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The delivery challenge of NBRPs

Joint assessment of a selection of 15 NBRPs

Spain · Netherlands · France · Romania · Slovenia · Poland · Belgium-Wallonia · Finland · Germany · Croatia · Denmark · Austria · Bulgaria · Sweden · Portugal

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In a nutshell:

National Building Renovation Plans (NBRPs) are a central instrument to implement the EPBD recast. This assessment of fifteen Member State plans examines their robustness as delivery frameworks, beyond formal compliance. It shows that a solid foundation is in place: all plans embrace long-term decarbonisation objectives and include innovative and transferable instruments. At the same time, the current stage offers a clear opportunity to strengthen their operational quality.

The main challenge is no longer defining ambition but organising delivery. While strategic direction is broadly established, its translation into integrated delivery systems remains partial. Across the fifteen plans, seven gaps recur: long-term targets are quantified but not translated into renovation activity by segment; regulatory trajectories and thresholds remain incomplete or non-binding; investment needs are identified but the related budgets are not sourced; declared maturity is not budgeted maturity; delivery capacity is not dimensioned, and the plans diverge on who is meant to deliver; renovation is not articulated with the energy system; and the plans are not built to be verified. And a general weakness sits behind all seven. Social robustness is the weakest of the eight assessment dimensions, and it is weakest outside the social chapter: when a plan sets a threshold, publishes a trajectory or defines an obligation, it rarely examines who will bear the cost of meeting it. Taken together, these seven gaps and this common weakness produce a single outcome: the absence of an integrated system design, of which the articulation between financing instruments, public and private, is a central part.

Four questions decide whether a final plan can be delivered, and each has an answer somewhere in the fifteen. Volume: does the plan say how much renovation activity, at what depth, in which segments? **Status**: does each instrument carry an amount, a foreseen legal basis and a date? **Means**: are the means of delivery budgeted separately from the works? **Monitoring**: can the plan be followed, on the stock, on each measure and on the wider benefits?

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Executive Summary - From plans to delivery

National Building Renovation Plans (NBRPs) are a central instrument to operationalise the EPBD and structure Europe's building decarbonisation agenda. Across the fifteen plans analysed, national policy frameworks are in place covering targets, policy instruments and priority areas. On a 0-to-3 delivery-readiness scale, however, no plan reaches the delivery-ready threshold of 2.0.

The assessment conducted for this report examines the robustness of NBRPs as delivery frameworks: their capacity to translate long-term objectives into actionable, scalable and socially robust implementation systems.

Each plan includes transferable elements, and together they provide a base of approaches that can support large-scale renovation. The draft stage is the moment to strengthen them. The main challenge is no longer defining ambition but organising delivery. Addressing this challenge does not require fundamentally redesigning the plans. It requires building on what exists and combining it into coherent delivery systems, a step that is both feasible and already partially demonstrated across Member States.

A shared gap: from ambition to operational systems

All NBRPs analysed embrace long-term decarbonisation objectives in line with the EPBD. The gap is no more the ambition but its operationalisation, and seven patterns recur:

- **Long-term targets are quantified, but not translated into renovation activity by segment.** Nearly every plan publishes a trajectory. Very few state how much renovation activity is expected, at what depth, in which segments and for which households, which is the layer companies, lenders and training providers need.
- **Regulatory trajectories and thresholds remain incomplete or non-binding.** Where minimum requirements and phase-out dates are enacted the market has a signal. Elsewhere, they appear as intentions, with the threshold value or the date on which it would take effect left unspecified
- **Investment needs are identified but the related budgets are not sourced.** Most plans put a figure on what renovation will cost; fewer say where the money comes from.
- **Declared maturity is not budgeted maturity.** Several plans present delivery architectures that are well designed and carry no budget line and no start date. The useful test is which measure has money, a legal basis and a date attached.
- **Delivery capacity is not dimensioned, and the plans diverge on who is meant to deliver.** Capacity is rarely sized against the task, and plans that devolve delivery without funding the capacity to receive it score lower on delivery credibility than plans that do both.
- **Renovation is not articulated with the transformation of the energy system.** One plan treats network capacity as a constraint on its renovation trajectory. The others do not, because renovation, heating and network planning sit under different instruments.

- **The plans are not built to be verified.** Indicators are announced without the data infrastructure to support them. A plan that cannot see whether volumes, savings and social effects are materialising cannot be corrected.

The same weakness sits behind all seven. Social robustness is the weakest of the eight assessment dimensions, and it is weakest outside the social chapter: when a plan sets a threshold, publishes a trajectory or defines an obligation, it rarely examines who will bear the cost of meeting it. The widest gaps are the zero-emission thresholds, the public building obligations and the non-residential standards.

What already works: a strong base to build on

A key finding of this analysis is that many of the required solutions already exist within current NBRPs. Across the fifteen plans, practices include:

- structured one-stop-shop systems and emerging integrated, area-based renovation approaches;
- diversified financing instruments combining public and private resources;
- targeted mechanisms addressing energy poverty and vulnerable households;
- initial frameworks for whole-life carbon and climate resilience; and
- early integration of industrialisation.

These elements are not spread evenly across the fifteen plans, but they are not the property of two or three plans either. Plans distinguish themselves on three separate registers:

- The first is design, the way instruments are built to work with one another and to cover the range of needs and household situations: Spain, Slovenia, Belgium-Wallonia and Romania each stand out in a different sense, one connecting renovation to the rest of government, another chaining its instruments along the household's journey, a third combining several objectives in a single intervention.
- The second is the translation of targets into renovation activity, where Slovenia, Romania, Spain and Portugal go furthest, the last breaking its residential trajectory down by renovation depth.
- The third is anchoring, whether a given instrument carries an amount, a legal basis and a date: France and the Netherlands lead on this, France notably because its regulatory calendars are in force rather than announced.

No plan holds design and anchoring together across the same part of its programme, and a plan that is well designed in one domain may be entirely unanchored in another, which is why strength and weakness have to be stated by scope rather than by country.

The pieces of a strong plan already exist somewhere in the fifteen, and no Member State needs to invent them. What is required is organised peer learning, so that a plan strong on design can borrow the anchoring discipline of another, and a plan strong on anchoring can borrow the design logic of another.

From plans to delivery: a feasible step-up for final NBRPs

Four priorities stand out for the final plans, and each builds on something a plan in this group already does.

1. **Translate targets into operational pathways**: define annual renovation rates, expected renovation depth, and prioritised building segments, aligned with the long-term objectives and the worst-performing stock.
2. **Build integrated delivery systems**, moving beyond individual measures to structure: financing architectures combining public and private resources, aggregation mechanisms enabling scale, performance-managed one-stop shops and delivery infrastructure and alignment between targets and delivery capacity (workforce, finance, pipelines).
3. Strengthen market-shaping and social frameworks: Provide clear and predictable signals through regulatory trajectories, strategic use of public buildings, and robust social safeguards, so that renovation reaches scale and reaches every household.
4. **Make the plans sourceable and measurable**. State, for each amount, which budget line or earmarked revenue it comes from and for how long it is secured, and how the private share is expected to be raised, by instrument rather than by uniform allocation. Declare for every instrument whether it is budgeted and for how much, on what legal basis it rests and from what date it applies, to distinguish operating instruments from intentions. And set out how delivery will be verified, at the three levels that matter: the state of the building stock, the implementation of each measure, and the wider social and health effects.

Strengthening NBRPs to enable scaling

With operationalisation remaining partial, NBRPs provide limited visibility to key actors required for large-scale delivery. Strengthening their operational dimension would create clearer conditions for all stakeholders to contribute effectively:

- **Industry** would benefit from clearer signals on future demand, enabling investment in industrialised and innovative solutions
- **Financial actors** would benefit from more structured and predictable pipelines, facilitating capital mobilisation and innovative financing products
- **Workforce development systems** could better align training efforts with quantified needs
- **Local authorities and intermediaries** could position themselves more clearly within a structured delivery framework
- **Energy system operators** would benefit from renovation and heating trajectories that are reconciled with grid capacity planning
- **Households would benefit from stable and predictable conditions**, supported by appropriate tools and frameworks for both landlords and tenants, enabling informed investment in housing improvements

In this perspective, well-designed and operational NBRPs can act as **coordination frameworks**, enabling public and private actors to align their contributions and share the effort of Europe's building upgrade and renovation effort.

A collective opportunity

No analysed NBRP yet constitutes a fully delivery-ready model. The material required to build one nevertheless already exists, distributed across the fifteen plans: some plans have worked out how their instruments fit together, others have worked out how to give an instrument an amount, a legal basis and a date. No plan yet holds both at once, for any given part of its programme. The opportunity in this final round is to bring those two strengths into contact, so that well-designed instruments become anchored ones and anchored instruments are assembled into coherent national systems.

The four questions set out at the start of this report decide whether a final plan can be delivered, and each has an answer somewhere in the fifteen.

For the Commission, four things can be focused on to foster delivery readiness and robustness: a common monitoring framework specified at EU level with support for the data behind it; delivery readiness assessed alongside compliance; organised transfer between the administrations that have built a working instrument and those that have to build one; and prioritisation by dispersion, transferring where one plan has succeeded and building common frameworks where none has.

With targeted improvements and coordination between Member States, the Commission and stakeholders, the final plans can become a delivery backbone rather than a statement of intent.

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Introduction

This assessment reviews fifteen National Building Renovation Plans (NBRPs), covering a wide diversity of geographical contexts, building stocks, governance models and levels of policy maturity: Austria, Belgium (Wallonia), Bulgaria, Croatia, Denmark, Finland, France, Germany, the Netherlands, Poland, Portugal, Romania, Slovenia, Spain and Sweden. It is an update of a previous version assessing a first set of six plans.

The plans are analysed across **18 topics grouped into five clusters**:

- S1 Targets, standards and regulatory backbone;
- S2 Delivery architecture and implementation capacity;
- S3 Finance and political attractiveness;
- S4 Social robustness;
- S5 Long-term quality and future-proofing, including life-cycle carbon (LCA) and climate resilience.

Each topic is assessed across eight dimensions: Explicitness, Maturity, Quantitative ambition, Delivery credibility, Social robustness, Scalability, Integration and Evaluability, using a 0 to 3 scale (0 = absent; 1 = intentional; 2 = partially operational; 3 = fully operational). A score of **2.0 is used as the "delivery-ready" threshold** throughout the analysis. Where this report refers to how quantified a plan is, it refers to the operational translation of its ambition into figures, not to the level of ambition itself.

The assessment is based strictly on the content of the NBRPs ("ground truth"). Policies or instruments existing outside the plans are only considered where they are **explicitly referenced**, which is what makes the plans comparable. This matters most for Denmark, whose plan is deliberately concise and cross-references existing legislation rather than restating it: several low Danish scores reflect what the plan contains rather than Danish policy maturity, with climate resilience the one topic genuinely absent.

Two methodological caveats apply throughout. First, each global score is the equal-weighted mean of the 18 topics and not the mean of the 5 topic clusters; the two orderings do not coincide, so ranks should be read as indicative rather than robust. Second, topic cluster 5 has two topics, life-cycle impacts and climate resilience, against six in topic cluster 1, so the whole future-proofing agenda weighs less in the global score. The former topic on integration with affordable-housing plans is now assessed within the rental-market topic.

From planning to implementation. This assessment scores draft NBRPs as they have been submitted. A score reflects the quality and delivery readiness of what is written in the plan. It does not reflect whether the measures described remain in force, are funded as announced, or are actually delivered. A high score therefore indicates a well-constructed plan, not a guarantee of implementation. Policies can be weakened, delayed or reopened after a plan has been submitted, and the scores in this report do not capture such changes. Partner feedback for France, Austria, Poland and Romania illustrates the point; the scores are left unchanged, to preserve a common method across the fifteen plans.

The gap runs in both directions. In France, a contextual note from the national association FILMM, shared via EURIMA and not independently verified by Climact, points to successive changes in the primary energy factor

and the performance certificate, uncertainty on the rental obligations and instability in the scope of support, all of which affect how the positive findings on delivery credibility should be read. Romania shows the opposite case: its plan describes a digital building register as under development, and the register has since advanced beyond what the plan states. A score reflects the plan at a point in time, not the current state of national policy.

Plan quality is therefore a necessary but not sufficient condition for delivery. Four checks would help close the gap: (1) review NBRPs against delivery ("announced vs delivered") in the Commission assessment and in national progress reports; (2) make explicit when changes in calculation methods (primary energy factors, EPC methodology) alter measured progress, and report calculated and physical progress separately; (3) secure stable, multi-year funding for renovation support; (4) explain in the final NBRP and in progress reports any change to adopted milestones, such as MEPS calendars.

The work was conducted by a coalition of eleven industry and civil society organisations, with analytical support and cross-country harmonisation provided by CLIMACT.

Document architecture

This is the third and final document of the NBRP assessment. It is designed for executive reading and synthesises the detailed work carried out in Documents 1 and 2.

- Document 1: country-by-country analysis, 15 three-page country fiches.
- Document 2, Transversal thematic analysis (cross-country patterns by topic cluster, with priority improvements).
- Document 3: executive narrative, this document, covering context, executive summary, inspiring practices drawn from the 15 plans, and recommendations for next steps.

1 Where NBRPs stand

1.1 Ambition is not the issue, operationalisation is

Member States define clear long-term objectives aligned with EU decarbonisation goals. That ambition is not yet translated into frameworks that can be delivered. Overall scores range from 0.96 to 1.88, and no plan reaches the delivery-ready threshold. Figure 1 shows the distribution: the spread across the plans is wide, and the ceiling is low.

The leading ones differ by profile rather than by overall quality. Spain leads on finance and on social robustness, Romania and Belgium-Wallonia on delivery architecture, Denmark on targets and standards, Belgium-Wallonia on long-term quality, and no plan leads more than two of the five topic clusters. Those profiles separate along lines that recur throughout this report: how a plan is designed as a system, meaning whether its instruments are built to work with one another and to cover the range of needs and household situations; and how firmly it is anchored in numbers, both in translating its targets into renovation activity and in giving each measure an amount, a legal basis and a date. The two are independent. A plan can be well designed and unanchored, or anchored and disconnected.

What is missing is not the ambition but the architecture that would make it executable and building that architecture is itself a strategic decision rather than a matter of implementation detail.

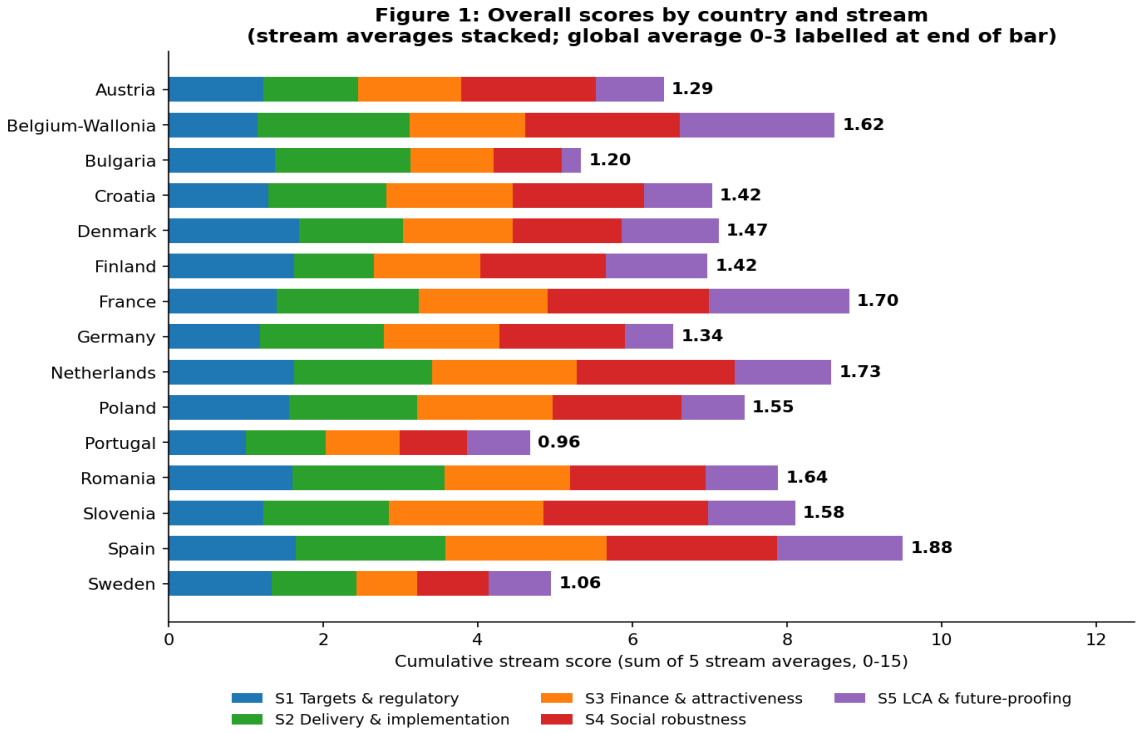

Figure 1: overall robustness scores by country and stream across the fifteen plans. Stream averages stacked, global average labelled at the end of each bar.

1.2 From targets to execution: a missing system

Every plan sets a long-term destination, and nearly all of them now put numbers against it. What separates a plan that states where it is going from one that can be executed is a layer of operational translation, and that layer is thin across the fifteen. Seven gaps recur. They are not seven separate faults but seven expressions of one: the plans are not yet designed as systems in which targets, instruments, money and delivery capacity are dimensioned against each other.

What the plans do not translate

Long-term targets are quantified but not translated into renovation activity by segment. Nearly every plan publishes a trajectory, and several set it out with real precision: Slovenia states rates by building type and by period, Romania and Spain publish modelled endpoints with intermediate milestones, and Portugal breaks its residential trajectory into light, medium and deep renovation against explicit primary energy thresholds. Beyond the worst-performing segment that the Directive defines for them, however, very few go on to state how much renovation activity is expected, at what depth, in which building segments and for which household profiles. Renovation depth appears in a small minority of trajectories, tenure and household income in almost none. Several plans already provide this for one or two segments, which shows the step is within reach of the modelling the plans already run. It is the layer that lets an industrial firm, a lender or a training provider size its own contribution, and without it the trajectory cannot be operationalised at national level.

Regulatory trajectories and thresholds remain incomplete or non-binding. Where minimum performance requirements and phase-out dates are enacted they give the market the clearest signal a plan can give, and several plans provide one: France carries an in-force calendar of rental decency thresholds, and Romania publishes granular performance thresholds by typology and climate zone. Elsewhere the same instruments appear as intentions, with the threshold value or the date at which it bites left open. The same holds for technical requirements across building systems, which are referenced widely but rarely specified in scope, threshold, trigger point and verification route. Converting announced trajectories into enacted ones is what would let industry and financiers act on the plans rather than wait for them.

What the plans do not fund

Investment needs are identified but the related budgets are not sourced. Most plans now put a figure on what renovation will cost. Fewer say where the money comes from. Austria quantifies its need with unusual precision, by segment and by public and private share, and identifies no budget line, no earmarked revenue and no split between federal and regional level, while noting that the deficit procedure under way leaves it open whether such support will be possible at all. Where a public and private split is published it can be an allocation assumption rather than a commitment, and Finland states the problem plainly, noting that budget-dependent subsidies make binding estimates of future amounts impossible. Filling the Annex II investment-needs table is not a drafting exercise: committing to figures of this order is political work, and the window between draft and final plan is short against the rhythm of budgetary decision-making. The requirement is not new, though. It follows on from the long-term renovation strategies, and the final plans are where that

continuity should become visible. Part of what makes the commitment hard is that the case is rarely made in the terms a finance ministry uses. Health, comfort and avoided social costs are acknowledged in nearly every plan and quantified in barely one, so renovation is argued for in the energy chapter rather than in the wider public accounts, where the money is actually allocated. One plan of the fifteen fills the table completely, as Figure 2 shows.

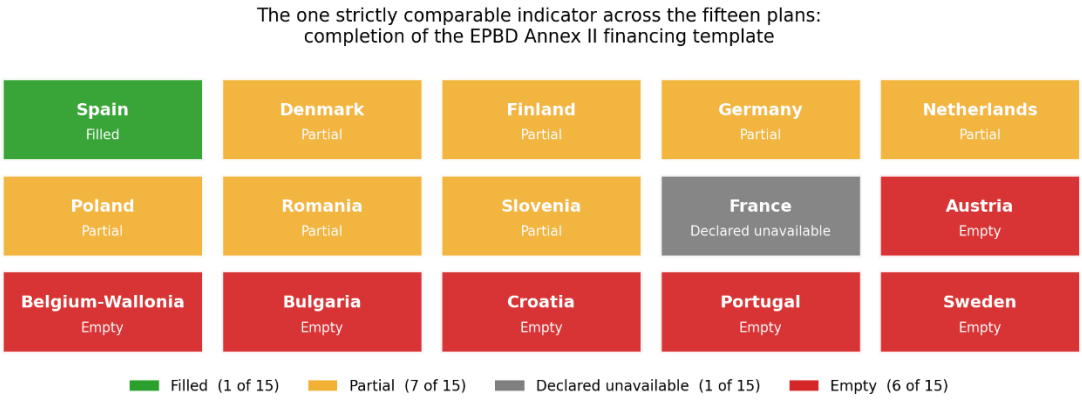

Figure 2: completion of the Annex II investment-needs table across the fifteen plans. Source: NBRP quantitative market snapshot, as reported in Document 2, Table 2. The Directive gives every Member State the same financing template, which makes its completion the only directly comparable indicator. France returns the entire public/private table as "data not available", including the mandatory total public and total private lines.

Declared maturity is not budgeted maturity. The fifteen plans contain delivery architectures that are genuinely well designed. Several of those same architectures carry no budget or no start date. Spain's financing toolbox splits cleanly in two: one group of instruments is operational and legally grounded, while the second, which contains its most novel families, is at feasibility stage and the plan itself states that no investment is allocated to it. Portugal sets out the segmented trajectory described above and attaches a budget to none of its measures. Instruments already running are not exempt either: Slovenia's public funding source is not secured beyond the expiry of the recovery facility, and Spain's advisory network was built on those same funds, with the plan's own consultation recommending that it be institutionalised and given a stable financial framework. The useful test for a final plan is which of its contents has money, a legal basis and a date attached.

What the plans do not organise

Delivery capacity is not dimensioned, and the plans diverge on who is meant to deliver. Several plans have built real delivery infrastructure, including one-stop-shop networks with a legal basis and published unit costs. Across the fifteen plans, that capacity is rarely sized against the scale of the task, and plans devolve delivery to municipal, intercommunal or regional levels in very different ways. Germany shows the risk in its sharpest form, on two counts worth separating: a function is mandated at municipal level without the resources to carry it, and the instrument that paid for it was interrupted and only later resumed, its companion municipal loan line never having restarted. This is also where two different things have to stop being read as one, because financing the renovation works and resourcing the capacity to deliver them are

separate commitments, and a plan can be well provided on the first and empty on the second. Naming the delivery agent and funding it is a decision the final plans can still take.

The divergence on who delivers is not itself a weakness. Different administrative traditions support different arrangements. What the scores show is narrower. Plans that devolve delivery without funding the capacity to receive it score lower on delivery credibility than plans that do both, and this appears in plans that are otherwise well constructed. The question a final plan answers is therefore not only who delivers, but what that body is given to deliver with.

Renovation is not articulated with the transformation of the energy system. The plans are increasingly confident on heat decarbonisation, and the Netherlands treats network capacity as a planning constraint on renovation rather than as a separate file, answering it with a congestion action plan in which housing is a priority category. It is the only plan of the fifteen to do so. The reason is structural rather than national: renovation planning is transposed under the EPBD, local heating and cooling planning under the Energy Efficiency Directive, and neither route connects to electricity and gas network planning. Electrification of heat is therefore planned in one framework, heat networks in another, and the connection conditions that determine whether either can happen in neither. Reconciling renovation, heat planning and network capacity is a precondition for these trajectories to be deliverable, and the final round is the moment to state how the three connect.

The plans are not built to be verified. The plans state their intentions clearly, and on that count they perform well. Figure 3 shows the profile across the eight dimensions: explicitness is the strongest, evaluability and social robustness the weakest. They provide far less by way of verification. Indicators are announced without the data infrastructure to support them, and monitoring chapters are in several cases written as options to be explored rather than arrangements to be operated, with enforcement made conditional on legislation not yet adopted. What this forecloses is correction. A plan that cannot see whether renovation volumes are being reached, whether the expected energy and emissions reductions are materialising, and whether the social effects are the intended ones rather than rent pressure and displacement, cannot adjust while there is still time to adjust. Monitoring is not a reporting obligation attached to the end of a plan; it is what makes the plan steerable.

Taken together, these seven gaps produce a single outcome. Each plan holds parts of a delivery system, and none yet holds one.

One pattern runs through all of them. Either the need is quantified without the means to meet it, or the means are quantified without being calibrated on the need. Poland sizes the human requirement down to the trades concerned and the annual shortfall, and costs none of it in euros. Romania sizes the money, breaks it down by period, segment and category of enabling cost, and states that its network is understaffed and its scaling assumptions run ahead of operational detail. One sizes the need without the money, the other the money without the commitment. Neither reaches the budget line, and that is what separates a complete plan from an executable one.

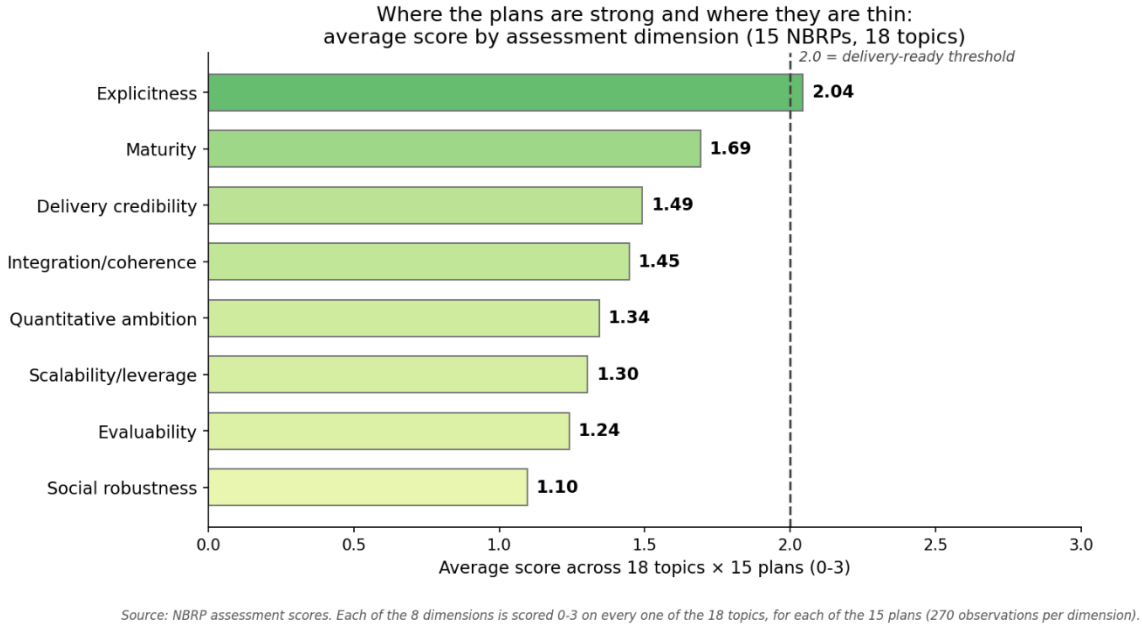

Figure 3: average score by assessment dimension across the fifteen plans, 18 topics each, 270 observations per dimension.

1.3 Weak signals to the market

The gaps above are not internal to the policy process. The plans are read by people who have to commit before the demand arrives, and who need to know what a country is going to renovate, and with what.

Four signals are currently weak:

- **Demand volume.** Without a breakdown by segment and depth, industry cannot tell which products the coming decade will call for. Investment in industrialised and prefabricated solutions, in envelope performance and in controls is deferred for want of a stated volume.
- **Regulatory certainty.** Where thresholds and their dates are announced but not enacted, waiting costs nothing and moving early costs something. Most actors wait.
- **Pipeline.** Financing instruments described without an amount or a start date cannot be built into a pipeline, which is what private capital needs before it commits.
- **Workforce.** Quantified headcount gaps are not translated into annual training output, so training capacity cannot be planned against them.

Instability is a fifth problem, and a different one. An instrument that runs, stops and restarts teaches the market that the next one may also stop. A household weighing works and a firm weighing capacity both need to know the scheme will still exist when the works begin, and several of the better-designed instruments among the fifteen plans cannot currently offer that. The same logic applies to delivery: an unfunded delivery function discounts the credibility of a fully funded works budget, because the market reads the two as one signal.

None of this requires new instruments. It requires the ones already in the plans to carry a volume, a date, and some assurance of continuity.

1.4 What already works, and where it sits

The material needed to build a delivery-ready plan already exists among the fifteen plans. It is not evenly spread, and no plan holds all of it, but most of the gaps described above have been solved somewhere. Several of the plans named here also appear in the previous section for what they lack, which is the point: strength in one part of a plan says nothing about the rest, so each is named for a specific thing rather than held up as a model.

Plans are strong in different ways, and the differences matter. Three forms of design strength appear, each with a clear exemplar:

- **Connecting the plan to the rest of government.** Spain and Romania write their renovation plan as one component of a wider architecture rather than as a standalone document. Spain ties its trajectory, its financing and its social measures to the national energy and climate plan, the energy poverty strategy, the State Housing Plan and the urban agenda, and its own text describes the housing plan as extending the renovation focus from the building to the neighbourhood and the city. Romania coordinates the Social Climate Fund, the Modernisation Fund, cohesion funding, the recovery plan and EIB support within a single financing table. A renovation plan written this way does not have to compete with the rest of the government's agenda for the same money.
- **Chaining instruments along the renovation journey.** Belgium-Wallonia is the clearest case of instruments designed to hand over to one another. Its one-stop-shop measure defines three tiers of service, from information through personalised technical, administrative and financial support to fully delegated project management, with a dated sequence for reaching each tier and a rule on territorial coverage. That architecture connects to the measures on vulnerable households, financing, subsidy reform and public housing, so a household entering at the information tier meets an instrument at every subsequent step. The heating transition is built the same way, running from local heating and cooling planning through phase-out and renewables to the reform of subsidies.
- **Combining objectives within a single intervention.** Slovenia treats renovation as an occasion to address more than energy, bringing seismic safety, indoor environmental quality, health and social considerations into the same works. Croatia does the same by coupling energy renovation with post-earthquake reconstruction. A renovation designed this way delivers more than energy savings, which also widens the set of budgets that can reasonably contribute to it.

Alongside these, individual plans lead on specific domains, e.g.:

- **Denmark** on whole-life carbon, with binding values already in its building regulation and a tightening schedule, well ahead of the other plans

- **Romania** on area-based renovation, with district-level annual indicators rather than pilot references, and **Belgium-Wallonia** on the execution format for it, through coordinated works on similar dwellings at neighbourhood scale
- **Poland**, Romania and Bulgaria on workforce planning
- **Belgium-Wallonia and Spain** on climate resilience, the only two plans that treat it as part of renovation rather than as a separate file
- **Bulgaria** on the legal definition of the vulnerable household, with a statutory definition, a status decree and mandated annual monitoring
- **Denmark** and **Finland** on the heat-source transition, with the most explicit trajectories among the fifteen plans

Quantification is strongest in different places again. The plans that go furthest in turning targets into renovation activity, named earlier in this chapter, are not the ones that go furthest in anchoring their instruments. On giving an instrument an amount, a legal basis and a start date, France and the Netherlands are ahead, France notably because its regulatory calendars are in force rather than announced.

No Member State needs to invent the missing pieces. Each of them is already working somewhere. What is missing is contact between plans that have solved different parts of the same problem.

1.5 Systemic gaps and missed opportunities

The seven gaps are not independent. Read together, they describe plans that assemble instruments without connecting them, and the assessment shows where that connection breaks.

Coherence scores in the middle of the eight dimensions, and even that is misleading. When the plans describe how their parts fit together, they do so almost entirely by reference: this measure is linked to the national energy and climate plan, that one is aligned with the recovery plan, a third is coordinated with the housing strategy. Very rarely do they describe what happens where one instrument hands a household or a building over to the next: which advisory service routes a case to which financing product, which eligibility condition follows from which diagnosis, what triggers the move from one stage to the next. Across the fifteen plans, that second kind of description appears in a handful of places, against several hundred cross-references. Cross-referencing shows that a plan was written with the rest of government in view. It does not show that a household or a firm can get through the system the plan describes. One plan sets out its delivery chain in those terms.

Four structural weaknesses follow from the same root, and each translates into a missed opportunity rather than a technical shortcoming:

- **Financing is not designed for scale.** Instruments are listed rather than matched to the barriers that actually stop renovation: the upfront cost, the repayment capacity of lower-income owners, and the

absence of a standardised product a bank can underwrite at volume. Without that, private capital stays on the sidelines whatever the size of the public envelope.

- **Social frameworks remain partial.** Targeting of vulnerable households is now widely addressed, but the rental sector is not. The split between who pays for the works and who benefits from them is recognised almost everywhere and answered almost nowhere, which leaves both unequal access and the risk of a backlash unmanaged.
- **Public buildings are treated as stock, not as demand.** They are described nearly everywhere as a category to be renovated and nearly nowhere as a way to aggregate demand, standardise products and give suppliers a reason to invest, even though this is the one segment where the public authority controls both the decision and the budget.
- **The wider benefits of renovation are acknowledged and not counted**, which keeps them out of the argument at the point where funding is decided.

None of these requires new policy. Each requires a plan to say what it intends to do with what it already has.

Social policy sits beside the plan rather than inside it. Social robustness is scored on every topic, not only on the social ones. Inside the social topics it comes close to the delivery-ready level; everywhere else it falls by about half, and on targets and the regulatory backbone further still. The widest gaps are the zero-emission thresholds, the public building obligations, the life-cycle requirements and the non-residential standards: the topics that set a requirement without examining who will have to meet it. The question on a technical topic is not whether a social measure exists, but whether the plan knows who bears the cost of the requirement and whether they can.

1.6 A coordination challenge

The gaps described in this chapter recur across the fifteen plans. So do the solutions, but they are spread thinly: no plan carries more than a few of them, and the ones it lacks are usually working somewhere else among the fifteen plans.

That pattern is itself the finding. Fifteen Member States are working through the same problems in parallel, each solving a different part, with no route by which a solution found in one becomes available to the others. The plans are drafted to a common template and assessed against a common Directive, yet nothing in that process brings the people who designed a working one-stop-shop chain into contact with the people about to design one.

What this calls for is not more guidance. The Commission has issued a great deal of it, and the gaps described in this chapter are not gaps in instruction. They are gaps in transfer. What is missing is the organised encounter between the practitioners who have built something that works and those who are about to build the same thing, structured around a clear view of which elements are transferable and under what conditions.

2 High-impact practices with replication potential

Chapter 1 set out what the plans do not yet do. This chapter sets out what some of them already do, and what can be taken from them. Chapter 3 then turns these elements into what the final plans should strengthen, and Chapter 4 into what Member States and the Commission can each do next.

Figure 4 maps the 18 topics assessed across the fifteen NBRPs along two axes: the **average score across the plans on the horizontal axis,** and the **spread across the plans, measured as the interquartile range, on the vertical axis.**[1] Scores should be read as **directional signals**, not precise measurements.

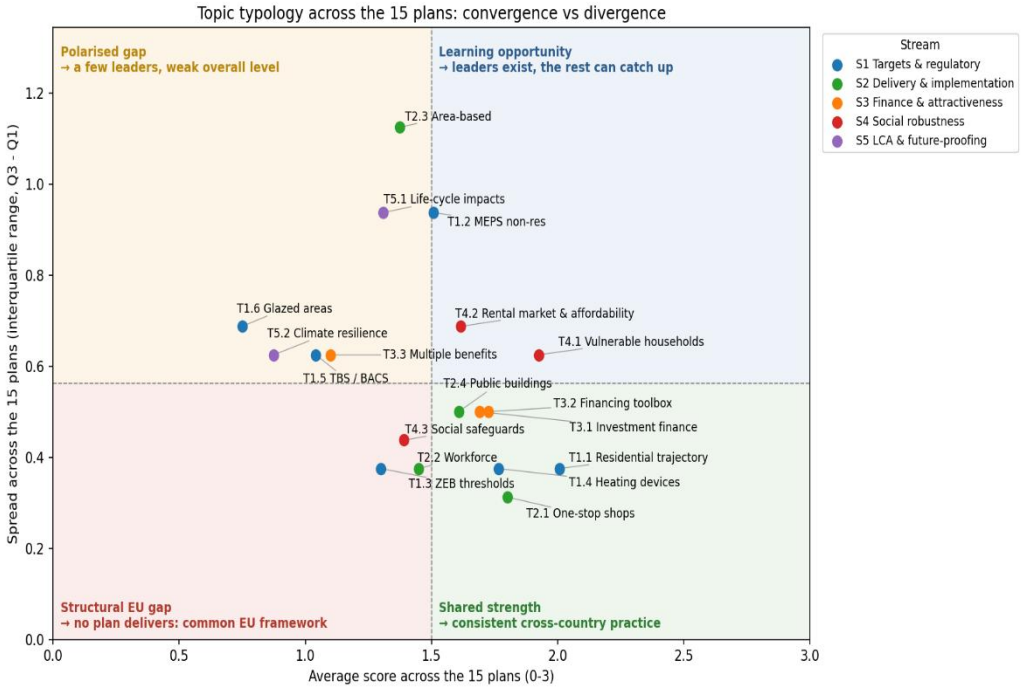

Figure 4: topic typology across the fifteen plans. Horizontal axis, mean topic score. Vertical axis, interquartile range across the plans, used instead of the maximum minus minimum range so that a single outlier does not drive the dispersion.

[1] The interquartile range is used instead of the difference between the highest and lowest performer so that a single outlier plan does not drive the dispersion.

Three patterns emerge:

- **Converging topics**, where Member States show similar levels of maturity and peer learning can raise overall quality
- **High-dispersion topics**, where a small number of frontrunners contrast with less developed approaches, creating clear opportunities for targeted transfer
- **Structurally weak topics**, where no plan reaches operational maturity, pointing to the need for common frameworks and shared methodologies developed at EU level

The practices below are drawn from topics where at least one plan has reached a workable level and the rest of the group has not, which is where transfer has something to carry. On some of them the group is converging, and the distance to close is short; on others the gap between the leading plan and the rest is wide. Because no plan holds design and anchoring together across the same part of its programme, the practices below are presented as individual elements rather than as plans to be copied. Each practice is stated with its scope and with its limit. The limits are not criticisms of the Member States concerned. They are what a receiving country needs to know before adopting the element, and they are what makes adoption realistic rather than aspirational.

2.1 Structuring delivery systems at scale

These practices address the central delivery challenge: moving from fragmented support to **organised, staffed and scalable renovation systems**.

[Romania] Operational OSS network with legal basis and cost benchmarks

What it does: Establishes a legally backed national OSS network under GEO 92/2024, with 42 offices already operational, though currently understaffed, and expansion planned to 100 offices by 2035. The model is not limited to information provision: it includes end-to-end support and publishes explicit cost assumptions for setup and operation. Those costs are not free-standing figures: they sit inside a dedicated delivery line in the national investment envelope, worth 1.81 billion euros for 2026 to 2030 and broken into five categories of enabling cost covering one-stop shops, technical assistance, vulnerable households, administration and awareness, with 140 million euros of it allocated to the network itself.

Why it matters: While OSS are widely referenced across NBRPs, Romania is the only case among the fifteen plans where the funding of delivery capacity can be traced end to end, from the national investment envelope down to a stated cost per office. Delivery infrastructure is usually underfunded because it is never costed separately from the works and treating it as an implicit overhead is what makes it the first thing to disappear under budget pressure. This makes delivery infrastructure tangible, budgetable and replicable.

Gap-closing for: In Bulgaria, Denmark and Portugal, one-stop shops remain conceptual or insufficiently specified, and none of the three separates the cost of delivery from the cost of works. Romania addresses the gap between policy intention and physical deployment by showing how a network can be structured, funded and expanded over time.

Complementary for: Belgium-Wallonia and Spain set out advanced service architectures and coverage standards but neither states what a one-stop shop costs to build or to run, and Spain's investment envelope is segmented by policy area rather than by function, so the share going to enabling delivery cannot be read from it.

Limit: The plan states no legal commitment on these amounts and describes its own grant-only financing model as unsustainable, with a transition to mixed instruments still in design. It describes its own network as understaffed and limited in scope beyond the existing voucher programmes, and flags both operational sustainability and permanence after the recovery facility as risks.

[Netherlands and Germany] Municipal delivery capacity funded, not only mandated

What it does: Both plans place implementation with municipalities and pay for the capacity to carry it. The Netherlands funds the internal municipal organisation through a dedicated capacity scheme, provides a joint state and local-government support structure with regional coordinators, and runs a national insulation programme line of roughly 1.6 billion euros that also covers practical household support; nearly every municipality already operates an energy counter, and when the national insulation tranche opened in 2024 all but two of the 342 municipalities applied for it. Germany makes municipal heat planning mandatory with binding deadlines in mid-2026 and mid-2028, backed by 500 million euros of federal funds for 2024 to 2028.

Why it matters: Most plans that devolve delivery to the local level stop at the mandate. These two fund the receiving capacity, which is what separates a requirement from a delivery system, and the near-universal municipal take-up on the Dutch side is the clearest available evidence that funded capacity is taken up.

Gap-closing for: Austria has no national delivery network at all and relies on regional schemes and a federal pilot. Poland's advisory network is a recommendation with neither target nor budget. Both illustrate intention without funded structure beneath it.

Complementary for: France covers its territory through an intercommunal layer under national steering, and Spain through a public network involving central, regional and local administrations alongside a secondary network run by professional and non-profit bodies. Neither places the function with municipalities themselves; the Dutch approach of funding the municipal organisation itself, so that a devolved power comes with the staff to exercise it.

Limit: the German case also shows the fragility. The same plan mandates heat planning continuously while the instrument that pays for the renovation-management function was discontinued at the end of 2023 and only resumed in November 2025, its companion municipal loan line never having resumed. Continuity of funding is part of the practice, not an implementation detail.

2.2 Making financing work for scale

Two different things have to be financed. The works are financed by leverage: public money that attracts private money. The means of making the works happen are not. Nobody pre-finances a one-stop shop, an advisory service or a programme management team against a future gain, so those have to be paid for. Romania is the only plan of the fifteen that budgets them separately, in a dedicated line covering one-stop shops, vulnerable households, technical assistance, administration and awareness, worth about six per cent of the works it plans over the same period. That separation is what produces a unit cost for opening and running an office, and a unit cost is what a finance ministry can arbitrate. Romania also states that no legal commitment has been taken on these amounts, which is where the exercise currently stops.

[Slovenia] A trajectory, a financing structure and a published shortfall

What it does: Slovenia quantifies not only what renovation will cost but what it will still be short of. For 2026 to 2030 it publishes, sector by sector, the need, the amount mobilised and the residual gap, the largest sitting on the residential stock. Its investment periods are aligned to its renovation trajectory and split by sector, so the money and the activity are dimensioned against each other rather than stated side by side. The public budget is then broken into instruments that answer different constraints rather than into a single subsidy: full grant cover for households in energy poverty, 85% for public housing with vulnerable tenants, a bank-held fund of funds, subsidised concessional credit, and an instrument for split incentives still under development.

Why it matters: Most plans state a target or state an envelope. Slovenia links the two and then says what is still missing. Publishing a shortfall is counter-intuitive and more useful than claiming sufficiency. And financing works at scale only when it can answer each type of constraint, not only the average case.

Gap-closing for: most plans state an investment need without saying how the private share is raised, and several leave the Annex II investment-needs table incomplete. The Slovene structure shows the minimum viable answer: a public instrument, an expected private response, a date, and an honest statement of what remains unfunded.

Complementary for: Spain completes the Annex II investment-needs table but produces its private share by a uniform allocation rule, which makes its three largest private lines identical by construction. What Slovenia adds is not a ratio to apply across the board, which would reproduce the same flaw, but the practice of attaching an expected private response to a named instrument and reporting the residual gap when it falls short.

Limit: the amounts remain modest against the needs, and the plan says so rather than hiding it. Its public funding is not secured beyond the expiry of the recovery facility, and the instrument intended to address split incentives between landlords and tenants is still being explored.

[Spain] A financing toolbox built to reach different households

What it does: Spain sets out a range of financing products covering distinct barriers, distinguishing those already in force from those still to be developed. In force: the monetisation of energy-saving certificates, whereby obligated energy suppliers purchase the savings a renovation generates and the proceeds are converted into upfront support for the household; unsecured renovation loans; green mortgages; and public guarantees that reduce the risk a lender carries on a renovation loan. To be developed: repayment attached to the property rather than to the owner and recovered through local taxation, so the obligation transfers on sale; repayment collected through the energy bill alongside the savings that fund it; and equity-sharing arrangements in which an investor takes a share of the value the renovation creates instead of being repaid in instalments. The plan states that no investment is allocated to this second group.

Why it matters: Different households are stopped by different things. Financing works at scale only when it can answer each type of constraint and not only the average case. Spain demonstrates how instruments can be combined into a coherent toolbox, enabling projects to be financed according to their characteristics and increasing overall uptake. Its strength is not only diversity, but sequencing by maturity: some instruments are already usable, while others are being prepared to broaden coverage across ownership and income profiles.

Gap-closing for: plans that rely on a single instrument type. Sweden describes renovation financing through the ordinary budget and market mechanisms with no diversified toolbox at all. Denmark lists several schemes that are all variants of the same grant logic. Austria relies on regional subsidy schemes. In each case the instrument reaches the households that can already act and leaves the others where they were.

Complementary for: several plans hold parts of the same answer. Belgium-Wallonia tiers five instruments explicitly by household profile, including deferred-repayment loans, third-party investment and renovation leases. The Netherlands lists the most extensive set of named schemes among the fifteen plans, with public spending reported against them. France combines grant, savings-certificate and zero-interest loan routes. Slovenia ties its instruments to a shortfall quantified by sector. Read together, these five plans already contain a near-complete financing toolbox.

Limit: the genuinely novel products sit entirely in the unfunded group, so the innovative half of the toolbox is an intention rather than an offer. The plan does not say how a household is routed to the right instrument, nor what share of its target population each product is expected to serve, which is what would turn a catalogue into a delivery plan.

2.3 Building credible regulatory and policy backbones

These practices strengthen **predictability, visibility and alignment between targets and implementation**.

[Romania] Numeric performance thresholds with a stated route into law

What it does: Sets out numeric values on both regulatory tracks that govern renovation, and names how each becomes binding. For the existing non-residential stock, it publishes minimum energy performance thresholds in kWh per square metre and year, with trigger points, intermediate values towards 2040 and 2050, and adoption scheduled through secondary legislation under the buildings law, with compliance deadlines in 2030 and 2033. For zero-emission performance, it publishes threshold tables covering nine building typologies across five climate zones, giving energy and emissions ceilings for renovated buildings as well as new ones, which is what turns a construction standard into a performance target that a deep renovation is required to reach. The plan states how both sets were derived, from a percentile analysis of the existing certificate stock in the first case and from a cost-optimal study in the second.

Why it matters: The transferable element is not the granularity but the combination of three things that rarely appear together: a number, the method that produced it, and the legal route and date by which it takes effect. A threshold without a route into law is an intention, and a threshold without a method cannot be reproduced on a different building stock. Romania supplies all three, which is what lets a designer, a contractor and a lender plan against the same value, and lets another Member State run the same exercise on its own stock rather than borrow numbers that do not fit it.

Gap-closing for: plans where the regulatory backbone is still undefined.

Complementary for: Croatia and the Netherlands reach comparable thresholds on the existing non-residential stock, and Finland on zero-emission performance, but none publishes the derivation method alongside the values, which is what makes the Romanian tables usable elsewhere.

Limit: the values are calculated and published, not yet in force, and the zero-emission tables are flagged by the plan as provisional pending the next cost-optimal cycle. A stated route into law is not the same as enactment. The monitoring and enforcement chapter is written as indicative options, so the precision of the thresholds is not matched by a stated means of verifying compliance with them.

Anchoring does not always mean money. France writes its rental phase-out dates into law, Denmark's whole-life carbon values have been binding since 2023 on a dated tightening path, and the Netherlands ties both its non-residential standards and its legal maximum rent to performance. These instruments carry no budget line and shape the market as firmly as a funded scheme, because the obligation does the work.

[Denmark] Binding whole-life carbon limits

What it does: Building Regulation BR18 sets binding whole-life carbon limits for new buildings, differentiated by building type, in force since 2023 at 12 kg CO2eq per square metre and year, lowered to around 7.1 in 2025, with two further reductions of 10% agreed for 2027 and 2029. It is the only regime among the fifteen plans covering transport and construction-site emissions under EN 15978.

Why it matters: Life-cycle carbon is widely mentioned and rarely binding. Fixed values with a published tightening schedule give manufacturers and contractors a reason to change material choices before the requirement bites, and they build the data and verification capacity that extending the same logic to renovation will need.

Gap-closing for: plans where life-cycle carbon is absent or declaratory. Bulgaria, Germany, Portugal and Poland score lowest of the fifteen on the long-term quality cluster, with no binding values and no methodology in place.

Complementary for: Belgium-Wallonia, where the TOTEM assessment tool is already operational but limit values are still pending, and France and Finland, which bind new build on a narrower scope. Sweden requires a climate declaration for new buildings and its limit values are due in 2026. Denmark is the reference case for moving from a methodology to enforceable values.

Limit: the scope is new construction, which is where the Directive sets the requirement. Nothing here is a requirement a renovation plan would adopt as such. What transfers is the regulatory method: values derived from a published methodology, differentiated by building type, with a tightening schedule set years ahead. The same approach is what gives the data and verification capacity on which any future treatment of embodied carbon in renovation would rest.

2.4 Ensuring social inclusion and market access

These examples demonstrate how plans can move from recognising social barriers to **removing them through operational mechanisms**.

[France, Netherlands and Belgium-Wallonia] Three ways to break the landlord-tenant split incentive

What it does: The rental market averages 1.6 out of 3 across the fifteen plans, and three plans carry a working answer. France makes renting the worst-performing dwellings progressively illegal, classes G and F from 2025, E from 2028 and D from 2034, covering some 3.7 million rented dwellings; the legislation is adopted and in force, and a tenant can compel the works and obtain a court order if the landlord refuses. The Netherlands works through price rather than prohibition: since the Affordable Rent Act of July 2024, the rent valuation system is mandatory and ties the legal maximum rent to the dwelling's energy label, so performance determines what a landlord may charge. Belgium-Wallonia is designing a third route, conditioning rent on energy performance, with anti-renoviction safeguards under development.

Why it matters: Most plans diagnose the split incentive and attach no binding instrument to it. These three show it can be addressed by prohibition, by price signal, or by conditioning the rent, and that a Member State can choose the route that fits its tenure structure and rental law rather than waiting for a single model.

Gap-closing for: the majority of the fifteen recognise the split incentive without a binding response.

Complementary for: Germany and Spain, which score above the average of the fifteen plans on the rental market but rely on incentives rather than on a rule that changes what a landlord may do or charge. Sweden sits the other way round. Its predominantly utilities-inclusive rents already place the energy cost and the resulting saving with the landlord, which removes the investment problem at source rather than correcting it afterwards, and it is the only structural answer among the fifteen plans. Its plan nonetheless reports the works still failing to pay, since efficiency measures are not treated as raising the dwelling's use value and give no ground for a rent increase. The contractual structure Sweden already has is what the other three are reaching for by regulation, and what Sweden lacks is not a further obligation on a landlord who is already exposed to the energy cost, but the financing that would make the works viable.

Limit: the rule changes the obligation without changing who can be funded. In France every operational financial instrument remains owner-only, so a tenant in a non-compliant dwelling has the legal route and no access to support. Belgium-Wallonia's approach is still an intention: enforcement on the rental market is undefined and the articulation with rent control is not settled. Sweden illustrates the opposite risk. Its predominantly utilities-inclusive rents mean the landlord pays the energy and captures the saving, which removes the investment problem, but efficiency works are not treated as raising the dwelling's use value and therefore give no ground for a rent increase, which the plan itself identifies as a barrier to making those works pay.

[Spain] Removing the cash barrier for vulnerable households

What it does: Spain's vulnerable-household package carries a 3 billion euro central-government budget and five sub-actions, from financial support and tax incentives through coordination with social aid to pilot express interventions and a network of climate shelters. Subsidy intensity is differentiated by level of vulnerability, and the support is paid directly to the contractor rather than reimbursed to the household.

Why it matters: Reimbursement schemes exclude exactly the households they are meant to reach, because a household without savings cannot advance the cost of the works whatever its entitlement. Paying the contractor directly converts eligibility into access. It is a delivery design decision rather than a targeting decision, and it costs nothing extra: the same budget reaches a different population.

Gap-closing for: plans where the support is well targeted on paper and still requires the household to front the money. Sweden, Denmark and Bulgaria score lowest of the fifteen on energy poverty and none addresses the liquidity constraint. Bulgaria illustrates the pattern: it defines the vulnerable and energy-poor household in law and recommends that at least a third of investment resources be prioritised for them, but its targeting mechanisms are still being structured, so the definition does not yet produce access.

Complementary for: Romania reaches the same result by a different route, combining higher grant intensities with turnkey delivery, protected timelines and a prohibition on eviction, all anchored in law, so the household neither advances money nor manages the works. Belgium-Wallonia suggests addressing the other half of the problem: an identification system with mapping, proactive outreach and a trusted-referent model, which is what finds the households that a payment mechanism then has to reach.

Limit: the mechanism is credited on the plan's description rather than on results. Entry into force runs from 2026 and 2027, and the plan reports no ex-post tracking of energy poverty reduction beyond beneficiary counts, a gap shared by all fifteen.

2.5 Integrating renovation with the wider energy system

[Belgium-Wallonia] Area-based sequencing, with an execution format attached

What it does: Defines where renovation happens before defining how. The plan suggests mapping heat-network zones and no-regret areas, overlaying socio-economic vulnerability, and bringing climate adaptation into the definition of the zones themselves, so the spatial sequencing of renovation is set against the evolution of heating infrastructure rather than independently of it. Execution is then given a format: renovation trains, meaning coordinated simultaneous works on similar dwellings at neighbourhood and municipal scale, supported by a regional platform, with targets of at least ten trains by 2029 and 2,000 dwellings renovated by 2030. All-inclusive services with turnkey delivery are provided for targeted profiles. The plan also requires an adaptation component in all audits from 2030 and resilience criteria in the energy performance tool, the only building-audit-level adaptation integration among the fifteen plans.

Why it matters: Area-based approaches are widely referenced and rarely given a spatial logic and an execution method at the same time. Deciding which neighbourhoods renovate first, on the basis of where a heat network is viable and where vulnerable households are concentrated, is what allows renovation and network investment to be sequenced against each other instead of arriving in the wrong order. The train then makes that sequence executable: aggregated volume on similar dwellings is the condition for industrialised execution and for unit costs to fall.

Gap-closing for: Denmark, Bulgaria and Portugal reference area-based approaches as a principle without a spatial criterion or a delivery mechanism, so nothing determines which area goes first or how the works are organised once it does.

Complementary for: Romania, which publishes district-level annual indicators but no execution format, and Spain, which programmes at neighbourhood scale through its housing plan without the logistics and standardisation that aggregation requires.

Limit: the components exist and are not yet connected to one another. Zoning, vulnerability mapping, collective renovation, renovation trains and turnkey services are set out as separate measures rather than as one programme, with no stated mechanism by which a zoning decision triggers a train, or by which a train draws on the turnkey service. The risk is implementation in silos, which would forfeit most of the benefit of having designed the parts. Sequencing carries a second requirement the plan does not yet meet: a collective renovation only proceeds if every household on the street can finance it at the moment the works are scheduled, so the financing instruments have to be in place before the train arrives rather than developed alongside it. The approach is in preparation, and its targets remain to be demonstrated at scale.

[Netherlands] Grid capacity named as a constraint on renovation, and governed

What it does: The Dutch plan is the only one of the fifteen to treat electricity network capacity as a constraint on the renovation trajectory itself, stating that heat pumps, solar installations and charging points are waiting on grid expansion. It answers with a national congestion action plan, a capacity map, a neighbourhood-level approach and a regulatory prioritisation framework in force from 1 January 2026 under which housing is a listed priority category, alongside a technical agreement on grid-responsive heat pumps due in early 2026.

Why it matters: Every plan assumes electrification of heat. One checks whether the network can accept it. This is a structural blind spot rather than a national oversight: renovation is planned under the EPBD, heating and cooling planning under the Energy Efficiency Directive, and neither route connects to electricity or gas network planning. A household told to wait for a connection experiences that gap as a reason to stay on gas.

Gap-closing for: plans that set a heating transition without addressing what it requires of the network. Germany mandates boiler replacement and sets a renewable heating pathway, while its network provisions concern heat networks only. Several other plans reference the grid in passing, through renewables in the generation mix or gas network decarbonisation, but none treats connection capacity as something the renovation trajectory depends on.

Complementary for: plans with a quantified heating transition and no capacity check against it. Denmark moves from around 330,000 fossil boilers in 2023 to 36,000 in 2040 with an oil phase-out by 2035; Portugal quantifies 4.7 million fossil residential systems to be converted; Poland anchors its heating pathway to the renewables trajectory in the grid. Each of these depends on connection capacity that none of them assesses.

Limit: the plan excludes grid investment from its financing figures, so the barrier is identified and governed but not costed. The prioritisation framework also allocates scarce capacity rather than creating it, which buys time on the renovation schedule without removing the constraint.

3 What should be strengthened before final NBRPs

Moving from strategy to delivery requires strengthening a limited number of elements. Each is already working somewhere among the fifteen plans, so the task is to consolidate, connect and scale existing approaches rather than open new policy directions. Each of the sections below is marked according to when it can realistically be acted on: **final plan**, where the work can be completed before the December deadline, and **delivery**, where it concerns the implementation phase that follows.

3.1 Strengthening delivery foundations [for the final plan]

Long-term targets need to be carried through into an implementation pathway: annual renovation volumes, expected depth, and the building segments and household profiles to be reached first.

Regulatory signals need the same treatment. Where minimum performance standards or zero-emission values are not yet fixed, the plan should state the value, the legal route by which it becomes binding and the date it applies. **A threshold with a stated route into law already gives market actors something to plan against**.

Delivery foundations also have to be costed in their own right, separately from the works: the staff in administrations and advisory bodies, the one-stop shops, and the programme management that carries a project from application to completion. A works envelope without a delivery envelope produces applications that cannot be processed.

3.2 Structuring financing for scale and for access [for the delivery phase]

Financing strategies should set out how instruments combine across building types, renovation depths and household profiles, and what role each plays in the whole.

Two conditions have to hold together. Financing has to answer **each** kind of constraint, the household without savings, the owner without borrowing capacity, the landlord with no incentive, the co-ownership unable to decide, and it has to reach **every** household in the target group at the volume the trajectory requires. A toolbox that covers all profiles but reaches few households, and one that reaches many through a single product, fail for the same reason.

Coverage is not access. An instrument a household is entitled to but cannot use is not available to it, which makes the payment route as important as the product: paying the contractor directly, or delivering the works turnkey, converts eligibility into access without changing the budget. Financing strategies also have to fund the services that route households to the right instrument, since an unfunded advisory network leaves a well-designed product unused.

Sourcing completes the picture. For each amount, the plan should state which budget line or earmarked revenue it comes from and for how long it is secured, and where a private share is published, how it is expected to be raised, by instrument rather than by uniform allocation.

One plan names a specific legal lock. Romania identifies its 2018 law on owners' associations as a barrier to collective financing: associations have no assets to pledge, and long-term repayments cannot clearly be passed through their monthly charges. The plan asks the banking sector to propose amendments. Where collective ownership holds a large share of the stock, the legal capacity of the owners' association to borrow deserves the same attention as the financial product itself.

3.3 Mobilising public demand to drive market transformation [for the final plan]

Public buildings should be treated as market-shaping demand, not as a stock to be renovated nor as a set of examples to be shown. They are the one place where the public authority can require a practice and guarantee the volume that makes supplying it worthwhile.

Public procurement works on three levers, and the plans use one. Award criteria decide which practices become normal: low-carbon materials, circularity, reversible design, performance contracting.

A visible long-term pipeline decides whether anyone invests in being able to supply them. A programme that states its volumes years ahead and holds them turns public demand into an anticipated order book, which is what de-risks investment in capacity, in industrialised methods and in innovation. One plan goes that far: Bulgaria sets a class-transition trajectory for the public stock to 2050, in phased steps with square-metre volumes, on top of the annual obligation. The rest state a rate, which tells a supplier how fast but not how much.

The third lever is the financing structure behind the pipeline, because public budgets are not of the order of magnitude the obligation requires. A pipeline is only credible if it is financed, which means off-balance-sheet arrangements, performance contracting, third-party financing, and a monetisation of the wider benefits strong enough to bring budgets other than energy into the case. The decision and the budget both sit with the authority in this segment, which is what makes it the fastest to move, and also what makes the financing design the binding constraint.

3.4 Developing integrated, place-based approaches [for the delivery phase]

Renovation should be sequenced spatially rather than building by building, so that where renovation happens first is decided together with where heat networks are viable, where vulnerable households are concentrated and where climate exposure is highest.

That sequencing needs three things a plan can state: the criteria that determine which areas go first, the institutional and financial support that makes an area-based operation possible, and the connection to local heat planning so that renovation and heating choices arrive in the same order. Aggregation is also what makes industrialised execution possible, so the format of the works follows from the spatial decision rather than sitting beside it.

The same logic extends to the electricity network. Electrification of heat is assumed everywhere, so heat-pump trajectories should be reconciled with connection capacity, congestion management and grid-side control of flexible loads, and renovation and network reinforcement planned against one timeline.

Two cases show what integration produces. Croatia couples seismic reconstruction with energy renovation so that a building is opened once rather than twice, though it sets no adaptation target to capture the benefit. Belgium-Wallonia suggests defining its zones by combining heat planning, vulnerability and climate exposure, with the components not yet connected into a single programme.

3.5 Strengthening social safeguards and the rental market [final plan and delivery]

Social frameworks have to become operational: a stated method for identifying and prioritising vulnerable households, support calibrated to what they can actually contribute, and safeguards against rent increases and displacement.

The rental market needs an answer to a question none of the plans resolves: who other than the owner can start a renovation. Where the advisory network is open to tenants while every financial instrument is reserved to owners, the household that most needs the works has information and no lever. Three routes exist among the fifteen plans, prohibition, rent capped against performance, and rent conditioned on performance, and each has to be paired with a financing instrument the non-owner can reach.

3.6 Integrating multiple benefits into policy design [for the final plan]

Health, comfort, energy poverty reduction and productivity are acknowledged in nearly every plan and quantified in barely one. The issue is framing rather than awareness. Renovation is written as a decarbonisation instrument, so these effects appear as consequences rather than as reasons to fund it, and they never compete for budget in the sectors that would benefit from them. Making them count requires them to exist as figures: an indicator, a funding criterion, a prioritisation rule. Until then the case for renovation is argued in the energy chapter rather than in the public accounts where the money is allocated.

Two plans show the two halves of what is needed. Spain has the most complete quantification of the fifteen, covering energy poverty, avoided deaths, GDP and household savings, with no ex-post tracking and nothing that turns those benefits into a design parameter for an instrument. Romania does less of it and does it differently, with a single ratio of combined benefits per euro invested and a figure for hospital admissions avoided, which is thinner and is the form a finance ministry can use. Neither connects its benefits to the design of its instruments.

3.7 Operationalising technical and cross-cutting requirements [for the final plan]

Several technical and cross-cutting dimensions are already present in the plans but remain insufficiently translated into operational frameworks that can guide implementation at scale. This includes, for instance, the deployment of building automation and control systems (BACS / TBS), specific aspects of building performance (including envelope improvements and renovation depth) and the integration of climate

resilience into renovation practices. The challenge is less about introducing new topics than about ensuring that existing priorities are translated into clear requirements, standards or incentives, integrated into support schemes and regulatory frameworks and aligned with delivery mechanisms (e.g. OSS, procurement, programmes).

For BACS/TBS, recurring gaps concern the definition of thresholds, trigger points, minimum functionalities and links to existing policy instruments (such as EPCs, MEPS, renovation passports, procurement frameworks and renovation support schemes). Widening the sample from six plans to fifteen did not change this picture, which suggests a common difficulty rather than a national one. For building performance and envelope-related measures, recurring gaps concern the lack of clear delivery signals on renovation depth, support conditions, and the role of fabric performance in sustained energy savings, comfort and resilience outcomes.

One concept is absent across the plans and would connect these strands: low-temperature readiness. A building able to operate at a reduced flow temperature is what allows a heat pump or a heat network to run efficiently, and it depends on envelope performance and emitter sizing together. Treating it as a renovation objective, and using it as a criterion in audits and support conditions, would tie building performance to the decarbonisation of heat rather than leaving the two as parallel agendas.

3.8 Treating climate resilience as a delivery requirement [final plan and delivery]

Final plans should carry a resilience chapter with three components: risk mapping for heat, flooding and extreme weather; resilience criteria embedded in renovation packages and in the audit process; and prioritisation of exposed areas.

Most plans do not say whether they assessed exposure at all. A plan that looked and found little reads exactly like a plan that never looked. The remedies are not the same. Belgium-Wallonia and Spain show the full version: Wallonia requires an adaptation component in every audit from 2030 and carries resilience criteria into its permitting tools.

3.9 Making the plans measurable [for the delivery phase]

Monitoring has to operate at three levels. The state of the building stock, meaning what has been renovated and to what performance. The implementation of the measures, meaning whether each instrument is running, spending and reaching its target group. And the wider effects, meaning health, social and energy poverty outcomes, which is what keeps them present in budget arbitrations.

The first depends on building stock data infrastructure that most Member States do not yet have. Romania built its own plan on a one-off extraction of some 500,000 energy performance certificate files, carried out by the ministry with World Bank support, because no operational register existed. Two plans say as much in their own words, and the difficulty is far more widespread: robustly stating a current renovation rate is beyond most Member States today. A monitoring chapter can be written in a fortnight; a register takes years. This is the most transferable form of support the Commission could provide.

Monitoring at three levels also serves a purpose beyond steering. Published against the governance arrangements each plan sets out, it gives civil society a basis on which to follow whether a plan is delivering, and gives every actor the means to identify the gap they are placed to help close. A plan that cannot be followed cannot be supported either.

4 Implications for action

The plans do not need more ambition. They need the delivery-readiness gaps closed, and these gaps being of different kinds the responses differ.

4.1 For Member States: where the answers already are

The strengthening set out in Chapter 3 does not have to be invented. For each element, at least one of the fifteen plans already has a working version, and the fastest route to a delivery-ready final plan runs through those.

To strengthen	Where to look
Turning targets into renovation activity	Slovenia, for rates by building type and period; Romania and Spain, for modelled trajectories with intermediate milestones; Portugal, for a residential trajectory split by renovation depth
Regulatory thresholds and their route into law	Romania, for numeric values by typology and climate zone with a stated adoption route; Denmark, for binding whole-life carbon values on a dated tightening path; France, for rental phase-out dates written into law
The heating transition	Finland and Sweden, for the most explicit heat-source trajectories
Financing that reaches every profile	Spain, for instrument diversity and for declaring which products are operational; Belgium-Wallonia, for tiering by household profile; Slovenia, for publishing the residual shortfall by sector and period
Converting eligibility into access	Spain, for direct payment to the contractor; Romania, for turnkey delivery with protected timelines
Delivery capacity	France, for the most mature advisory network; Romania, for published unit costs, a legal basis and a dedicated delivery budget line; the Netherlands, for funding the municipal organisation that exercises devolved powers
Workforce planning	Poland, with Romania and Sweden close behind
Place-based sequencing	Belgium-Wallonia, for zoning that combines heat planning, vulnerability and climate exposure; Romania, for district-level indicators; Croatia, for coupling seismic and energy renovation
Renovation and the electricity network	the Netherlands, the only plan treating connection capacity as a constraint on the renovation trajectory
The rental market	France, for progressive prohibition enforceable by the tenant; the Netherlands, for legal rent tied to the energy label; Belgium-Wallonia, for rent conditioned on performance, still in design
Climate resilience	Belgium-Wallonia and Spain, the only two treating it as part of renovation

Four questions decide whether a final plan can be delivered. Each has an answer somewhere in the fifteen, and the table below says where:

- **Volume.** Does the plan say how much renovation activity, at what depth, and in which building segments?
- **Status.** For each instrument, does it carry an amount, a foreseen legal basis and a date?
- **Means.** Are the means of delivery budgeted separately from the works?
- **Feedback.** Can the plan be followed, on the stock, on each measure, and on the wider benefits?

4.2 For DG ENER: focusing assessment and guidance on delivery readiness

For the European Commission, and in particular DG ENER, four things would strongly support the quality of final plans:

- **A common monitoring framework.** Specified at EU level rather than left to each Member State, with support for the building stock data behind it. Most Member States cannot today state their current renovation rate robustly.
- **Delivery readiness in the assessment.** Assessed alongside compliance with the Directive, so that a plan which is complete but not executable is identified as such.
- **Organised transfer.** Structured exchange between the administrations that have built a working instrument and those that have to build one, with a mandate to produce something transferable and follow-up on what was adopted.
- **Prioritisation by dispersion.** Organise transfer on the topics where at least one plan has reached the delivery-ready level, and build common frameworks on the topics where none has.

This implies placing particular emphasis on:

- the translation of targets into **measurable and monitorable trajectories**
- the **operationalisation of regulatory frameworks**, including clarity on thresholds, timelines and enforcement, and their translation into actionable delivery conditions (e.g. renovation depth, building performance requirements and technical specifications)
- the robustness and scalability of **financing strategies**, including their ability to mobilise private capital
- the adequacy of **delivery systems**, including workforce, OSS and implementation capacity
- the integration between **building renovation and energy system decarbonisation**, notably through heat planning and infrastructure alignment
- **a common monitoring and evaluation framework across Member States** for comparability across the plans, together with support for the building stock data infrastructure without which no such framework can operate

Beyond assessment, DG ENER can play a key role in supporting convergence by:

- facilitating **structured exchange between Member States**, building on the most advanced practices identified, e.g. via the coordination activities foreseen under AccelerateEU, the Concerted Action and/or topic specific fora such as the European Energy Efficiency Financing Coalition.
- encouraging a shift from compliance-driven reporting toward **implementation-oriented planning**
- providing **clarified complementary guidance** on complex or unevenly addressed topics, in particular where operationalisation challenges are recurrent across Member States (e.g. financing frameworks, LCA methodologies, climate resilience, and the operationalisation of technical requirements across building systems, including digital and smart-readiness aspects)

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