buildings supplied from central sources who have no direct/individual contract with the energy supplier ("**final users**" vs "**final customers**").
- ✓ MS must ensure transparent, publicly available **rules on cost allocation** for multi-occupant buildings supplied from central sources (important for acceptance/successful implementation of sub-metering).
- ✓ Right to **more useful, informative bills** based on actual consumption/heat cost allocator readings at least once per year, including: **comparisons of consumers' consumption** with **previous year** and with **other consumers**, information on **complaints procedures**, information on **fuel mix** and related **greenhouse gas emissions**.
- ✓ **Remote-reading** to become standard – access to consumers' individual premises must no longer be necessary to obtain device readings.
- ✓ **Frequent billing or consumption information**  
– monthly from 2022 where devices are remotely readable

# CLEAN ENERGY FOR ALL EUROPEANS

## (SELECTED) NEXT STEPS – EED/EPBD



## Conclusion

Some key take aways..?

- Buildings – new AND existing – are key to succesful decarbonisation
- The EU's new regulatory framework for 2030 provides new momentum to get onto the decarbonisation path – and up in speed
- Buildings smartness, automation and control will play an increasing role.
- Sub-metering/consumer feedback remains important but its role may gradually change



# ENERGY UNION

EnergyUnion #EnergyUnion #EnergyUnion

European Commission  
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## Thank you!

Energy Efficiency Unit  
DG ENER, European Commission

<https://ec.europa.eu/energy/en/news/commission-proposes-new-rules-consumer-centred-clean-energy-transition>