IENE-TEE WORKSHOP SESSION C

EU's experience in energy savings in buildings

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Online

BPIE

BUILDINGS PERFORMANCE INSTITUTE EUROPE

Who we are, what we do

EUROPEAN
NON-PROFIT
THINK-TANK

POLICY ADVICE
ON BUILDING
REGULATION,
FROM DESIGN TO
IMPLEMENTATION

BRUSSELS
AND
BERLIN

INDEPENDENT
RESEARCH AND
ANALYSIS

IMPROVING THE
ENERGY
PERFORMANCE
OF BUILDINGS
ACROSS EUROPE

IN OPERATION
SINCE 2010

EU's experience in energy efficiency in buildings

Structure of the presentation

The Energy Performance of Buildings Directive (EPBD) in a nutshell

What BPIE did, does and will do to help with EPBD implementation

A brief outlook to the EU/Brussels context

1. THE EPBD IN A NUTSHELL

A brief history

2002

First adoption
Improve building energy efficiency from EU level
EPCs & minimum standards

2010

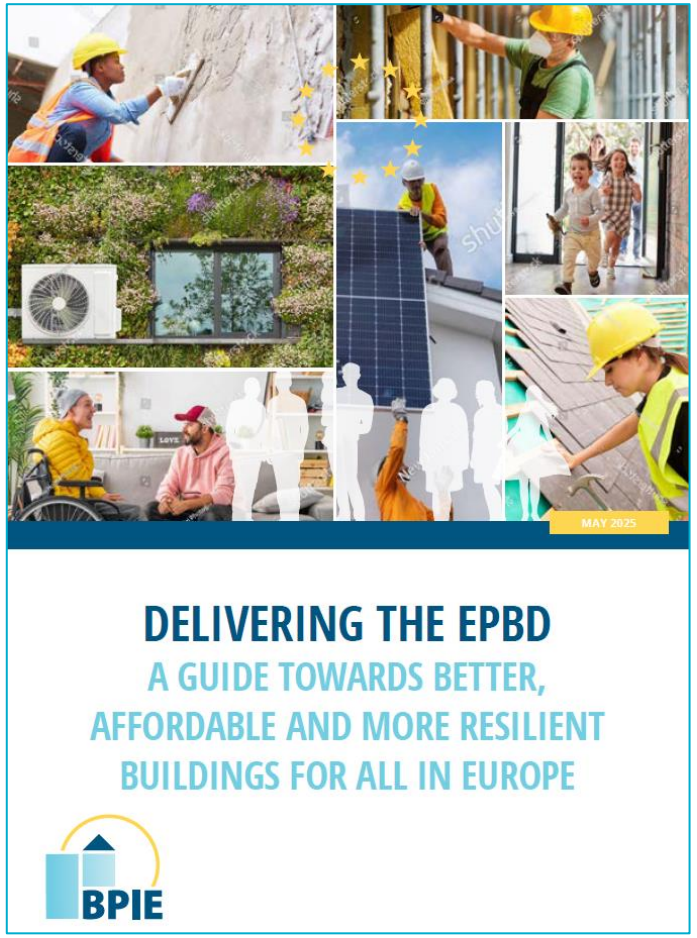
Nearly zero-energy buildings (NZEB)
01/01/2021 NZEB target for construction

2018

Smart readiness indicator (SRI)
E-mobility infrastructure
Long-term renovation strategies

1. THE EPBD IN A NUTSHELL

The 2024 edition (transposition ends May 2026)



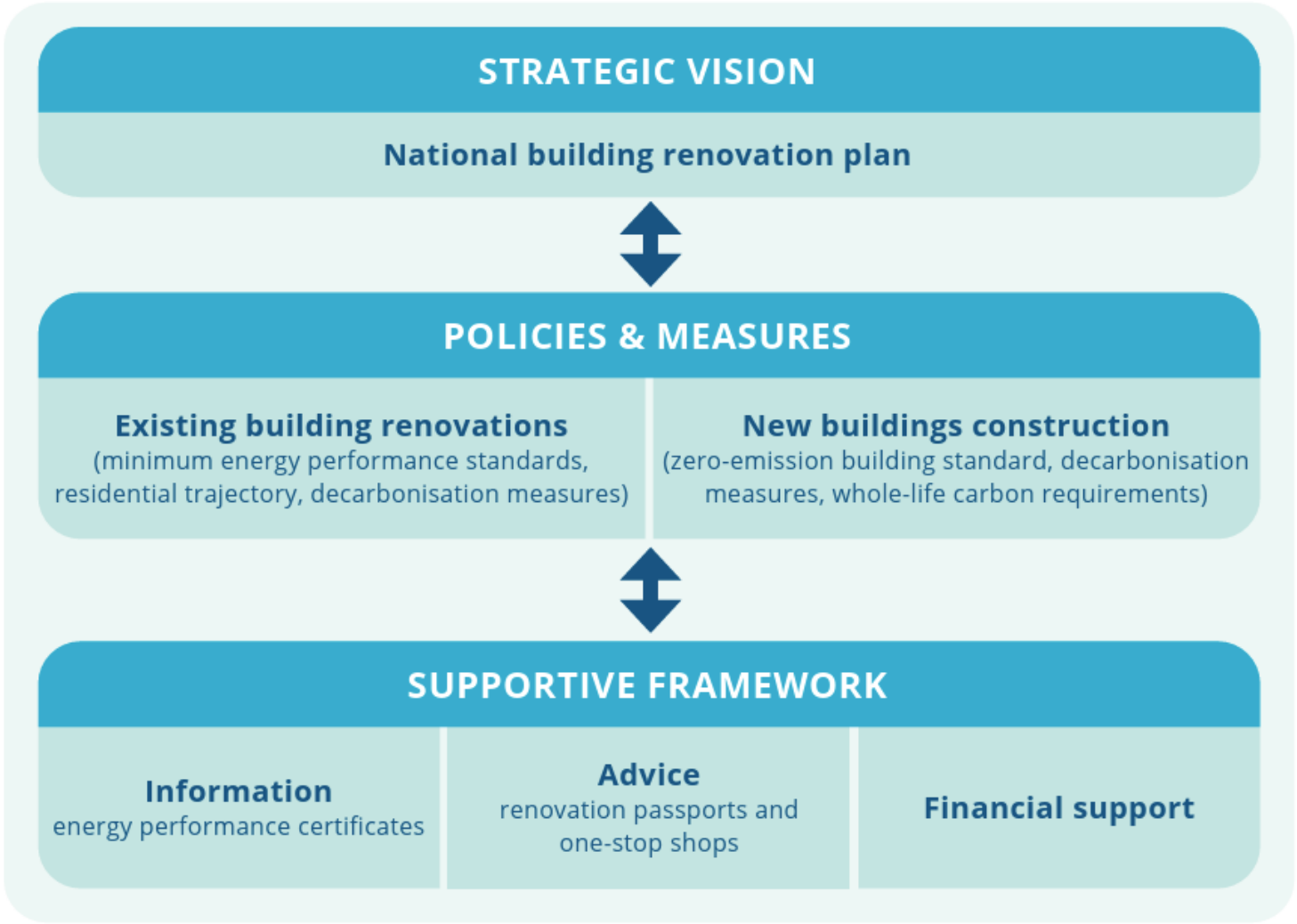
BPIE's Guide
(published May 2025)

Including…
80+ recommendations
60+ good practice examples

SCAN ME

1. THE EPBD IN A NUTSHELL

The 2024 edition



1. THE EPBD IN A NUTSHELL

National Building Renovation Plans

Vision, objectives, targets

- Zero Emission Building stock by 2050
- Complete phase out of fossil fuel boilers by 2040
- At least 49% renewables in EU final energy consumption in buildings in 2030 (reference to REDIII, indicative)
- No requirement for existing buildings to become ZEB by certain dates

Member States are encouraged to set national requirements to phase-out fossil fuel boilers

- Legal basis to set requirements on heat generators or minimum part of renewables used for H&C
- Member States shall strive to replace stand-alone boilers powered by fossil fuels in existing buildings

EPBD incentivises use of renewables in some categories of existing buildings

- Solar mandate for existing public and non-residential buildings

Redirection of financing streams away from fossil fuel-based equipment

- Bans subsidies for the installation of stand-alone boilers powered by fossil fuels (as of 01/01/2025)
- Incentives to encourage switch to solar / non-fossil-fuel based systems

1. THE EPBD IN A NUTSHELL

National Building Renovation Plans

More holistic tool at the centre of strategic action for the building stock

- Integrated planning, reporting and assessment instrument to reach ZEB stock by 2050
- Stronger social focus (indicators on energy poverty, skills)
- Strong transparency dimension (public consultation, link with Building Stock Observatory)

An improved and more detailed content

- More details on existing requirements and new requirements
- Use of EU-wide template (mandatory and optional indicators)

A timeline intended to align with National Energy & Climate Plans (NECPs)

- Derogation for the first NBRP

draft by 31/12/2025, COM assessment by 30/06/2026, final NBRP by 31/12/2026

- Then alignment/integration with NECP

draft plans by 01/01/2028, COM assessment by 30/06/2028, final plans by 01/01/2029

12 Member States so far

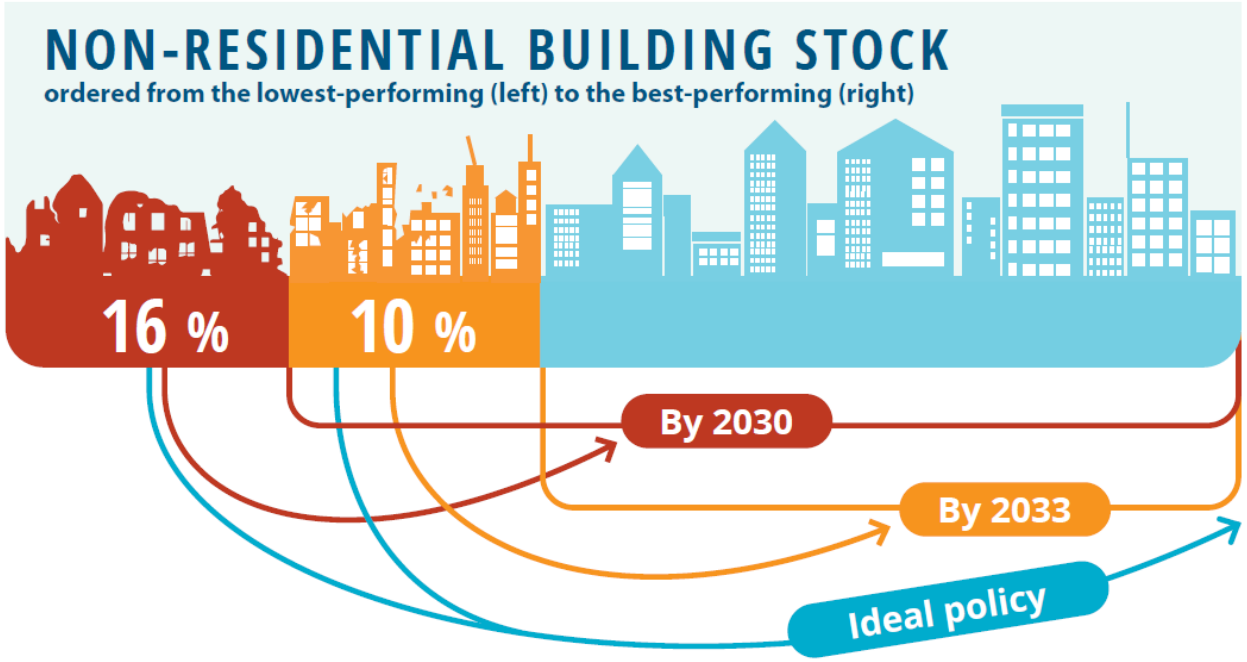
Austria
BE – Wallonia
Bulgaria
Croatia
Cyprus
Denmark
Finland
Lithuania
Netherlands
Romania
Slovenia
Spain

1. THE EPBD IN A NUTSHELL

Renovation requirements per segments

Non-residential buildings

- Member States to set up Minimum Energy Performance Standards (MEPS)
- Renovate 26% of worst performing buildings by 2033 (tranche 1 = 16% WPB by 2030 and tranche 2 = 10% by 2033)
- General exemptions + specific individual exemptions for some non-residential buildings, under some limits
- Compliance checked at individual level based on EPCs or other means



1. THE EPBD IN A NUTSHELL

Renovation requirements per segments

TRAJECTORY FOR THE PROGRESSIVE RENOVATION OF THE RESIDENTIAL STOCK

at least -16% (2020-2030) and -20/22% (2020-2035)

Minimum **55%** savings
from the renovation of
SPECIFIC RESIDENTIAL BUILDINGS

Maximum **45%** savings
from the renovation of
OTHER RESIDENTIAL BUILDINGS

43%
WORST PERFORMING
RESIDENTIAL BUILDINGS

RESIDENTIAL BUILDINGS
AFFECTED BY NATURAL
DISASTERS

Also eligible buildings =
57% BEST PERFORMING
RESIDENTIAL BUILDINGS

Residential buildings: national trajectory to reduce primary energy use

Trajectory to be fulfilled by a mix of regulatory measures (MEPS), financial support, technical assistance

1. THE EPBD IN A NUTSHELL

From NZEB to ZEB Zero Emission Buildings

Timeline: standard to apply to new *public* buildings as of 01/01/2028, and to *all* new buildings as of 01/01/2030

Energy performance

•"*Very high energy performance* […] *zero or very low amount of energy*" (threshold to be set at national level)

• But at least equivalent to most recent cost-optimal levels & primary energy use 10% lower than national NZEB threshold in place in 2024

Sources of energy

•Objective: no on-site carbon emissions from fossil fuels & zero or very low amount of operational GHG emissions

•Eligible energy sources: on-site/nearby RES, RES from energy community, efficient DHC, energy from "carbon free sources". As an alternative: "energy from the grid".

•Solar mandate: by 31/12/2026 for new public and non-residential buildings, by 31/12/2029 for all new residential buildings

Other aspects for new buildings

•Lifecycle thinking: as of 2030, lifecycle GWP calculated and disclosed through EPC, and limit values set by Member States based on common methodology

•Offer flexibility re: energy grid integration

1. THE EPBD IN A NUTSHELL

Energy Performance Certificates

An increasingly common approach to EPC scales, with some national flexibility retained

- Recalibration of EPC classes from 'A' to 'G' only
- "*Appropriate distribution of energy performance indicators*" among 'B' to 'F'
- To be commonly used: 'G' = very worst performing buildings at national level, 'A' = ZEB
- Updated scale to apply as of May 2026 (possible derogation until 31/12/2029)

More complete, informative, and useful EPCs

- Energy performance to be expressed in numeric indicators of both primary and final energy use
- Common EPC template to be used as of May 2026
- Widened scope of EPC recommendations
- Strengthened provisions linked to quality control of EPCs (validity and availability)

Improvements are unfortunately restricted to a small number of EPCs

- Trigger points for issuing EPCs increased (major renovation + renewal of rental contracts)
- EPC lifespan remains 10 years → EPCs issued according to two scales will co-exists until around 2036
- By default, EPCs are issued through on-site visit but it can be carried "*by virtual means with visual checks*"
- Improvements to EPC content will materialise for small number of EPC and very gradually

1. THE EPBD IN A NUTSHELL

Renovation Passports

Definition for Renovation Passport

- *"Tailored roadmap for the deep renovation of a specific building in a maximum number of steps that will significantly improve its energy performance"*
- Outlines how, in a few steps, an existing building should be renovated into ZEB

Common EU framework for Renovation Passport

- Mandatory national schemes to be introduced by 29 May 2026
- But voluntary use by building owner

Quality principles ensured

- Social fairness: Member States shall ensure Renovation Passports are affordable and shall consider providing support to vulnerable households
- Coordination with other tools (especially EPC)
- Balance between forward looking (digital) approach and safeguards (on-site visit by qualified or certified expert)

1. THE EPBD IN A NUTSHELL

One Stop Shops

Who is responsible for setting up OSS?

- Member States, with private stakeholder allowed to be involved
- Commission to provide guidelines with the objective of "*creating harmonised approach*" (published in March 2026)

How are OSS rolled out and to whom are they addressed?

- Minimum 1 OSS per region and per 80,000 inhabitants
- For 1) public actors, 2) homeowners/households (particular focus on people affected by energy poverty), 3) private entities (financial and economic organisations, including SMEs)

What services should OSS provide?

- Streamlined information, independent advice, holistic support
- Technical and financial solutions at all stages of renovation projects (focus on worst-performing buildings)
- Optional goals: accompany "district renovation programmes" + promote education and training

What role should OSS play within the renovation ecosystem?

- More prominence within EPBD (separate article) + support delivery of other provisions (MEPS)
- Links between OSS and EPCs & Renovation Passports to boost use of OSS

1. THE EPBD IN A NUTSHELL

Financing

A more strategic role for a diverse financial framework

- Investing for the ZEB stock by 2050
- Member States to use NBRPs as investment strategies
- Member States to promote diverse set of financing instruments (mortgage portfolio standards, pay-as-you-save schemes, on-bill schemes, reduced tax rates, etc.)

'Higher impact, higher support': a quality principle undermined by alternatives

- Re-direction of financing streams away from fossil fuels in H&C
- Member States shall incentivise (staged-) deep renovation with higher support
- But also "*sizeable programmes [high number of buildings with] at least 30% reduction primary energy use*"

Financing to support the renovation ecosystem, with social considerations

- Promote education & training, ensure affordability of EPCs & Renovation Passports, address upfront costs
- Target as priority vulnerable households, people affected by energy poverty, social housing
- Introduce safeguards (e.g., caps on rent increase, rent support)

1. THE EPBD IN A NUTSHELL

Social fairness: a cross-cutting consideration

More recognition for energy poverty

- Official legal definitions (energy poverty as in EED, vulnerable households)

Strong emphasis on renovation of worst-performing buildings

- 55% of savings in residential trajectory to come from 43% worst performing residential buildings

Ensuring affordability of information & advisory services

- Affordability of EPCs/Renovation Passports and specific support to vulnerable households
- Mandatory support framework for MEPS focus on vulnerable households, energy poverty, social housing

Social safeguards

- Penalties to consider financial situation of homeowners
- Member States to provide protection for tenants
- Member States to monitor social impacts of building decarbonisation policies (MEPS but also indicators on energy poverty and skills in NBRPs)

2. BPIE'S WORK ON EPBD IMPLEMENTATION

What we did recently

Assessment of Long-Term Renovation Strategies (compliance and ambition)

Assessment of NZEB compliance and ambition

Advice on building a database on energy performance of buildings (Germany)

Renocally project: support to municipalities in Bulgaria, Romana, and Slovakia to develop Renovation Passports

2. BPIE'S WORK ON EPBD IMPLEMENTATION

What we do now

JustReno project

- Hungary, Poland, Romania
- How to prioritise the renovation of worst-performing buildings occupied by vulnerable households

ComActivate projects

- Cities in Bulgaria, Hungary, Lithuania
- Focus on multi-apartment buildings and energy poor households

World Bank project

- Worked with its Community of Practice on Energy Efficiency in Buildings
- EU countries, Balkan region, Turkey, Central Asia
- Training to government officials

EPBD.wise project

- Bulgaria, Greece, Hungary, Poland Romania, Ukraine
- Providing guidance to and training national administrations on key aspects of EPBD

3. AN OUTLOOK TO THE EU CONTEXT

The context

Energy crisis

- Geopolitical tensions
- Oil and gas very expensive
- Impact on economy

Housing crisis

- Between 2013 and 2024, house prices increased by 60% and average rents by 20% (Commission data)
- Existing building stock under-used
  (34% of EU population lives in underoccupied homes, average office occupancy rate of 57% - BPIE data)

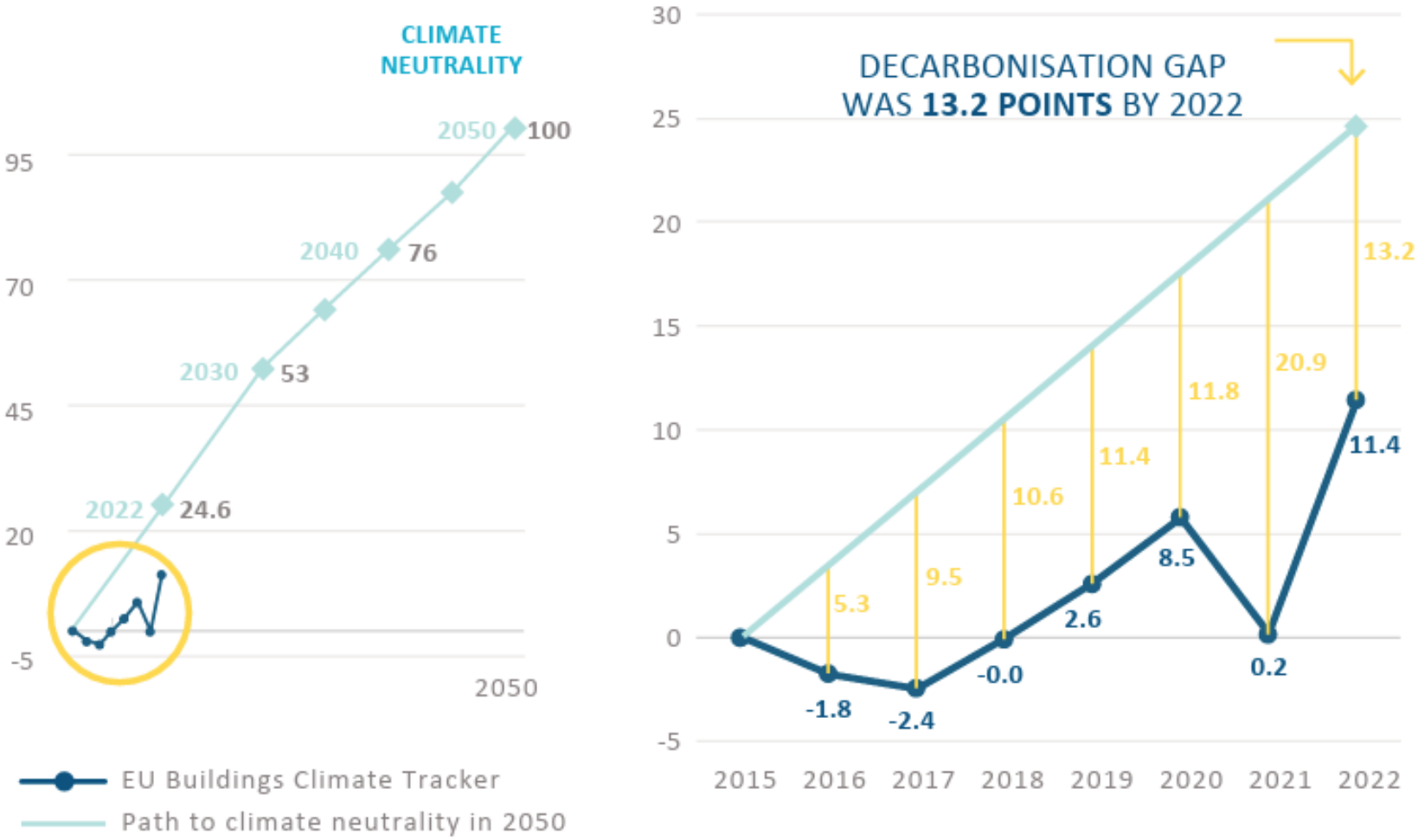
3. AN OUTLOOK TO THE EU CONTEXT

A still ongoing climate crisis

BPIE's
EU Buildings Climate Tracker
Read 3rd edition here
4th edition coming in May!

The building sector is lagging behind on climate goals, with key indicators (CO2 emissions, final energy consumption, renewable energy share and renovation investments) – over 40% behind 2030 and 2050 target pathways

Figure 1: EU BCT results between 2015 and 2022



3. AN OUTLOOK TO THE EU CONTEXT

The 'Brussels' response

Emergency toolbox (energy prices)?

Affordable Housing Act

Heating & Cooling Strategy + Electrification Action Plan

Renegotiating energy & climate files

Recommendation on energy poverty

BPIE: from insight to action

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