



Demand-side energy policies and strategic approach in the European Union

EMAK Workshop

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Tudor Constantinescu

European Commission – DG Energy



Evolution of Demand-side energy policies and strategic approach in the European Union

- Relevance of demand side flexibility in the EU
- The reform of the electricity market design
- Smart metering
- REPowerEU
- Recast EED and RED
- Recast EPBD
- Digitalisation Action Plan
- Heat pumps Action Plan

In figures

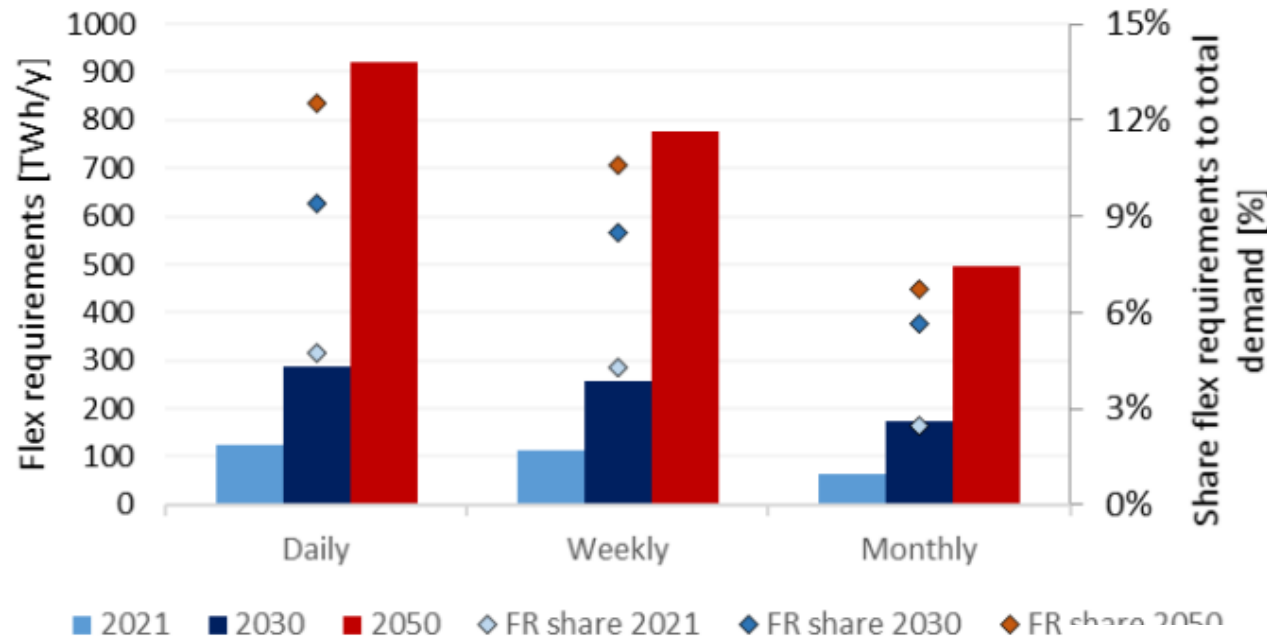
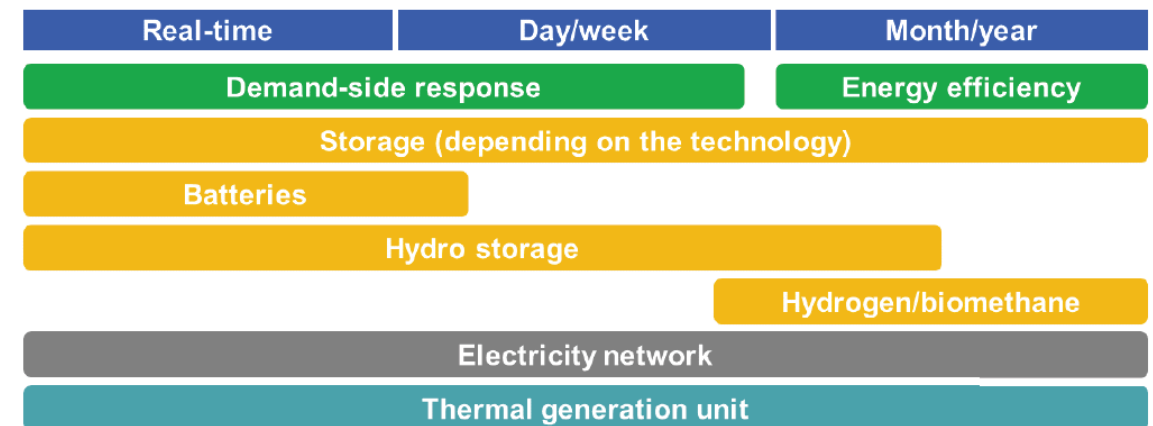


Figure 18: Flexibility services provided by various technologies



Increase of flexibility needs - Source: JRC

Source: ACER.

Note: The list of technologies is non-exhaustive (with e.g. the storage category covering several different technologies). As mentioned, coupling electricity with other energy sectors (sector integration) may provide significant flexibility services.

Relevance of demand side flexibility in the EU

- **CLEAN ENERGY PACKAGE (2019)**
- **Electricity Directive (EU) 2019/944** and the **Electricity Regulation (EU) 2019/943** Demand response contributed to providing system flexibility. System flexibility is key because:
 - accelerated deployment of electricity from renewable energy sources
 - increased electrification of end uses
- Demand response can help to tackle volatility of wholesale electricity prices, bring benefits, contribute to balance the system and to relieve congestions in grids.

The reform of the electricity market design

→ Boost non-fossil flexibility: accelerate RES, impact positively the prices, bring system/grid services

Enhance non-fossil flexibility sources, such as demand response and storage

- Assess the **need for flexibility** in the electricity system
- **Indicative national objective** for demand side response and storage.
- MS may apply **support schemes** for available non-fossil flexibility capacity.

Enhance the use of flexibility services by system operators

- **Peak shaving product**
- **Transparency on** connection capacity and connection requests
- **Network tariffs** to incentivize the use of flexibility services
- **Dedicated metering**: System operators can use the data from dedicated metering devices for the observability and settlement of demand response and flexibility services.

Create more opportunities for trading (of renewables and flexible sources)

- Cross-border **intraday trading closer to real time**
- The EMD reform includes measures aiming to make flexibility solutions and smart energy services more accessible to consumers and improve available tools: Provides for more than one metering/billing points; Provides for the use of dedicated measurement devices possibly embedded into appliances; community and self-consumption schemes

Smart Meter Deployment: state of play

Rollout figures

- > 50% penetration rate for electricity smart metering in the EU-27 (over 130 million smart meters)
- Smart metering rollout plans and actual rollout rates diverge widely in the EU - see for example figures in ACER/CEER MMR (September 2023)
- In 12 Member States the installation rate of electricity smart meters to householders had reached more than 80% (2022)
- Denmark, Estonia, Spain, Finland, Italy, Sweden, Latvia, Luxembourg recorded a 98% roll-out rate or higher, followed by, Malta, France, Slovenia and the Netherlands, with roll-out rates between 88% and 93%

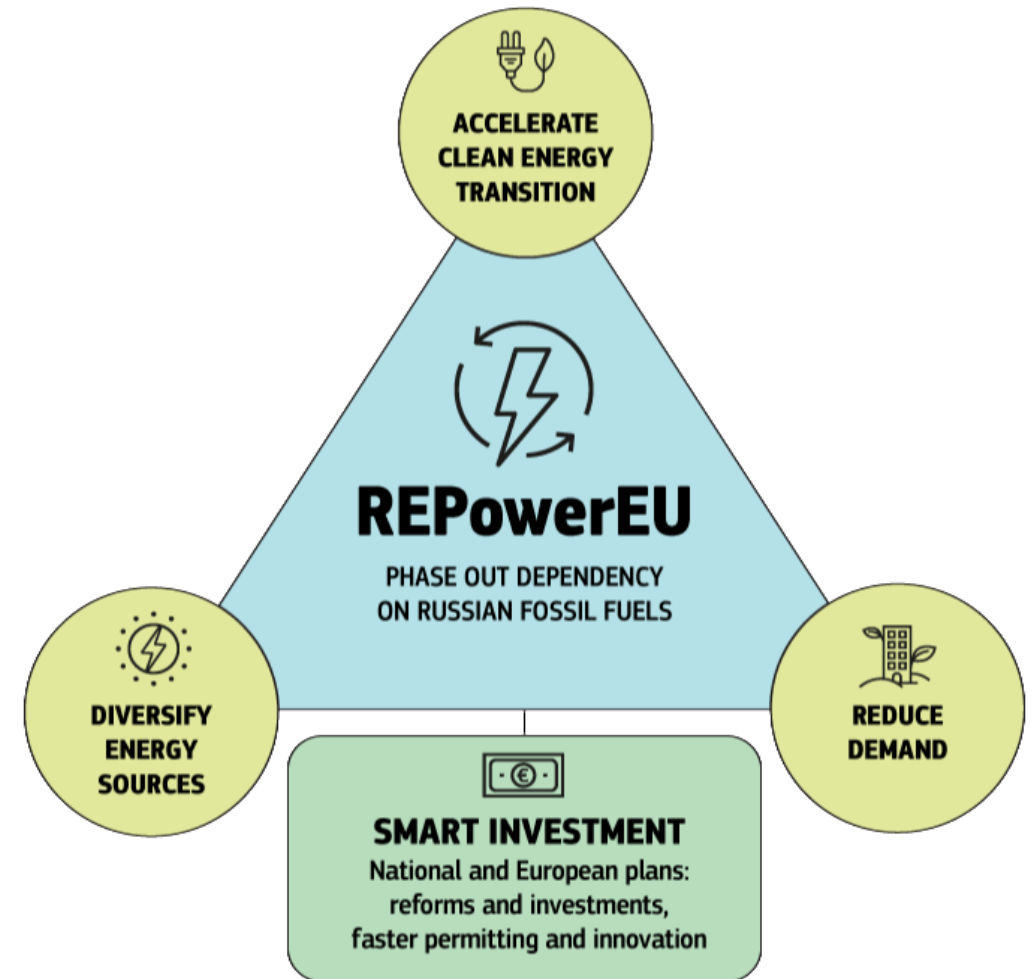
RePowerEU, Communication (March 22) and Plan (May 22)

Key Measures:

- ✓ EU solar strategy, action on permitting,
- ✓ EU Save Energy Communication,
- ✓ Communication on Short-Term Energy Market Interventions and Long Term Improvements to the Electricity Market Design
- ✓ EU Energy Platform

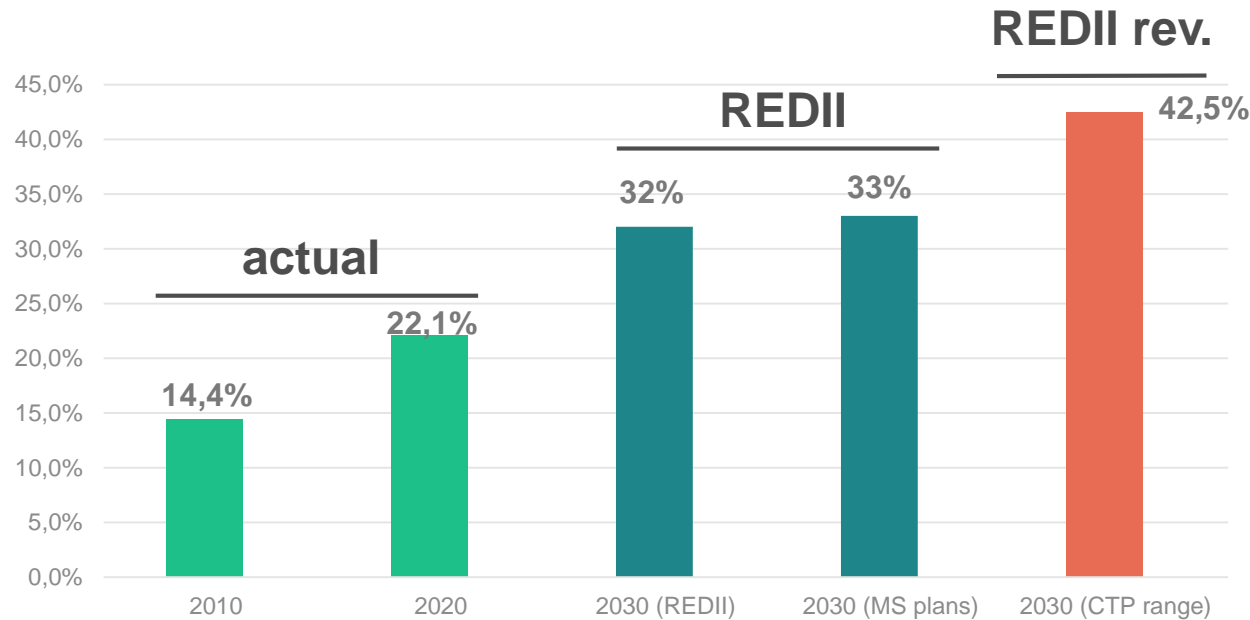
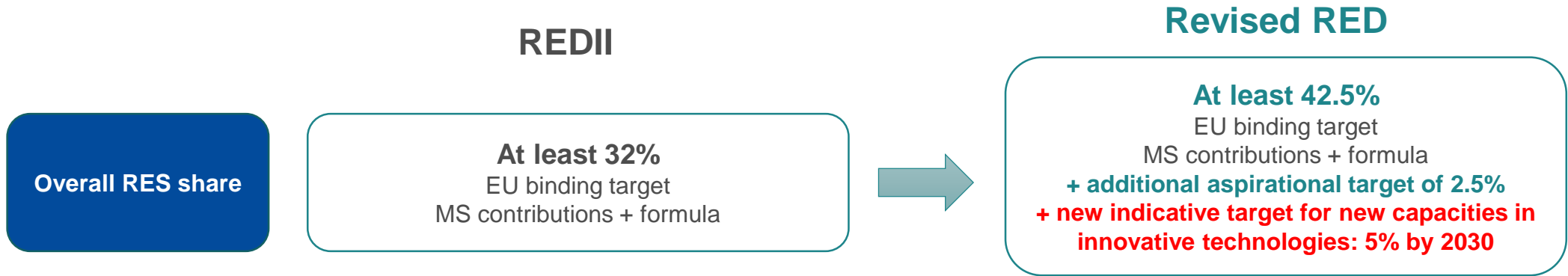
Key Goals:

- ❖ Increase the EU 2030 target for renewable energy from 40% to **45%**
- ❖ Deployment of **wind and solar** energy in power sector
- ❖ Accelerated installation of **heat pumps** (10 mln by 2025)
- ❖ Renewable **hydrogen accelerator** (10 mln t. of domestic production and imports by 2030)

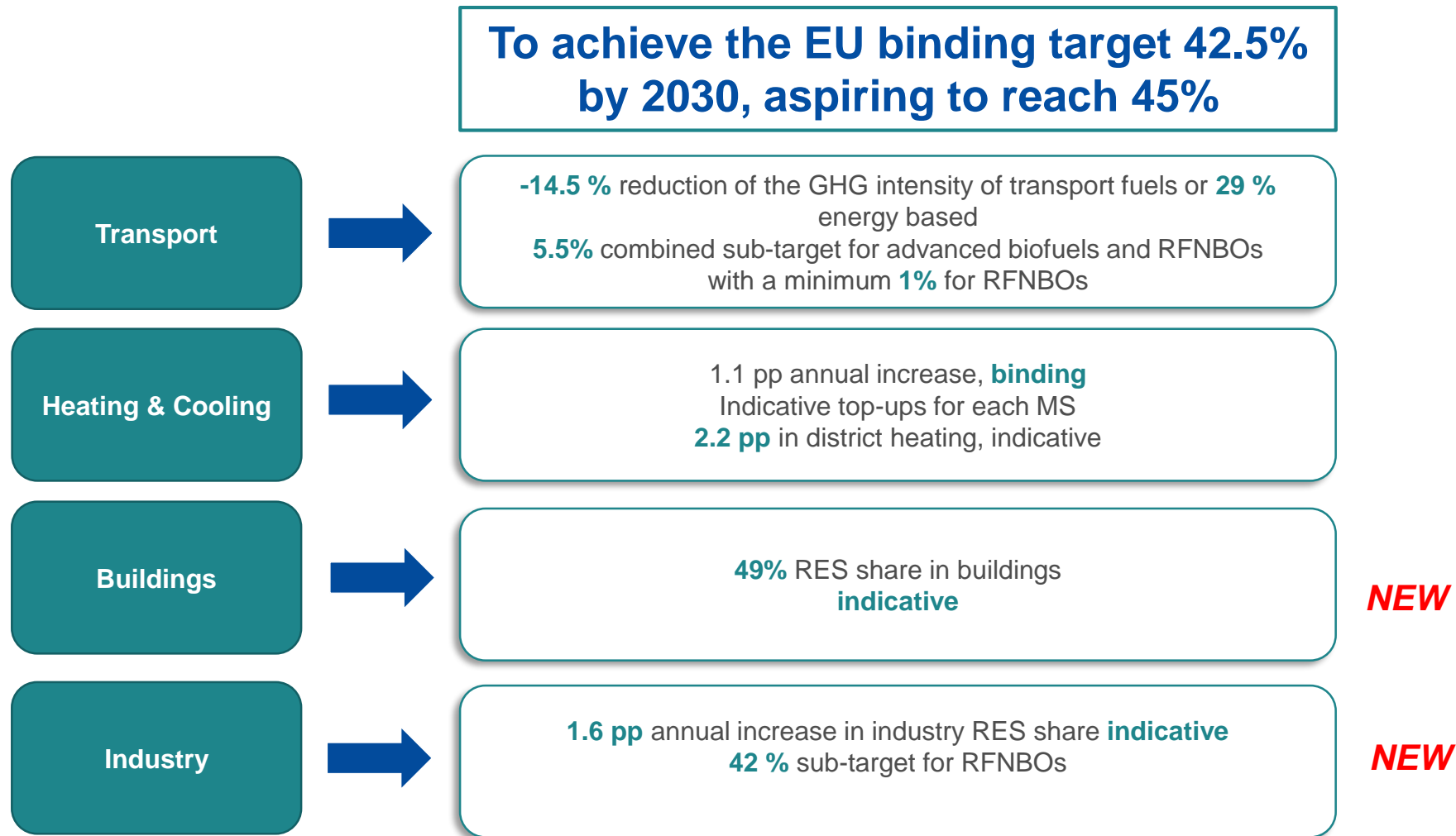


New renewable energy EU target for 2030

RED III entered into force November 2023



Sectorial targets: overview



EED revision

Objectives:

- Reap unexploited energy savings potential across the economy
- Reflect the increased energy efficiency ambition from the Climate Target Plan
- Provide MS with measures compatible with the increased ambition towards 2030 climate target 55%

Main elements of the EED

Binding EU energy efficiency target & indicative national contributions

'Energy Efficiency First' Principle – making it an integral part of policy and investment decisions

Strengthened energy savings obligation in end-use

Stronger exemplary role of public sector

Increased focus on alleviating energy poverty and consumer empowerment

Article 4: EU ambition & targets

2030
baseline
(REF2020)

↓
11.7%
Decrease
in energy
consumption

2030 real
consumption

An indicative
PEC target of
992,5 Mtoe

A binding FEC
target of 763
Mtoe

EED – key demand side measures

- **Art 5 - 7:** Exemplary role of public sector
 - Reduce total final energy consumption of all public buildings by 1,9 % /year
 - Renovate 3% of public building each year
 - Purchase energy efficiency equipment
- **Art 8:** Increase of annual cumulative energy savings obligation by:
 - 1.3% as of 2024
 - 1.5% as of 2026
 - 1.9% as of 2028
- **Art 11:** energy efficiency in industry
 - **Energy management system** : for enterprises, including SMEs, with annual energy consumption > **85TJ**
 - **Energy audit** : for enterprises with annual energy consumption > **10TJ**
- **Art 25 and 26** : Heating and cooling plans
 - Ensure energy efficiency in municipalities with a total population > **45.000**
 - Definition of an efficient district heating and cooling → **17.000** district heating systems in EU

EPBD revision: focus areas

Renovation

- Minimum Energy Performance Standards
- Energy Performance Certificates
- National Building Renovation Plans and renovation passports for individual buildings

Decarbonisation

- Introduction of zero-emission buildings as new standard for new buildings
- Consideration of whole life cycle carbon
- Phasing out incentives for fossil fuels and new legal basis for national bans

Financing

- Sustainable finance and energy poverty alleviation
- Deep renovation standard
- Renovation passports for individual buildings

Modernisation & system integration

- Infrastructure for sustainable mobility
- Smart Readiness Indicator
- Indoor air quality: ventilation and other technical building systems

Revision of Energy Performance of Buildings Directive

- **7/12** : 4th political trilogue, **provisional agreement reached**
- Next steps :
 - Formal adoption envisaged in Q1 2024
- Transposition deadline : **indicatively mid 2026** (24 months after entry into force)
- Please refer to the press release for more details:
- https://ec.europa.eu/commission/presscorner/detail/en/ip_23_6423

Trilogues

Meetings of representatives from the



Council (presidency)



European Parliament



European Commission

Main provisions on **existing** buildings

Minimum Energy Performance Standards

- Differentiated approach for non-residential (**16% worst-performing buildings by 2030 and the 26% by 2033**) and residential buildings (**16% by 2030 and 20-22% by 2035**).
- Supporting framework with a focus on vulnerable households
- Exemptions (for protected buildings, temporary use, worship, etc...)

Zero-emission buildings

- > require zero or a very low amount of energy and
- > has zero on-site carbon emission from fossil fuels.

- > new standard for new buildings
- > 2050 vision for building stock

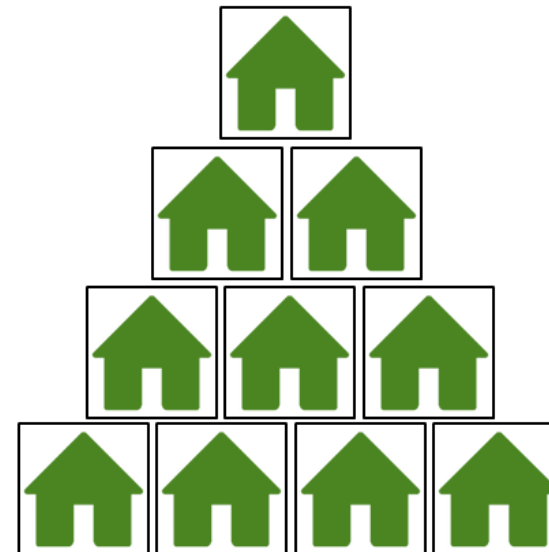
Gradual introduction of life-cycle Global Warming Potential (GWP) calculation and indication



G class building



Powered by renewables
zero direct CO2 emissions



ZEB building

Solar energy and sustainable mobility

- Solar energy installation will become the norm for **new buildings**
- **Gradual** installation solar energy on **existing buildings**
- Strengthened requirements on the **number of recharging points** in both residential and non-residential building for electric vehicles
- Enable **smart charging** and, where appropriate, **bi-directional** charging.
- Sufficient **parking spaces for bicycles**, including cargo bikes

National Building Renovation Plans

- Replace **Long Term Renovation Strategies**
- Common and harmonised template with national targets and key mandatory indicator
- MS to set up timelines for further improvement of their building stock after the “MEPS deadlines”
- 2 stages submission : draft and final 1 year later
- Commission may issue **recommendations** on draft to support MSs
- set up **building renovation passport schemes**
- establish **one-stop-shops** for home-owners, SMEs, and all actors in the renovation value chain, to receive dedicated and independent support and guidance
- MS to set out specific measures to **phase-out of fossil fuels in heating and cooling** by 2040

Digitalisation action plan

- Adopted in October 2022, in addition to the emergency interventions to tackle high energy prices, includes 24 key actions to coordinate and accelerate the digital and sustainable transformation of the EU's energy system.
- Digital technologies can unleash the full potential of flexible energy generation and consumption in different sectors and enable more use of renewable energy.
- This action plan will help develop a competitive market for digital energy services and digital energy infrastructure that are cyber-secure, efficient and sustainable.
- It supports energy system integration, participation of 'prosumers' in the energy transition and ensure interoperability of energy data, platforms and services.

Heat Pumps action plan

- The use of efficient heat pumps in buildings, industry & local heat networks is key for cutting greenhouse gases and achieving the Green Deal & REPowerEU targets.
- The action plan on accelerating the heat pump market and deployment sets out 4 strands of action:
 1. partnership between the Commission, EU countries and the sector (including R&I)
 2. communication to all interest groups & a skills partnership for rolling out heat pumps
 3. legislation (ecodesign & energy labelling)
 4. accessible financing.

Thank you

tudor.constantinescu@ec.europa.eu



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