

6th April 2022

Recipe for success? Minimum energy performance standards to renovate existing buildings

Aceee 2022 International Scorecard Symposium

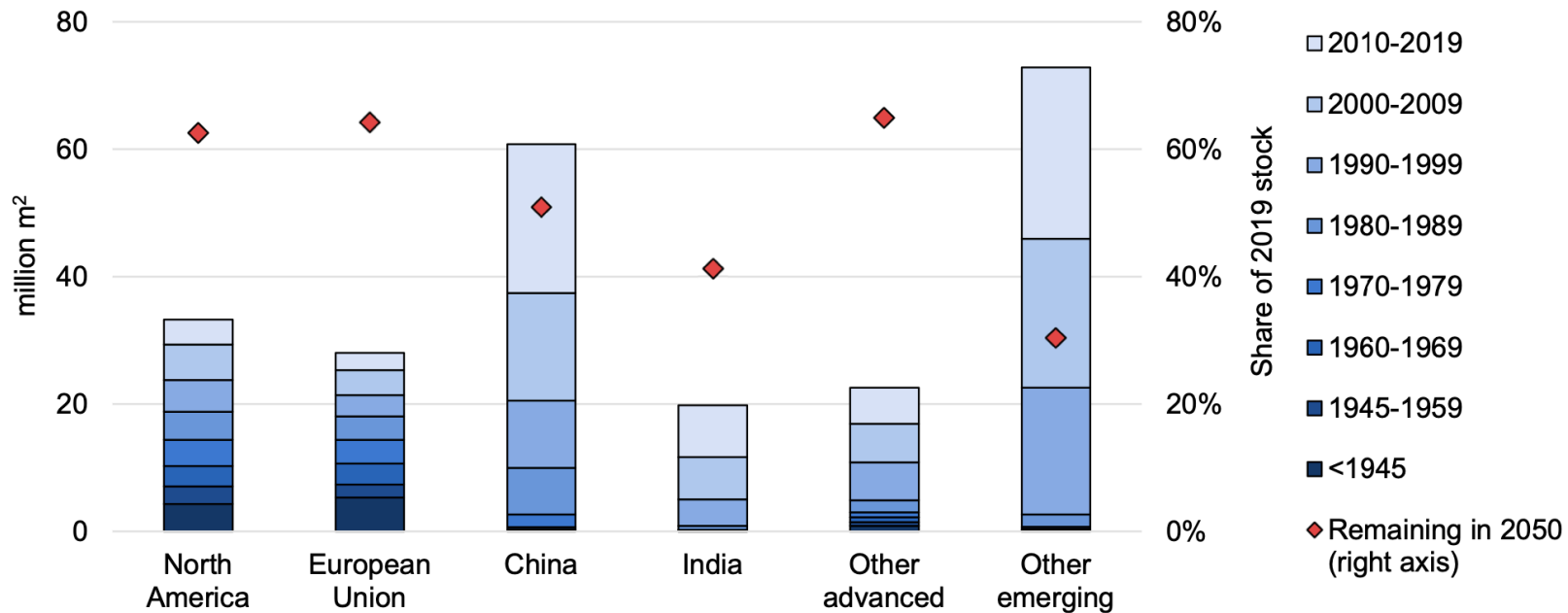
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The challenge of existing buildings

Figure 1.15 Building stock by year of construction and share of stock that remains in 2050



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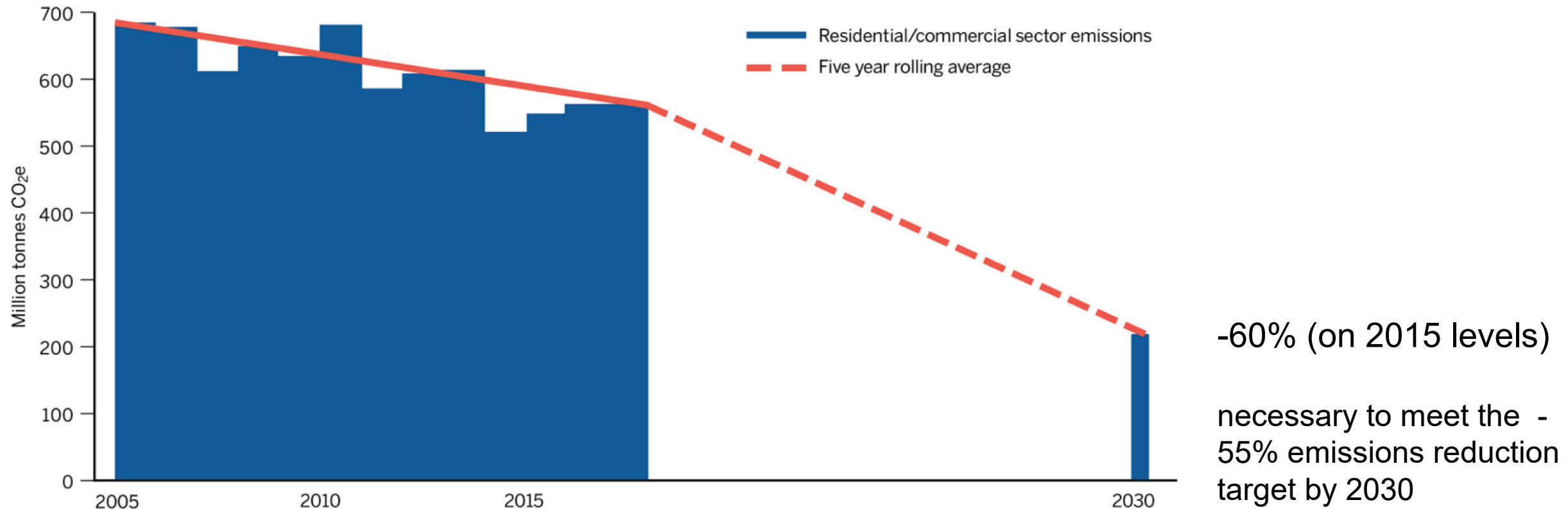
Note: Building floor area covers residential, commercial, services, education, health, hospitality, public and other non-residential sectors but excludes industrial premises.

Sources: Informed by NRCAN (2020), RECS (2020), CBECS (2020), and EU Commission (2020), NBS China (2020).

- ~ 50% today's buildings will be in use in 2050
- 60% was erected when there were no code requirements regarding energy performance

Buildings emissions reductions targets in Europe

Figure 1. Residential/tertiary sector greenhouse gas emissions (million tonnes CO₂e)



Source: European Environment Agency. (2019). *Greenhouse gas emissions by aggregated sector*

Introducing minimum energy performance standards (EU) Building performance standards (US)

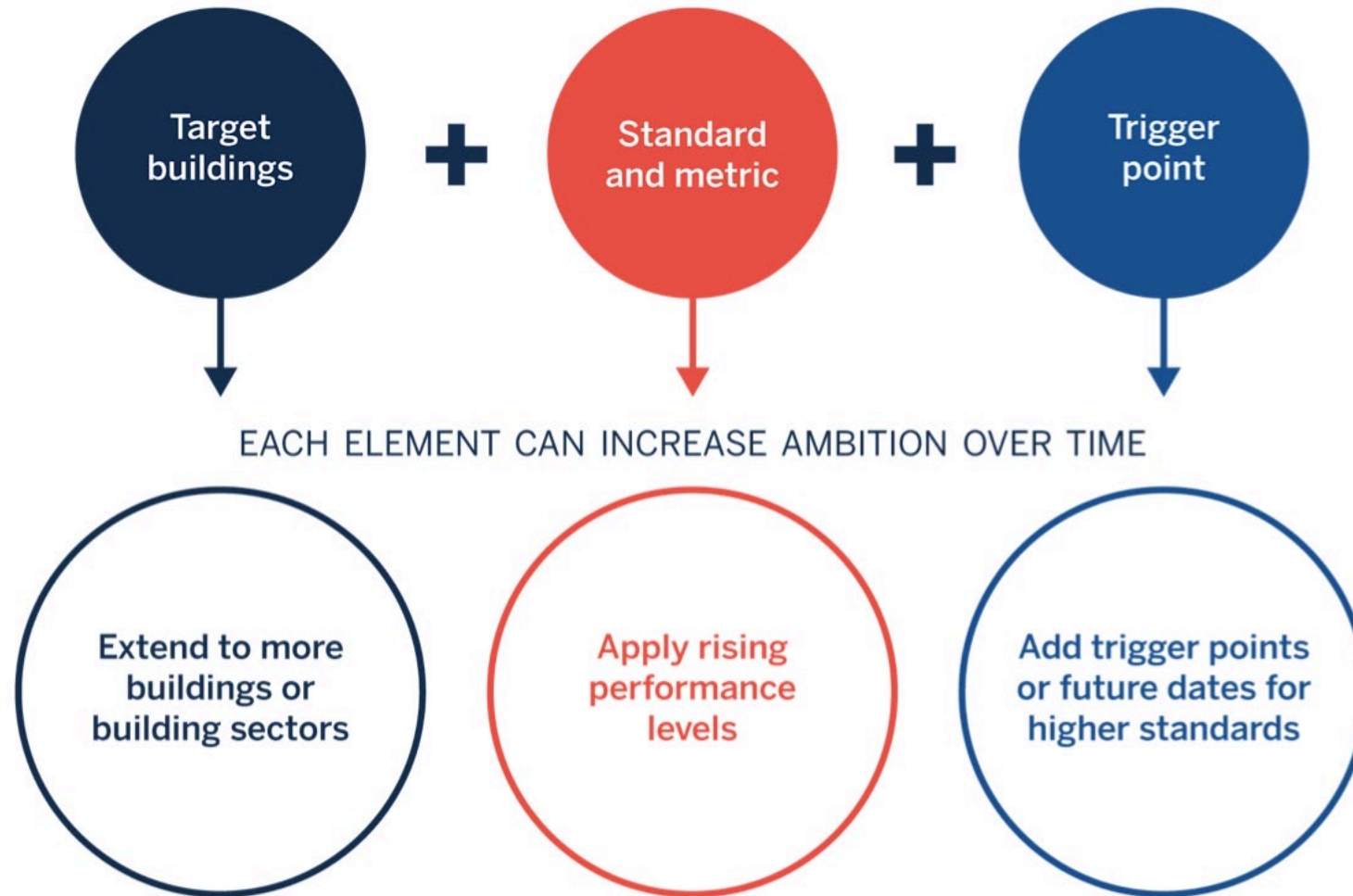
What are minimum energy performance standards?

Regulations that require existing buildings to meet a minimum performance standard at a chosen trigger point and/or date.

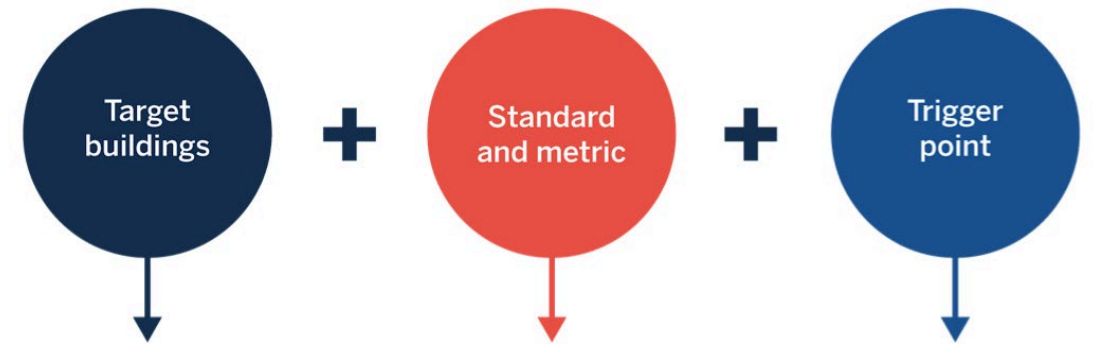
How are they different to building codes?






Apply to the whole building
Apply even when no building work triggers application of the building code

MEPS are made up of three design elements

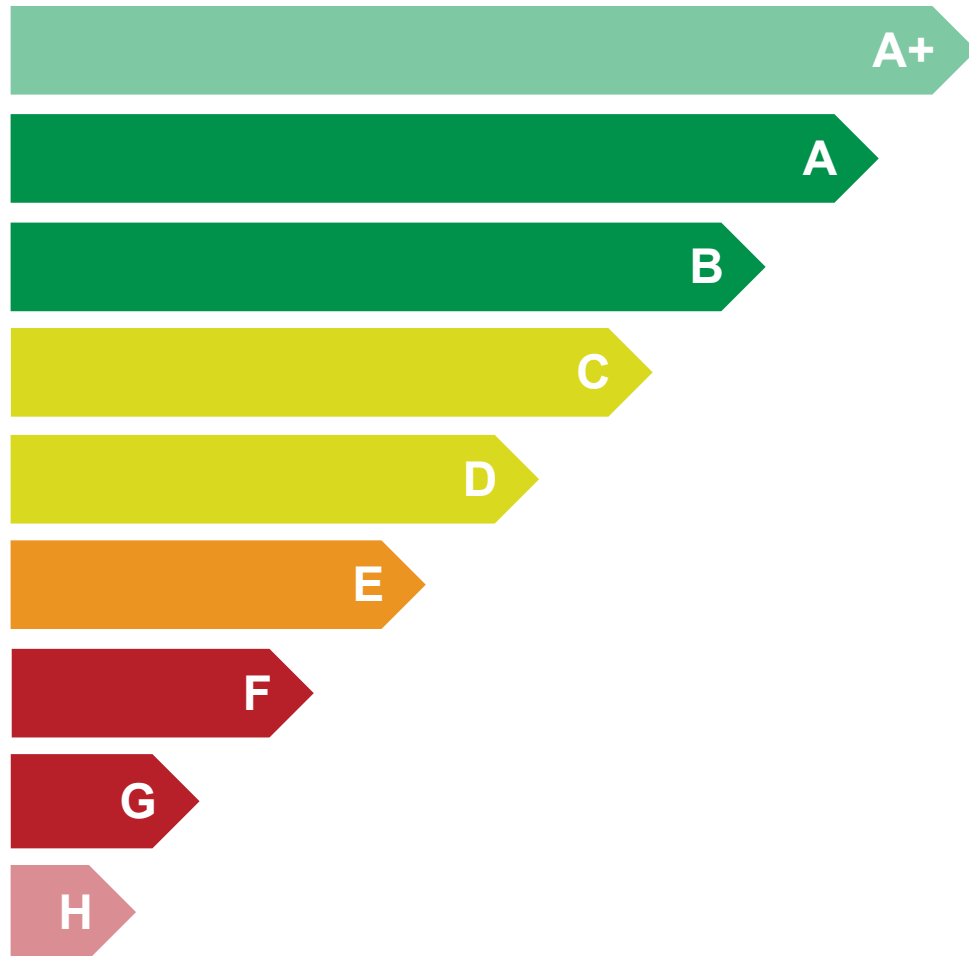


European Countries implementing MEPS, examples



Country	Target buildings	Standard and metric	Trigger point
	Offices	EPC label C	2023
	Private homes	EPC label E	2028
	Privately rented homes	EPC label E	2020
	Privately rented non-domestic	EPC label E	2023
		EPC label B	2030
	All homes	EPC label C	Rented 2028 Owned 2033

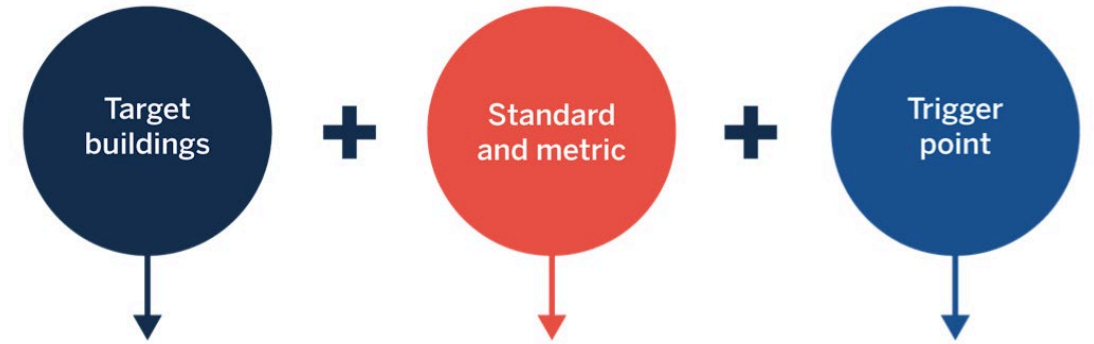
Importance of building labelling and data








EU energy performance certificate framework

- Building assessment and label
- Required at sale or rent
- Letter relates to an energy performance band (kWh/m²/yr) (usually!)
- Not harmonised – specific to national stock condition and climatic region

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Proposal for MEPS for all European Union states

European Energy Performance of Buildings Directive recast proposal, December 2021.

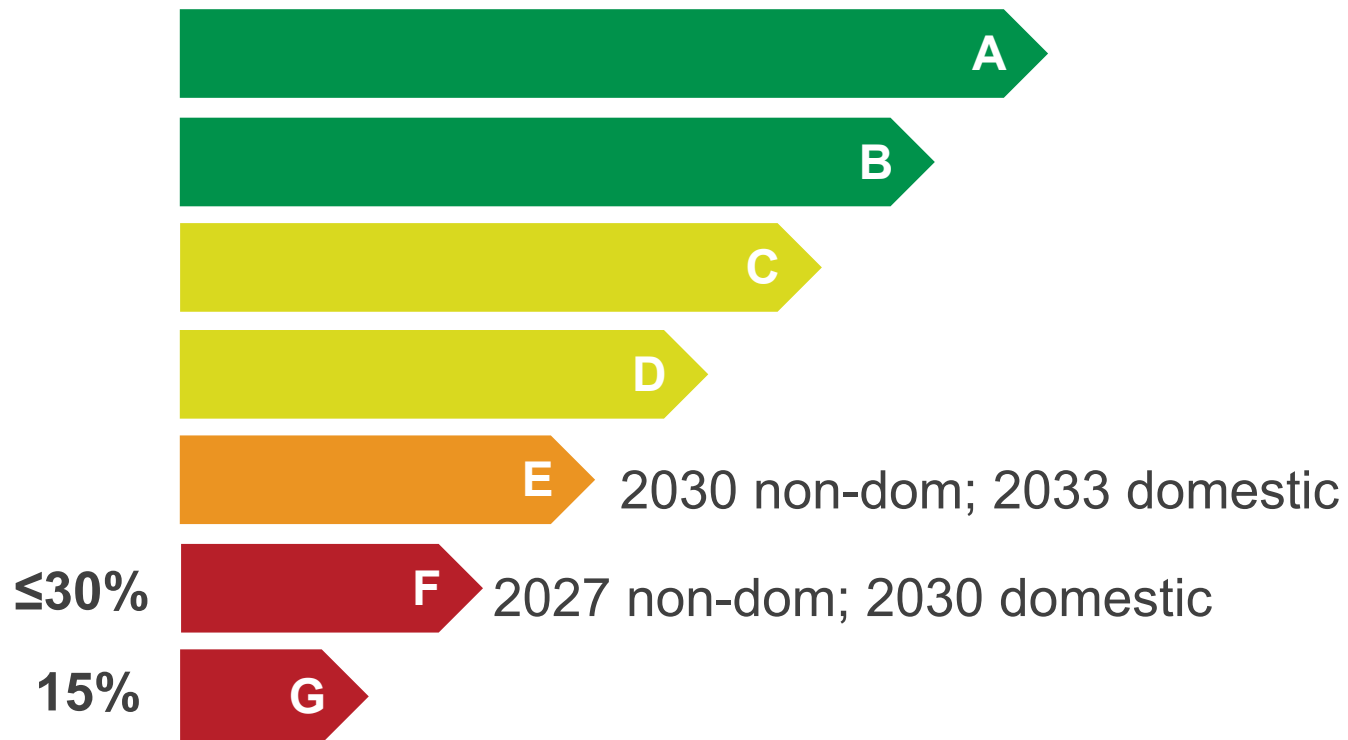
Currently under negotiation

Article 9

Minimum energy performance standards

1. Member States shall ensure that
 - (a) buildings and building units owned by public bodies achieve at the latest
 - (i) after 1 January 2027, at least energy performance class F; and
 - (ii) after 1 January 2030, at least energy performance class E;
 - (b) non-residential buildings and building units, other than those owned by public bodies, achieve at the latest
 - (i) after 1 January 2027, at least energy performance class F; and
 - (ii) after 1 January 2030, at least energy performance class E;
 - (c) residential buildings and building units achieve at the latest
 - (i) after 1 January 2030, at least energy performance class F; and
 - (ii) after 1 January 2033, at least energy performance class E;

Proposal for MEPS for all European Union states

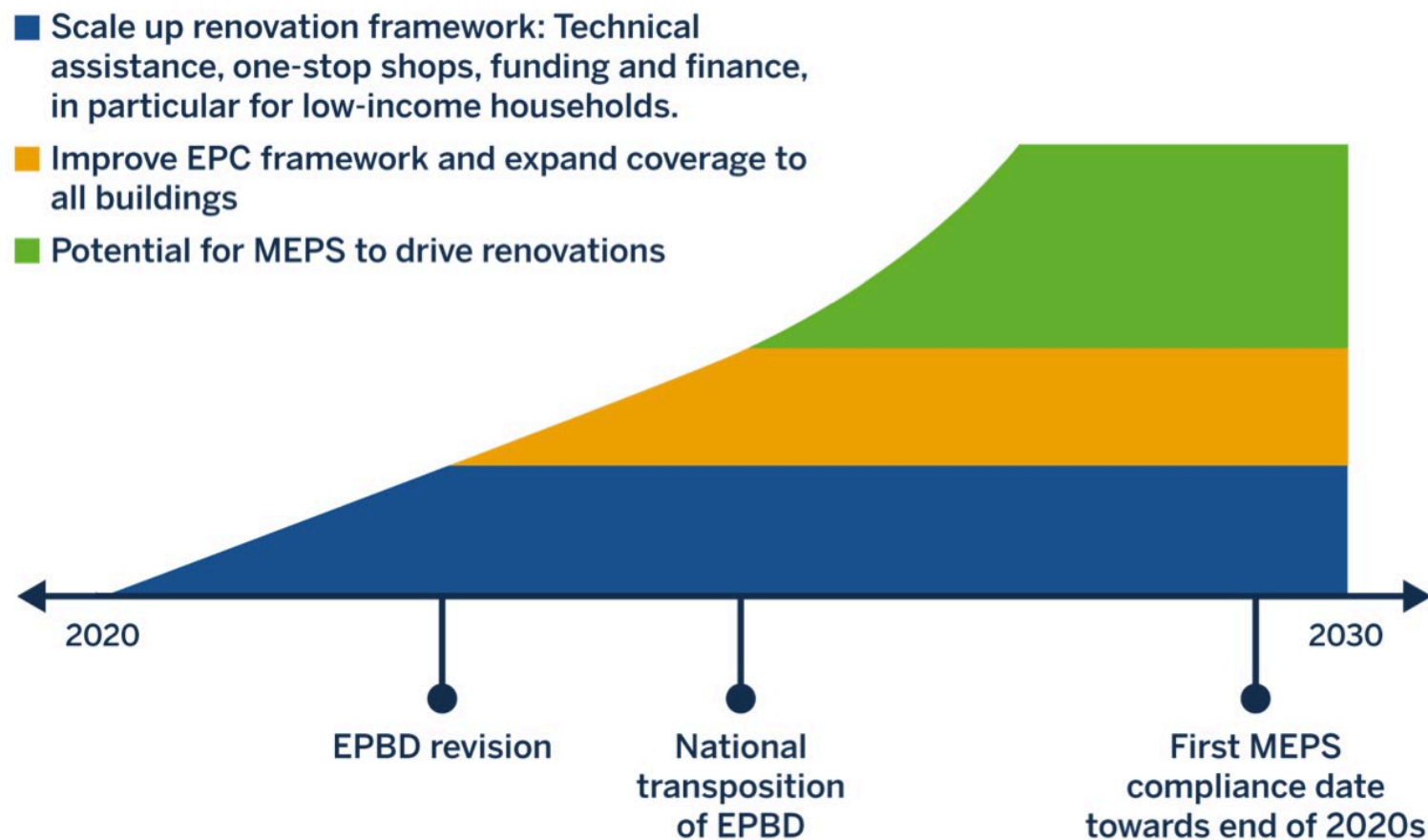


Proposed Energy Performance of Buildings Directive, Article 9:

- Public and non-residential buildings must be:
 - EPC F by 2027
 - EPC E by 2030
- Residential buildings must be:
 - EPC F by 2030
 - EPC E by 2033
- Based on a harmonised EPC scale

Regulations alone do not make successful renovations

- Building assessments
- Technical support
- Financial support
- Safeguards to protect housing affordability
- Effective enforcement



Contact



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Further resources

- Sunderland, L., and M. Santini. 2021. Next Steps for MEPS: Designing minimum energy performance standards for European buildings. June 2021. Regulatory Assistance Project. <https://www.raonline.org/knowledge-center/next-steps-for-meps-designing-minimum-energy-performance-standards-for-european-buildings/>
- Sunderland, L., and M. Santini. 2020. Filling the Policy Gap: Minimum Energy Performance Standards *for European Buildings*. Regulatory Assistance Project. June 2020. <https://www.raonline.org/knowledge-center/filling-the-policy-gap-minimum-energy-performance-standards-for-european-buildings/>
- Sunderland, L., and M. Santini. 2020. *Case Studies: Minimum Energy Performance Standards for European Buildings*. Regulatory Assistance Project. July 2020. <https://www.raonline.org/knowledge-center/case-studies-minimum-energy-performance-standards-for-european-buildings/>

About RAP

The Regulatory Assistance Project (RAP)[®] is an independent, non-partisan, non-governmental organization dedicated to accelerating the transition to a clean, reliable, and efficient energy future.

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