

WHITE PAPER

Lessons from the Belgian Capacity Remuneration Mechanism

Design insights for TSOs preparing a capacity mechanism



Capacity mechanisms in Europe

Concerns about resource adequacy have moved back to the centre of European energy policy. Six countries currently operate a capacity mechanism: Great Britain, Ireland, Italy, France, Poland and Belgium. Five run centralised mechanisms, in which the system operator procures capacity through auctions; France instead places a decentralised obligation on suppliers. Between 2015 and early 2025 these six mechanisms allocated some €89.6 billion in capacity payments and contracted roughly 30 GW of new gas-fired capacity, under contracts running as far as 2043.¹

Belgium operates the youngest of the six and by far the most compact: five auctions held between 2022 and 2024, 10 GW procured for the delivery years 2025 to 2028, €1.3 billion allocated, and — at 90% of procured capacity — the highest gas share of the six.¹ It is also the most recently designed, with several years of auction results and operational practice to learn from, which makes it the natural reference for the markets now following.

The landscape keeps moving. France is converting its decentralised mechanism into a central-buyer model with RTE as sole purchaser, first applying to the 2026–27 winter;¹¹ the European Commission approved a €9 billion Spanish capacity mechanism in 2026;¹² and Portugal is preparing its own in the wake of the April 2025 Iberian blackout.¹³

€89.6 bn	~30 GW	10 GW	€1.3 bn
capacity payments allocated across six mechanisms since 2015	new gas-fired capacity contracted over the decade	procured in Belgium across five auctions	allocated in Belgium — the smallest of the six



Figure 1 Capacity mechanisms in Europe. France is moving toward a central-buyer design; Spain's market was approved in 2026. Sources: Aurora Energy Research (2025); RTE; European Commission.

The Netherlands, Germany, Spain and Portugal are next

Both the Netherlands and Germany expect their adequacy position to tighten through the 2030s, and both are working on an answer. In February 2026 the Dutch minister sent parliament two studies on security of electricity supply, each pointing toward a market-wide capacity mechanism as the likely instrument for the post-2030 period.² Germany today relies on a strategic reserve, and the debate on a broader mechanism is running there as well. They are not alone: with Spain's mechanism now approved and a Portuguese design in preparation, the lessons in this paper apply well beyond the Dutch and German cases.¹² In the Dutch discussion the two nearest worked examples, Belgium and France, serve as the natural reference designs.

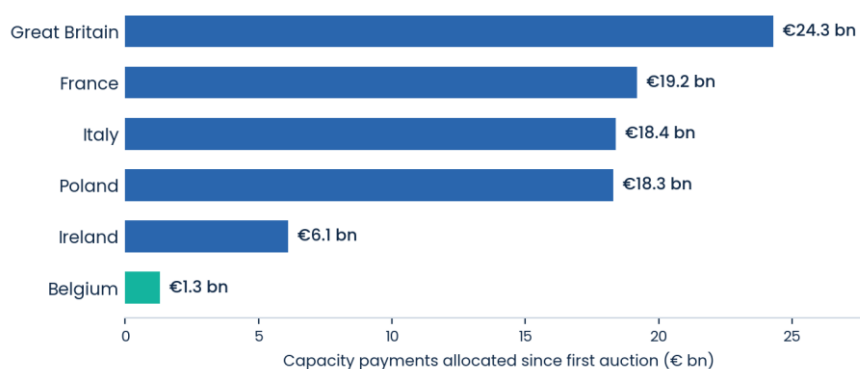


Figure 2 Capacity payments allocated per mechanism since the first auction. Source: Aurora Energy Research (2025).

On its core task, the Belgian mechanism has delivered. Five auction rounds have cleared since 2022, prices have stayed below their caps, and the contracted portfolio is genuinely mixed: gas plants, cogeneration, batteries, demand response and cross-border capacity all participate. In October 2025 three auctions cleared simultaneously for the first time; the year-ahead auction cleared at a weighted average of €14,100 per MW per year, well under its €22,700 cap, and the cost of securing the 2026–27 winter fell by almost a third year-on-year.³

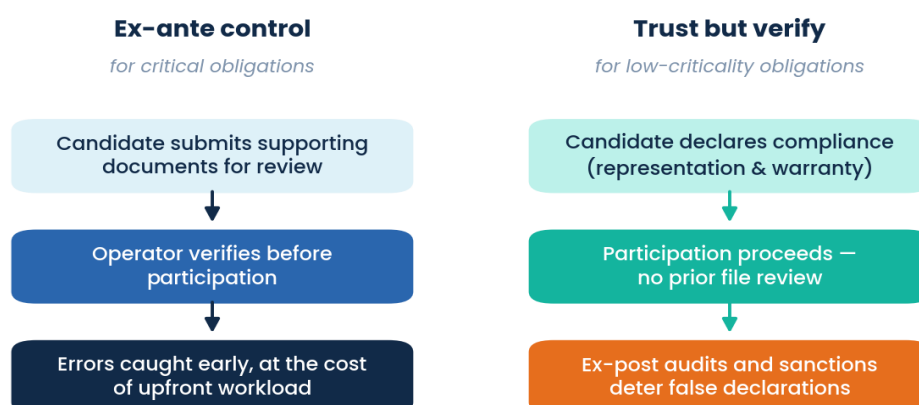
In the Belgian design, a consistent theme in consultation responses, voiced most clearly by large industrial consumers, is that participation carries a substantial administrative load: prequalification files per delivery point, financial securities, declarations from grid users and distribution system operators, and a monitoring regime that continues through delivery.⁷ Much of this reflects the caution of a first mover building under a strict state-aid framework, and part of it follows directly from EU law. Elia has itself been simplifying where it can — the financial-security requirement for existing capacity has since been dropped.⁶ For a second mover, that is the opportunity: adopt the architecture that has proven itself and make the choices lighter from day one — the rest of this paper works through them.

03 LESSONS LEARNED

Lessons from the Belgian design

The lessons below assume no familiarity with the Belgian rulebook; each starts from how the mechanism works today. Three principles apply throughout the design:

Trust, but verify. Much of the Belgian process rests on ex-ante control: the operator reviews files, declarations and supporting evidence before a candidate may participate. For genuinely critical elements — where a failure would only surface at delivery, or would carry consequences for security of supply — that caution is well placed. Not every obligation is critical, though. For low-criticality items, candidates can declare compliance and be verified afterwards, with audits and sanctions strong enough to deter false declarations. The seed of this approach is already present in the Belgian rules — identifying the capacity units covered by declarations “is the responsibility of the CRM Candidate and is not automatically checked in the interface”.⁴ The dividing line is criticality, not convenience: what would a false declaration break, and how cheaply can it be remedied?



The split between the two follows criticality: what a false declaration would break, and how cheaply it can be remedied.

Figure 3 Two control philosophies for the same rulebook. Ex-ante review remains warranted for critical obligations; ex-post verification suits the rest.

Differentiate by what is at stake. An asset that already exists does not pose the realisation risk of a project still on the drawing board, and a 5 MW battery does not pose the adequacy risk of a 100 MW plant. Uniform obligations treat them alike; a well-calibrated design does not.

Reuse what the system already knows. Connection data, metering configurations, permits and test results already sit with DSOs, permitting authorities and the TSO’s own balancing products. Asking candidates to resubmit them is the single largest avoidable source of workload.

One boundary holds throughout: EU law sets a floor that no simplification can cut into. Penalties for capacity that is unavailable in times of system stress are mandatory under the Electricity Regulation,⁸ and multi-year contracts for fossil capacity require an enforceable

decarbonisation commitment from each beneficiary under the state-aid guidelines.⁹ Everything above that floor is a design choice.

1 – Visibility does not require prequalifying every asset

In Belgium, prequalification is not just a condition for bidding: it is a legal obligation for every existing generation or storage asset above 1 MW derated capacity, whether or not the owner ever intends to participate in an auction.⁵ The rationale is sound – the adequacy assessment needs a complete picture of available capacity, and capacity that stays silent would distort it. A mandatory filing by every asset owner is not the only way to obtain that picture, though. DSOs already hold connection, metering and permitting data for the assets on their grids; structured data flows between DSOs and the TSO can deliver the same visibility without imposing a dossier on every market party. Prequalification then becomes what it arguably should be: a step for those who choose to participate.

2 – Reserve financial securities for genuine risk

Participants originally had to post a financial security – a bank guarantee, cash or a parent-company guarantee – of €10,000 to €20,000 per MW depending on the status of the capacity.⁵ Its purpose is narrow: it collateralises pre-delivery penalties a participant might fail to pay. For existing assets that risk is largely theoretical, and Elia reached the same conclusion. The requirement for existing capacity has been dropped, because unpaid penalties can simply be deducted from the capacity remuneration the unit receives; the current required levels only cover capacity that does not yet exist.⁶ That end point is a sensible starting point elsewhere: work primarily with penalties, net them against the remuneration stream where one exists, and reserve securities for cases where insolvency before delivery is a material risk – new-build and virtual capacity.

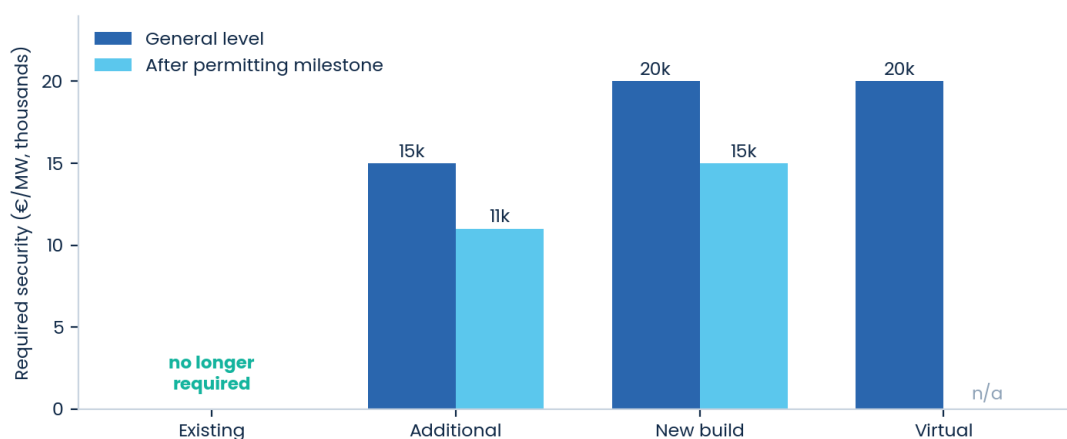


Figure 4 Required financial security per CMU status in the Belgian CRM. Existing capacity no longer appears in the table; levels fall once the permitting milestone is reached. Source: Elia (2025).

3 — One entry point for DSO-connected capacity

A candidate whose asset is connected to a distribution grid deals with two parties: the prequalification file is processed by Elia or by the DSO, and the candidate must separately obtain a DSO technical declaration confirming that its delivery points can provide the service.⁵ Each interface is manageable on its own; together they place the coordination burden on the party least equipped to carry it. The alternative is a single window: the candidate submits to the TSO alone, and the TSO obtains the DSO's confirmation through a standardised data and approval protocol. The coordination cost does not disappear — it moves to the two operators, who solve it once, instead of every candidate solving it again.

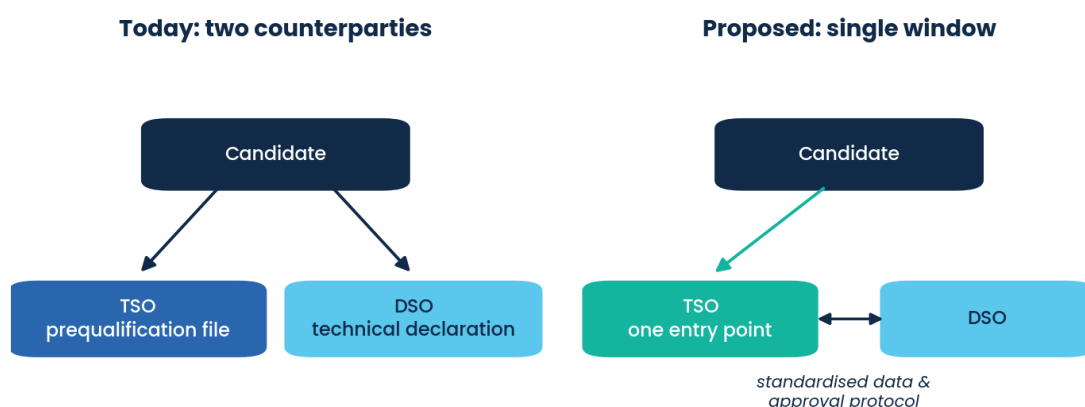


Figure 5 Routing the DSO leg through the TSO turns a per-candidate burden into a one-off protocol between operators.

4 — Let declarations carry the process

Several Belgian building blocks require proof of third-party consent up front. The clearest example is the grid user declaration: evidence, validated during prequalification, that the owner of the connection agrees to the capacity being offered at its delivery points.⁴ The protection is real — no one's asset should be bid into a mechanism without consent — but the ex-ante validation step is not what provides it. A representation and warranty from the candidate, combined with ex-post audits and meaningful sanctions such as contract nullity and clawback of payments, achieves the same protection with far less friction, provided the grid user keeps an accessible complaint channel. The same approach extends to capacity connected to closed distribution systems, where the current process is at its most intricate.

5 — Keep the commitment, drop the separate deliverable

Fossil-fired capacity seeking a multi-year contract must file a declaration of commitment to the energy transition: study the feasibility of emission reduction by the end of 2027, produce a reduction plan by the end of 2028, and reach net-zero or negative emissions by 2050.⁴ The substance is not negotiable — EU state-aid guidelines require a binding commitment from each individual beneficiary, so a generic provision in law will not do.⁹ The form, however, is a choice. Anchoring the milestones in the legal framework and embedding the commitment as

a standard clause in the capacity contract, which every participant signs anyway, removes one deliverable per unit without weakening the obligation.

6 — Scale monitoring to materiality

Between contract award and delivery, capacity providers face milestone tracking, quarterly and permit reporting, a mandatory evolution to “existing” status before delivery, and unannounced availability tests with penalties proportional to the missing volume.⁴ The testing-and-penalty core is an EU requirement and must stay.⁸ The administrative shell around it can be differentiated along two axes. Does the asset already exist? If so, realisation risk is essentially zero and milestone tracking adds little. And how much capacity is at stake? Combining the two axes — and drawing on permits and connection-status data that authorities already hold, with candidates reporting only material changes — concentrates effort where non-delivery would actually hurt.

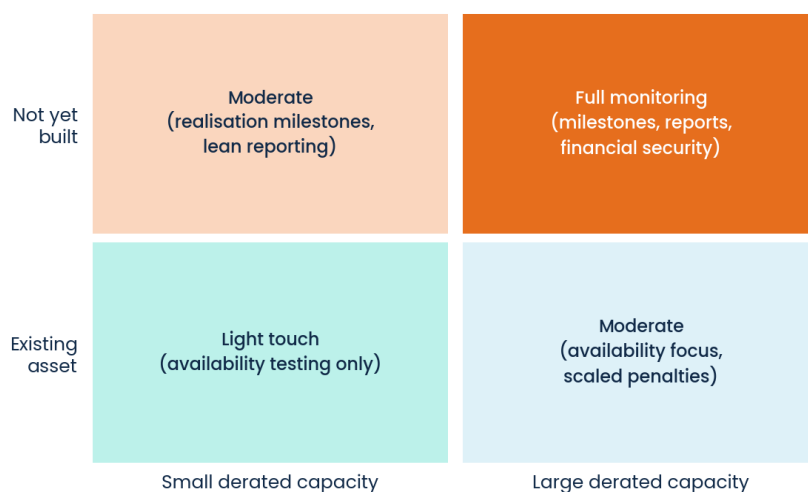


Figure 6 Monitoring intensity differentiated by realisation risk and materiality, instead of one uniform set of obligations.

7 — Recognise qualifications across products

Capacity participating in the CRM often also provides balancing services, or previously sat in the strategic reserve — meaning its metering is already prequalified and its availability already demonstrated to the same TSO. The CRM nevertheless applies its own prequalification, metering and testing layer, and the layers have grown independently: industrial consumers noted that the CRM’s submetering configurations differ from those used for Elia’s other products.⁷ Balancing markets show what alignment can look like — in Germany, a passed aFRR prequalification test is recognised one-for-one for mFRR. A harmonised qualification and metering layer across TSO products, with mutual recognition of tests, removes duplicated work on both sides of the counter.

8 — Test and penalise when it matters

EU law requires penalties for capacity that is unavailable in times of system stress.⁸ The Belgian implementation applies availability testing and penalty exposure across the whole year, so a

unit announcing missing capacity in mid-summer still pays a penalty — only one factor in the formula drops to zero.⁷ The EU framework leaves room to focus this more tightly. Tying test intensity and penalty exposure to a scarcity trigger, such as a total-load criterion, keeps the incentive exactly where it contributes to security of supply and removes cost where it does not.

A caution: the one risk a CRM cannot contract away

For new capacity in any of the second-mover markets, the binding constraint may not be the mechanism at all but the grid connection. In early 2025 roughly 10,000 large consumers and 7,500 generation projects were waiting for a connection in the Netherlands, and TenneT alone faced 38 GW of connection requests; investment programmes of €43 billion (Netherlands) and €65 billion (Germany) for 2025–2029 show the scale of the constraint.¹⁰ A capacity contract does not help an asset that cannot connect in time. Any new design should link realisation milestones to connection reality, and settle in advance how non-delivery caused by grid congestion is treated — otherwise developers carry a risk that belongs to the network.

04 CLOSING PERSPECTIVE

Taking it forward

None of the points in this paper argues against the Belgian architecture. Most of them were learned inside it, and several are already being addressed by Elia — the financial-security reform being the clearest example. That is the encouraging part: the mechanism works, the auctions clear, and the heaviest parts of the process are exactly the parts a second mover is free to design differently.

For TSOs preparing a capacity mechanism, the Belgian experience offers something rare in market design: the chance to inherit a proven mechanism, understand which of its obligations follow from EU law and which were choices, and leave the accumulated weight behind. The Netherlands, Germany, Spain and Portugal are all well placed to take it.

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