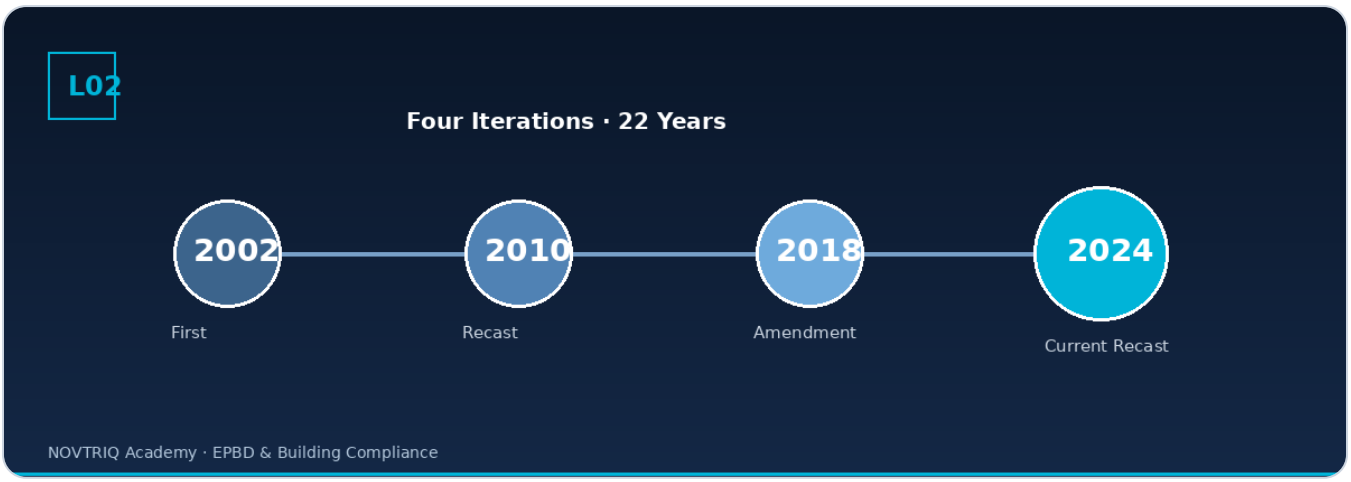
FREE

EPBD & BUILDING COMPLIANCE

EPBD Recast 2024/1275: Anatomy

What's actually in the directive — article by article, deadline by deadline.



· **EPBD & Building Compliance** Lesson 2 of 8

Zero-Emission Buildings replacing nearly Zero-Energy. Fossil-fuel boilers phased out by 2040. Solar mandatory on new rooftops by end of 2026. The worst-performing 16% of non-residential stock forced into renovation by 2030. Whole-life carbon disclosure on all new construction by 2030. Renovation Passports for owners.

The 2024 EPBD recast is the most consequential building energy law the EU has ever passed — and it's being transposed into 27 different national systems right now, with most provisions due **29 May 2026**. This lesson dissects what's in it, so you can read the directive on a project without fumbling for the right paragraph.

Learning objectives

Remember	The headline provisions of EPBD recast and their key articles.
Understand	How ZEB differs from NZEB — definition, scope, threshold.

Understand	The Solar Standard, MEPS and Whole-life GWP rollout schedules.
Apply	Identify which articles apply to a specific project type and date.

1 · What changed — three structural shifts

Concept reset — NZEB → ZEB. Nearly Zero-Energy was the bar set in 2010. ZEB raises it: zero on-site fossil-fuel emissions and "very low" total primary energy demand, at least **10% more ambitious** than the prior NZEB cost-optimal level (Article 11). Public buildings from 2028, all new from 2030.

Existing stock gets teeth — MEPS for non-residential. The 2010 and 2018 directives encouraged renovation. The 2024 recast forces it: the worst-performing **16%** of non-residential stock must hit a national minimum threshold by 2030, **26%** by 2033 (Article 9). For residential the directive uses softer "progressive renovation trajectories".

Embodied carbon enters the directive. Whole-life GWP disclosure on new buildings >1,000 m² from January 2028, all new from 2030 (Article 7). Member states publish a roadmap with limit values by 2027; binding limits by 2030. First time embodied carbon has had a binding hook in EU buildings law.

Plus three further levers: Solar Standard (Article 10), Building Renovation Passports (Article 12), and National Building Renovation Plans replacing the older renovation strategies (Article 3).

2 · Zero-Emission Buildings — the new ceiling

ZEB is defined in **Article 11** with three criteria:

- Very low energy demand — at least 10% more ambitious than NZEB cost-optimal
- **Zero on-site fossil-fuel emissions**
- Remaining (very low) energy demand covered by on-site renewables, nearby renewables (including from energy communities), or efficient district heating/cooling per Article 26(1)

Maximum threshold expressed in *total primary energy* per Article 11(3) — the units in which member states must set their national thresholds. Total primary energy itself is not defined in the directive, which is why Commission guidance has been needed (REHVA published a technical critique in early 2025 because of exactly this gap).

What this excludes: gas boilers, oil boilers, coal heating. **What this includes:** heat pumps, solar thermal, district heating from renewables, biomass with sustainability constraints. The conventional gas-CHP-chiller plant room is going away on new construction.

> **FROM THE FIELD**
>
> The "10% more ambitious than NZEB cost-optimal" requirement sounds neat on paper. In practice, member states are arguing about how the 2020 NZEB cost-optimal benchmark was calculated in the first place. Expect 6–12 months of national consultation noise on this single number before the ZEB threshold settles.

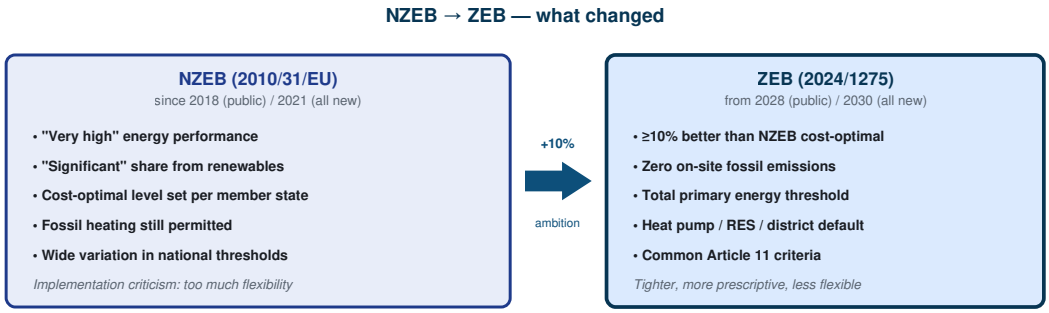


Figure 1. NZEB sat for 14 years; ZEB raises both the energy bar (10% tighter) and the system bar (no on-site fossil emissions).

3 · Solar Standard — the rollout

Article 10 mandates progressive solar deployment on suitable buildings, subject to technical, economic and functional feasibility. The schedule:

Building category	Useful floor area	Solar deadline
New public + non-residential	> 250 m²	**31 Dec 2026**
Existing public	> 2,000 m²	2027
Existing public	> 750 m²	2028
Existing public	> 250 m²	2030
New residential	(per member state)	**31 Dec 2029**

Member states implement, so expect 27 different "feasibility" exemption regimes — orientation, structural capacity, listed-building status, heritage zones. The first compliance flashpoint will be Q4 2026 on permits issued for new public/non-residential.

> **DESIGNER REALITY CHECK**
>
> For new mid-rise residential the maths usually works: roof PV + heat pump + good fabric. For dense urban infill where roof area is small relative to floor area, the Solar Standard's "subject to feasibility" clause will be where the project's compliance lives or dies. Document the feasibility argument early.

4 · MEPS for non-residential — the existing-stock lever

Article 9 obliges member states to introduce national MEPS by **1 January 2027** such that:

- The worst-performing **16%** of non-residential stock is renovated to meet a national threshold by 2030
- The worst-performing **26%** by 2033

Each member state sets its own primary-energy threshold based on its 2020 stock. France's Décret Tertiaire (already in force) is roughly the model: rolling targets, owner-chosen baseline year, mandatory annual reporting via OPERAT.

For residential the directive uses "progressive renovation trajectories" rather than hard MEPS — softer instrument, longer timelines, member-state flexibility. Expect huge variation across the EU on how aggressively this is implemented.

> **WHERE THE POLITICAL PUSHBACK LIVES**
>
> MEPS for non-residential is the most politically contested provision in the recast. Property owner lobbies in Germany and Italy fought hard against the original residential MEPS proposal — which is why the final text softened residential to "trajectories" rather than the hard MEPS that apply to commercial. Worth knowing when reading national transposition drafts.

5 · The other key levers

Articles 13 & 17

Boiler phase-out

No public subsidies for stand-alone fossil-fuel boilers from 1 January 2025. Full phase-out of fossil boilers by 2040. Hybrid systems combining renewables with fossil backup remain permitted.

Article 12

Building Renovation Passports

Voluntary, member-state-issued staged renovation roadmap for an individual building. Designed to overcome the deep-renovation barrier of "where do we even start". Useful retrofit-planning tool for asset managers.

Article 3

National Building Renovation Plans (NBRP)

Replace the older Long-Term Renovation Strategies. First plans submitted 2026, integrated with NECPs. Contain measurable targets, financial mechanisms, monitoring frameworks.

Article 7

Whole-life GWP disclosure

Calculation mandatory for new buildings >1,000 m² from January 2028; all new buildings from 2030. Member states publish roadmap with limit values by 2027; binding limit values by 2030.

Article 19

Harmonised EPC format

Common A–G scale, harmonised content, machine-readable digital format. Replaces the patchwork of national EPC formats from 2026 onwards.

> **CROSS-REFERENCE**
>
> The harmonised EPC format under Article 19 (covered in detail in **Lesson 3**) ties this directly into your asset-management workflow. Article 19 is the data layer; Articles 7, 9, 10 and 11 are the obligations layer. Don't read them in isolation.

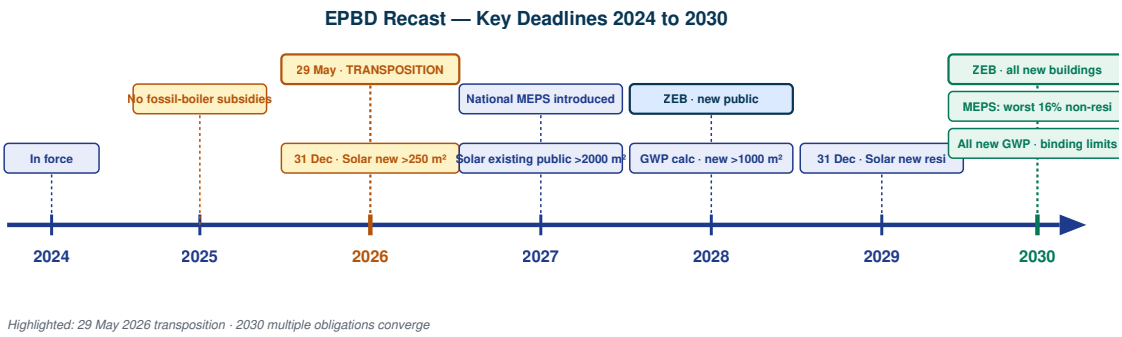


Figure 2. The compliance flashpoints. May 2026 transposition is the immediate one; 2028 and 2030 are when obligations bite on real projects. Detailed calendar to 2050 is in the supporting resource.

6 · What this looks like on a real project

EU · GERMANY

GEG transposition slipping

The German Buildings Energy Act (GEG) has been amended to absorb EPBD recast provisions, but as of April 2026 the implementing regulations defining ZEB criteria are still in consultation. Designers working on 2027 / early 2028 public schemes face genuine transition risk — they're being asked to design to a standard that hasn't been published yet.

EU · FRANCE

Décret BACS extension

Article 13 of the recast strengthens building automation requirements. France was already ahead with Décret BACS (Decree 2020-887) requiring BACS for non-residential buildings >290 kW thermal. The recast raises ambition further — the next French decree, expected late 2026, will tighten this further.

UK Solar Standard parallel

EPBD doesn't apply to the UK, but the Future Homes Standard 2025 mandates solar PV equivalent to 40% of ground floor area — same direction, different mechanism. UK practitioners advising EU clients still need to read EPBD; the underlying logic of UK regulation is converging, not diverging.

UAE Parallel net-zero direction

UAE Net Zero 2050 + Dubai DSM 2030 deliver similar outcomes (less fossil heating, more PV, mandatory retrofit pathways) via different instruments. UK/EU practitioners working on Dubai schemes don't apply EPBD, but the same trajectory shows up in Al Sa'fat's higher tiers and DEWA's connection requirements.

7 · Why this matters

The recast directive isn’t abstract anymore. After this lesson you can read it article-by-article and connect each clause to a real project decision — Article 7 on ZEB, Article 9 on MEPS, Article 11 on the Solar Standard, Article 12 on smart-readiness, Article 17 on financing, Article 35 on transposition deadlines. When a client emails ‘does Article 9 apply to our 1980s office in Bucharest?’, you have a concrete answer in two minutes instead of two days of search. That speed changes the conversation: you stop being the engineer who replies ‘I’ll look into it’ and start being the one who’s already looked. Once you’ve earned that reputation, the cross-border briefs come to you first — and the fees follow.

Quiz

Your score 0 / 5

1. The ZEB definition in EPBD recast requires:

a) Zero net energy on annual basis

b) Zero on-site fossil-fuel emissions + very low total primary energy

c) BREEAM Excellent + 100% renewable electricity

d) Net-positive energy generation

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2. By 2030, what share of the worst-performing non-residential stock must be renovated under Article 9?

a) 5%

b) 16%

c) 26%

d) 50%

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3. The Solar Standard requires solar on new public/non-residential buildings >250 m² by:

a) 31 Dec 2025

b) 31 Dec 2026

c) 31 Dec 2027

d) 31 Dec 2029

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4. Whole-life GWP calculation becomes mandatory for all new buildings from:

a) 2026

b) 2028

c) 2030

d) 2050

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5. National Building Renovation Plans under EPBD recast:

a) Are voluntary

b) Replace national long-term renovation strategies

c) Apply only to public buildings

d) Are reviewed every 10 years

Answers (for print): 1b · 2b · 3b · 4c · 5b

Resources

PRIMARY SOURCES

- Directive (EU) 2024/1275 — full text. EUR-Lex.
- Commission Communication C/2025/6438 — EPBD Implementation Guidance Package (30 June 2025).
- Article 9 annex — MEPS for non-residential and renovation trajectories. energy.ec.europa.eu.
- Article 7 annex — Life-cycle GWP of new buildings. energy.ec.europa.eu.

INDEPENDENT GUIDANCE

- BPIE, Delivering the EPBD: A Guide Towards Better Implementation (May 2025).
- WorldGBC MEPS Factsheet 2024.
- REHVA Journal — technical commentary on ZEB primary energy approach.
- One Click LCA, EPBD guide and ongoing GWP commentary.

STANDARDS AND TOOLS

- EN ISO 52000 series — building energy performance assessment framework
- EN 15978 — life cycle assessment methodology for buildings

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