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Overview of Reported Integrated National Climate and Energy Policies and Measures in Europe in 2025

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Executive summary

Key messages

- The number of single national policies and measures (PaMs) reported by EU Member States increased from 3 039 in 2023 to 3 519 in 2025, a 16% rise. This reflects the ongoing implementation of updated National Energy and Climate Plans (NECPs) to meet the EU's 2030 climate and energy targets.
- The number of reported PaMs differs widely between Member States, ranging from fewer than 50 to more than 250 PaMs. This variation reflects differences in national reporting practices, interpretation of the PaM definition, and the degree of disaggregation in national reporting systems.
- Almost one-third of all single PaMs started in 2023 or later, showing a recent acceleration of national policy activity to support achievement of 2030 targets. Furthermore, about 87% of PaMs are implemented, adopted, or expired, confirming that reporting primarily captures measures already in place.
- Most PaMs target the dimension *decarbonisation: greenhouse gas emissions and removals*, followed by dimensions *energy efficiency* and *renewable energy*. The main sectors affected are *energy consumption*, *energy supply*, and *transport*.
- Economic instruments (e.g., subsidies, feed-in tariffs) account for 43% of PaMs, followed by regulatory measures (37%) such as standards and obligations, and planning instruments (13%) such as strategies and action plans.
- Reporting of quantified objectives and indicators has improved since 2023. Ex-ante GHG emission savings continue to be the most frequently reported quantitative impact parameter, covering 582 PaMs in 2025, compared with 521 PaMs in 2023. Quantitative information on other parameters, such as ex-post GHG impacts, renewable energy production, energy savings, and monetary costs and benefits, remain very limited and uneven across Member States.
- Most Member States reported under Article 5 and Article 7 of the Energy Efficiency Directive, in relation to energy savings (22 and 24 Member States, respectively). By contrast, financing of PaMs (22 Member States) and impacts of PaMs on air quality (18 Member States) remain less consistently reported across countries.
- The increased quality assurance and quality control processes integrated in the Reportnet 3 webform improved completeness and consistency of submissions. Yet, late submissions and incomplete entries continue to affect the overall timeliness and reliability of the dataset.

From 2023 onwards, under Article 17 of the Governance Regulation of the Energy Union and Climate Action (EU) 2018/1999, EU Member States are required to report on integrated national policies and measures (PaMs) across the five dimensions of the Energy Union, as part of the National Energy and Climate Progress Reporting (NECPR). This report presents an overview of the information on national PaMs reported by EU Member States on:

- integrated national PaMs attributes and progress;
- new PaMs from the EED;
- PaMs related to Article 7 of the Energy Efficiency Directive (EED);
- PaMs related to Article 5 of the EED;

- information on the financing of PaMs; and
- PaMs effects on air quality.

Reporting on integrated national PaMs takes place within the legislative framework shaped by the Governance Regulation, which sets the foundation for integrated planning, reporting, and monitoring of Member States' climate and energy policies and measures. Following the first submission of integrated National Energy and Climate Plans (NECPs) in 2019, Member States had to deliver their final updates in June 2024 under Article 14 of the Regulation, aligning their contributions with the EU's increased 2030 ambition and new policy instruments. The European Commission's EU-wide assessment of these updated NECPs, published in early 2025, confirmed progress but highlighted persistent gaps towards Effort Sharing and LULUCF targets.

The 2025 reporting cycle for integrated national PaMs reflects developments in the European climate and energy legislative context, including the Fit for 55 package, the Clean Industrial Deal, and the establishment of EU Emissions Trading System 2 (ETS2) for buildings, road transport and small industries, and the Social Climate Fund. It also reflects key legislative revisions including the EED, the Renewable Energy Directive, the revised Energy Performance of Buildings Directive, the Effort Sharing Regulation, the Land Use, Land Use Change and Forestry (LULUCF) Regulation, and the Fluorinated Greenhouse Gases (F-Gas) Regulation. In this context, the 2025 reporting obligations on policies and measures provide an updated picture of how Member States are aligning national measures with the evolving EU climate and energy framework to achieve national and Union targets.

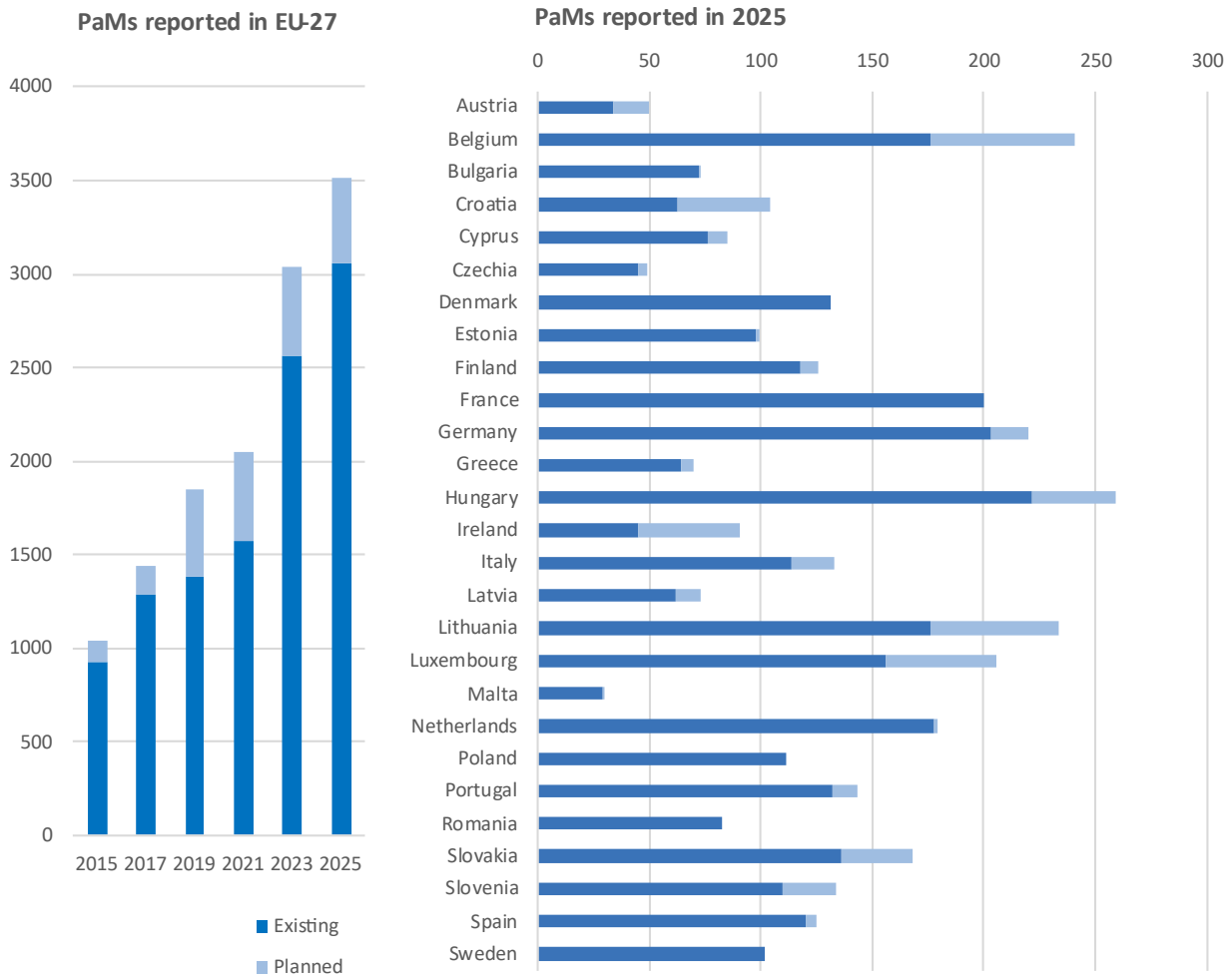
Member States submitted this information to the European Environment Agency (EEA) through the online reporting webform on Reportnet 3, based on the templates of the relevant Implementing Acts. It is publicly available via Reportnet 3 dataflow (Reportnet 3 Dataflow GovReg: Integrated national policies and measures) and the EEA Datahub (Integrated national climate and energy policies and measures). In addition, the EEA aggregates and disseminates the data through two online platforms: the EEA database tool on integrated national climate and energy policies and measures in Europe and the PaMs data viewer on the Climate and Energy in the EU website. The EEA database tool provides access to detailed information on each national PaM as reported by Member States.

The total number of reported single PaMs rose to 3 519 in 2025[1], up from 3 039 in 2023, a 16% increase. This sets an average of 130 PaMs per Member State, marking the highest level to date. This growth reflects both the addition of new measures and the refinement of existing ones. By contrast, the number of grouped PaMs fell to 115, down from 133 in 2023, despite efforts to promote their use to capture quantitative data not available at the single-PaM level.

The share of planned PaMs declined slightly, with 13 fewer reported than in 2023. The policy landscape remains dynamic with 32% of single PaMs starting in 2023 or later, demonstrating Member States' efforts to implement updated NECPs and accelerate progress towards meeting 2030 climate and energy objectives. In 2025, 3% of PaMs (112 in total) have no reported start year, more than half of which stem from Belgium's 2023 reporting, highlighting ongoing gaps in clarity on their future implementation.

[1] Belgium did not report on time to be included in the 2025 report and data was gap-filled with its 2023 submissions.

Figure ES-1 **Number of single existing and planned PaMs reported by Member States in different reporting years.**



Notes: Existing PaMs include those with an implementation status of *expired*, *implemented*, and *adopted*.

2025 data for Belgium is based on report submitted in 2023.

Sources: Authors' calculations/analysis, based on PaMs dataset.

The dimension *decarbonisation: GHG emissions and removals* remains by far the most important, linked to 82% of reported national PaMs, followed by *energy efficiency* (31%) and *decarbonisation: renewable energy* (24%)[2]. The other three dimensions, *energy security, internal energy market,* and *research, innovation and competitiveness*, together account for 27%, with the latter representing the smallest share at just 5%. At Union level, the Energy Efficiency Directive, Renewable Energy Directive, and Effort Sharing Regulation are the Union policies most frequently linked to national PaMs. In addition, Member States also reported on a range of other key characteristics, including objectives, targets, and contributions, relevant provisions under EU renewable energy and efficiency legislation, updates since the last submission, and additional qualitative and quantitative information on progress against policy objectives and indicators.

[2] Multiple dimensions may be selected for the individual PaMs.

Beyond these links Member States also reported on key characteristics of PaMs. Of the 3 519 single PaMs reported by Member States in 2025:

- Implementation is concentrated at national level (90%), with smaller shares at regional (7%), local (2%), or multi-country (1%) levels.
- Most target carbon dioxide (CO_2) emissions (73%), followed by methane (CH_4) (28%), and nitrous oxide (N_2O) (25%).
- The majority are linked to energy consumption (33%), energy supply (32%), and transport (22%) sectors.
- Economic instruments such as subsidies or feed-in tariffs remain most common (43%), followed by regulatory instruments (e.g. energy efficiency standards) (37%), and planning instruments (e.g. strategies or action plans) (13%).
- Since most PaMs (87%) are implemented, adopted, or expired, most are linked to the *with existing measures* (WEM) scenario (62%), while 18% are linked to *with additional measures* (WAM) scenario.
- While 12% were implemented shortly after the 2009 climate and energy package (2010–2014), the years 2021–2025 dominate, accounting for nearly half (48%) of all single PaMs, underscoring recent acceleration in policy action.

In 2025, all Member States reported a quantified objective for at least 3 PaMs, with 1 041 PaMs (29% of all reported PaMs) having a quantified objective linked to them. Quantified objectives express the intended outcome or ambition of a measure, for example, reducing energy consumption by 10% by 2030 or installing 5 000 electric vehicle charging points by 2028. In addition, 765 PaMs (21%) included at least 1 indicator used to monitor or evaluate progress. Indicators differ from quantified objectives in that they reflect how implementation and impact are tracked. These include ex-ante indicators, used to assess progress in the future, and ex-post policy indicators, which measure achieved results. The 2025 reporting marks an improvement compared with 2023, when 530 PaMs (17%) included such indicators. Furthermore, 750 PaMs in 2025 included at least one quantified indicator and/or policy indicator, representing 21% of the total, more than double the number reported in 2023 (357 PaMs, or 11%).

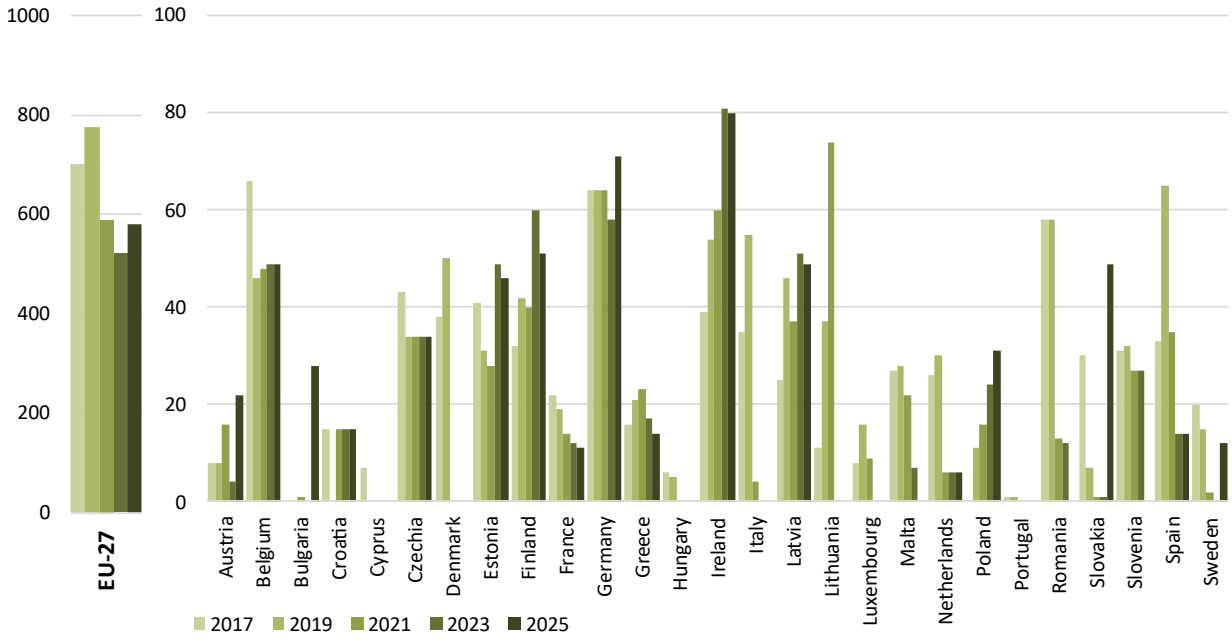
While qualitative information on PaMs helps to better understand the nature of national PaMs, additional data on their effects is crucial to identify successes and shortcomings, and to provide a sound knowledge base for policy decisions. This is why Member States are required, where available, to report quantitative information on GHG emission savings expected from the reported PaMs, either individually or for groups. The voluntary reporting on renewable energy production, energy savings, and costs and benefits of PaMs is still very rare, with little improvement compared with previous reporting years.

In 2025, ex-ante savings were reported for 582 PaMs, with a total of 2 432 data points for the years 2025 to 2055. These data points refer to the different years in the period 2025-2055, with a non-zero reported value under at least one of the categories *ETS*, *ESR*, *LULUCF* or *Total*. The 2025 reporting cycle extended the reporting period from 2040 to 2055. Focusing only on the 2025-2040 period, 1 895 data points were reported in 2025 compared with 1 763 in 2023, showing only a slight increase in quantified data (Figure ES-2). Nevertheless, ex-ante emission savings reporting remains limited, covering less than one-fifth of PaMs. Only 17 Member States reported some information on expected ex-ante emission savings in 2025, with coverage ranging from very high completeness (e.g. 83% of PaMs for Ireland) to as little as 3% in other countries.

In 2025, only seven Member States (Belgium[3], Finland, France, Greece, Ireland, Poland, and Spain) reported information on the ex-post emission savings achieved for 3% of total PaMs (114 single or grouped PaMs). This is less than in 2023 when quantified emission savings were reported for 142 PaMs.

[3] Data for Belgium is based on the report submitted in 2023.

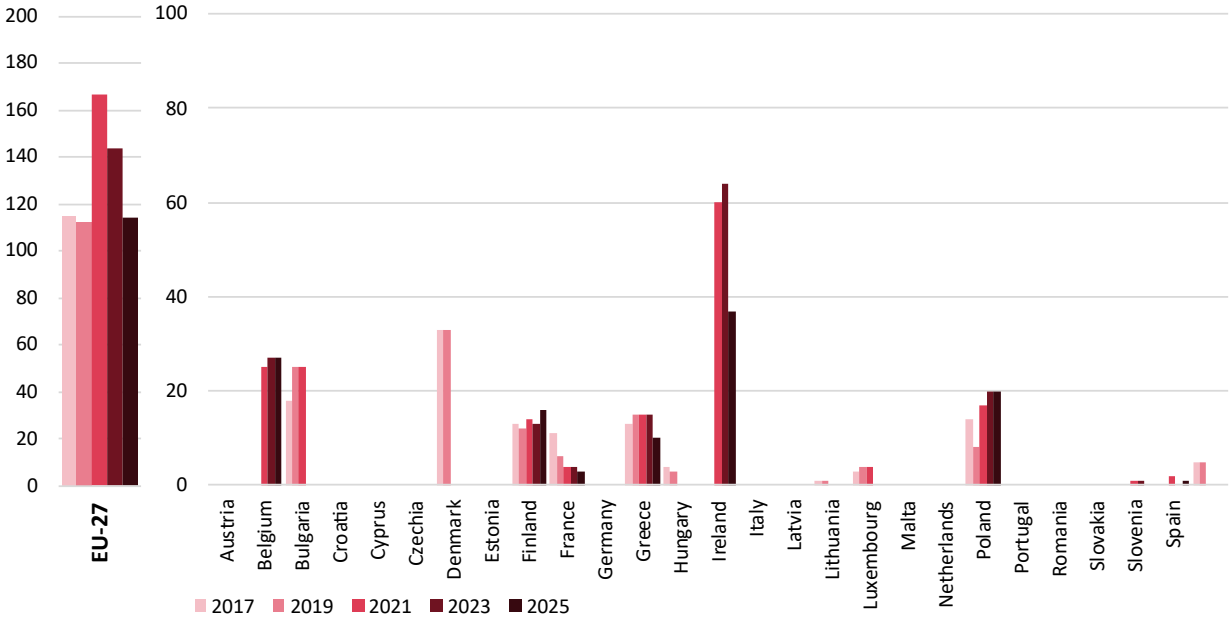
Figure ES-2 **Total number of PaMs with ex-ante GHG emission savings reported in the EU-27 (left) and by Member State (right).**



Notes: Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on PaMs dataset.

Figure ES-3 **Total number of PaMs with ex-post GHG emission savings reported in the EU-27 (left) and by Member State (right).**



Notes: Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on PaMs dataset.

Assessing the impacts of PaMs is inherently complex due to interactions between multiple policies operating at national, regional, local, and supranational levels, making it difficult to isolate individual effects. The 2025 reporting cycle highlights several recurring issues that continue to affect the accuracy and comparability of PaMs emission savings. Member States apply different methodologies (e.g. top-down versus bottom-up), leading to inconsistencies in estimates. Reported PaMs also remain misaligned with projections, with WAM impacts not matching the differences between WEM and WAM scenarios. As a result of these methodological and definitional differences, summing PaMs impacts at EU level does not yield robust results, making comparison and aggregation of ex-ante and ex-post savings uncertain.

> **The completeness and quality of quantitative information on PaMs impacts remain key challenges, limiting the ability to fully assess Member States' progress towards national and EU climate and energy targets and objectives. Strengthening methodologies and reducing ambiguities in reporting requirements are essential to improve accuracy, comparability, and transparency.**

In 2025, quality assurance and quality control (QAQC) processes were further strengthened, building on lessons from previous cycles. Automated *blocker* checks in the webform increased from 46 to 637, resulting in a substantial improvement in the completeness of mandatory fields. However, post-submission reviews continue to identify issues related to timeliness, incompleteness, consistency, accuracy, and transparency.

Member States also had the option to update information on their national systems for PaMs and GHG projections, covering legal, administrative, procedural, and institutional arrangements, as well as data collection, QAQC processes, the use of models and assumptions, and stakeholder engagement. While changes were often limited, 17 Member States submitted updates in 2025. Although not mandatory, it is important that these national systems are kept up to date to ensure transparency and reliability of reported information.

1 Introduction

This report presents a synthesis of the information on national integrated climate and energy policies and measures (PaMs) and national systems for PaMs and projections reported by EU Member States under the EU Governance Regulation 2018/1999 (hereinafter referred to as the Governance Regulation), and its Implementing Regulations. In the Governance Regulation, PaMs are defined as:

> *"[…] all instruments which contribute to meeting the objectives of the integrated national energy and climate plans and/or to implement commitments […] of the UNFCCC, which may include those that do not have the limitation and reduction of greenhouse gas emissions or change in the energy system as a primary objective".*

Reporting on PaMs was already mandatory under the Monitoring Mechanism Regulation (MMR) No. 525/2013, a predecessor of the Governance Regulation, starting in 2015. Member States submitted reports in 2015, 2017, and 2019, with additional mandatory, if applicable, reporting in intermediate years by a selection of Member States where substantial updates existed.

In 2021, Member States reported for the first time on their greenhouse gas (GHG) PaMs under the Governance Regulation (Article 18). The reporting requirements are elaborated in Article 37 and Annex XXIV of Implementing Regulation No. 2020/1208, which specifies the structure, format, submission processes, and review of information provided by Member States.

In 2023, Member States reported for the second time information on their GHG PaMs and, for the first time, on PaMs covering the other dimensions of the Energy Union under the Governance Regulation (Article 17) , as part of the National Energy and Climate Progress Reporting (NECPR). The reporting requirements are elaborated in Articles 7 to 11 and Annexes IX to XIV of Implementing Regulation No. 2022/2299, which defines the structure, format, submission processes, and review of information reported by Member States. Since the requirements are largely similar, the Article 17 and Article 18 reporting were integrated into a single reporting template.

In 2025, the reporting structure remained largely unchanged from 2023, continuing to cover all five Union dimensions. Minor changes were introduced in the reporting template, mainly including the addition of a new sector (energy markets), updates to sector objectives, and the incorporation of recently implemented Union policies and legal provisions related to renewable energy and energy efficiency. The submission and review processes of information reported by Member States followed the same process as in 2023.

Member States must update information on their national system for PaMs and projections whenever substantial changes occur. This information was reported for the first time in 2021 under Article 39 of the Governance Regulation and is further specified in Article 36 and Annex XXIII of the Implementing Regulation No. 2020/1208. These systems cover the institutional, legal and procedural arrangements within a Member State for evaluating PaMs and making projections of anthropogenic GHG emissions. The national system report should also describe the use and application of data, methods and models, as well as the implementation of quality assurance and quality control activities and sensitivity analyses. In addition, the national system must ensure that the reported information is timely, transparent, accurate, consistent, comparable and complete. Reporting was mandatory only in 2021; in subsequent years Member States are required to report only modifications to their national system.

To facilitate Member States in reporting, the EEA developed an online reporting webform, first used in 2015 reporting cycle, based on the template of the Implementing Act. This webform, available via Reportnet 3, has since been updated to reflect the changes in reporting requirements under the Governance Regulation and has been integrated into the new e-reporting for environmental and climate

data. The information that is reported by the EU Member States is also available for consultation and for downloading from Reportnet 3 dataflow (Reportnet 3 Dataflow GovReg: Integrated national policies and measures) and the EEA Datahub (Integrated national climate and energy policies and measures). In addition, the EEA aggregates and disseminates data through two online platforms: the EEA database tool on integrated national climate and energy policies and measures in Europe and the PaMs data viewer on the Climate and Energy in the EU website. The EEA database tool provides access to detailed information on each national PaM as reported by Member States.

1.1 Scope of the analysis

The analysis presented in this report is based on information submitted by Member States under the Governance Regulation up to 19 September 2025. Belgium is the only country that has not made a submission by that date; for this Member State, the report uses gap-filled information from the 2023 report.

For each PaM falling under Articles 17 and 18 of the Governance Regulation and its Implementing Acts, the following information shall be reported by the EU Member States, with the level of obligation of reporting indicated in brackets:

- Annex - PaMs attributes and progress (hereinafter referred to as Annex IX):
  - Identification number (ID), number in NECP, name, and description (mandatory);
  - Dimension(s) (mandatory) and related information (mandatory, if applicable);
  - Projection scenario in which the PaM is included, required for every PaM in the 2025 reporting cycle (mandatory);
  - Geographical coverage (mandatory);
  - Sectors affected, and objectives (mandatory);
  - Objective (quantified if available) (mandatory);
  - Type of instrument used (mandatory);
  - Union policy which resulted in the implementation of the PaM (mandatory);
  - Current status and period of implementation (start and end year) (mandatory for status and start year, and mandatory if applicable for end year);
  - Entities responsible for implementing the policy (mandatory);
  - Indicators used to monitor and evaluate progress (mandatory, if applicable);
  - Contribution of the policy or measure to the achievement of the Union's climate-neutrality objective and to the achievement of the long-term strategy (mandatory);
  - Ex-ante GHG emission savings for years ending in zero or five, starting from 2025 (with the reporting period extended from 2040 to 2055 in the 2025 cycle), disaggregated by EU ETS, ESR and LULUCF where available (mandatory, if applicable);
  - Ex-post GHG emission savings for the same years and disaggregation as ex-ante GHG emissions (mandatory, if applicable);
  - Ex-ante renewable energy production for the same years as ex-ante GHG emissions, and ex-post values where available (voluntary);
  - Ex-ante energy savings for the same years as ex-ante GHG emissions, and ex-post values where available (voluntary);
  - Projected and realised costs and benefits related to GHG emission savings (mandatory, if available), renewable energy production (voluntary), and energy savings (voluntary).

- Annex X - New PaMs of the Energy Efficiency Directive (EED) (mandatory only for specific energy efficiency PaMs):

- Energy efficiency Obligation Schemes (EEOS)[4];
- Alternative policy measures[5];
- Information on taxation measures;
- Information on the lifetime of individual actions eligible under the policies and measures reported for Article 7 of the EED.

- Annex XI - EED Article 7 (mandatory only for specific energy efficiency PaMs):
  - Energy savings achieved under Article 7 of the EED for 2022 and 2023.

- Annex XII - EED Article 5 (mandatory only for specific energy efficiency PaMs):
  - Total renovated building floor area of heated and/or cooled buildings owned and occupied by the Member States' central government in 2022 and 2023[6];
  - The amount of energy savings in eligible buildings owned and occupied by the central government in 2022 and 2023[7].

- Annex XIII - Progress towards financing (mandatory only for PaMs that provide funding):
  - Initial investment assumptions;
  - Actual investments up to and including year 2023;
  - Actual investments still to be implemented.

- Annex XIV - Impacts on air quality and emissions to air (mandatory only for PaMs that have an impact on air quality and emissions to air):
  - Quantitative impact of PaMs on emissions of NH_3, NMVOC, NO_x, $PM_{2.5}$, SO_2, and other pollutants, or qualitative information where quantitative data are not available.

1.2 Union policies that affect national climate PaMs

The period between the previous (2023) and current (2025) reporting cycles focused on consolidating and implementing the climate policy framework established earlier.

Following the European elections in June 2024, the political and policy agenda until 2029 was shaped around main challenges facing the EU. The new strategic agenda is framed by the evolving geopolitical context and places strong emphasis on competitiveness, innovation, defence, security, and the protection and strengthening of core European values such as democracy and social fairness. Importantly, continued decarbonisation is recognised not only as a climate imperative but also as a driver for competitiveness and innovation, ensuring the EU's strategic position in the global low-carbon economy. The continued decarbonisation and decarbonisation targets are supported by a robust legal framework, a Europe-wide EU Emissions Trading System, a detailed climate and energy governance framework, and a comprehensive set of supplementary legislation addressing diverse sectors.

The **Governance Regulation of the Energy Union and Climate Action** is the key legislation establishing reliable, inclusive, cost-efficient, transparent, and predictable governance systems to support the achievement of the 2030 and long-term objectives of the Energy Union. Member States submitted their first final integrated National Energy and Climate Plan (NECP) at the end of 2019. In line with Article 14, final updates of the integrated NECPs were due in June 2024. These updates allowed Member States to realign their objectives, targets, and contributions to the latest European and national policies, while also

4 As referred to in Article 7a of Directive 2012/27/EU.

5 As referred to in Article 7b and Article 20(6) of Directive 2012/27/EU) (except taxation measures).

6 As referred to in Article 5(1) of the Directive 2012/27/EU.

7 As referred to in Article 5(6) of Directive 2012/27/EU.

integrating country-specific recommendations in the context of the European Semester as well as obligations arising from the Paris Agreement. The European Commission published its EU-wide assessment of the final updated NECPs in 2025 (European Commission, 2025a), concluding that a gap to the Effort Sharing and LULUCF objectives persists[8], although the gap has narrowed compared with the 2019 NECPs.

In September 2024, the European Commission published a Staff Working Document on the review of the Governance Regulation (European Commission, 2024), acknowledging that the Regulation has shown to be a valuable tool. The quality of information in plans and reporting has improved, although significant information gaps remain, particularly in terms of the actual effects of policies and measures. The digitalisation of reporting through online platforms and the use of common templates has simplified the submission, assessment, and accessibility of data. This review identified further scope to increase alignment of timing and content of different obligations inside and outside of the Regulation in an upcoming revision of the Governance Regulation.

A substantial part of the Union's energy and climate policy was already amended in 2023 bringing it in line with the updated climate target to reduce the EU's net GHG emissions by at least 55% by 2030. This included the Energy Efficiency Directive, the Renewable Energy Directive, the Effort Sharing Regulation and LULUCF Regulation.

On 2 February 2025, the European Commission launched the **Clean Industrial Deal**, responding to growing recognition that ambitious climate mitigation targets and high energy costs pose competitiveness challenges for the European industries. The Clean Industrial Deal outlines concrete actions to turn decarbonisation into a driver of growth, including lowering energy costs, creating quality jobs, and improving the business environment. Focus is placed on supporting energy-intensive industries to decarbonise, adopt clean energy, and tackle high costs, unfair global competition, and complex regulations. The clean-tech sector is identified as central to Europe's future competitiveness, industrial transformation, and circularity economy. Reducing dependencies on third-country suppliers for critical raw materials is highlighted as a key condition for building a competitive and resilient European market.

In March 2024, the **Regulation (EU) 2024/573 on fluorinated greenhouse gases** entered into force, replacing Regulation (EU) No 517/2014. The regulation strengthens controls on the production, import, export, use and destruction of fluorinated greenhouse gases (F-gases), with the aim of progressively phasing down their placing on the market to near zero by 2050. It introduces a tighter quota system for hydrofluorocarbons, new restrictions on products and equipment containing F-gases, and stricter obligations on leak prevention, recovery and certification of operators.

The **revision of the EU ETS,** published after the 2023 reporting deadline, introduced several important changes. Most notably, the cap was tightened to achieve a 62% reduction in emissions by 2030 compared with 2005 levels, brings the EU ETS target in line with the EU's 2030 target. The scope of the EU ETS was expanded to the maritime transport, starting in 2024. To achieve the emission reductions, more resources have been mobilised to support people and businesses in the green transition. Member States have committed to using all EU ETS revenues (or financial equivalent) for climate action and a just, green transition. Additionally, the budgets of the Innovation Fund and Modernisation Fund were significantly increased to support decarbonisation of energy systems and industrial transformation.

A new EU emissions trading system, called **EU ETS2,** was also created to cover emissions from buildings, road transport, and additional industrial sectors not included in the original EU ETS. Operational from 2027, the EU ETS2 is designed to complement existing Green Deal policies and contribute to Effort Sharing

[8] Effort Sharing emissions are expected to decrease by around 38%, two percentage points short of the EU's target of 40%. The EU's 2030 binding target for a renewable energy share of at least 42.5% is almost met, but an ambition gap of 1.5 percentage points remains. There is an ambition gap of 31.1 million tonnes of oil equivalent (Mtoe) for final energy consumption and 47.3 Mtoe for primary energy consumption to meet the EU's target for energy efficiency of 11.7% by 2030.

Regulation targets. The **Social Climate Fund** (EU, 2023) was established, making sure vulnerable groups and micro-enterprises are supported in the green transition.

One of the central ambitions of the EU ETS2 is to increase the renovation rate in the EU, currently around 1%, to the level needed to meet energy and climate targets. The **2024 revision of the Energy Performance of Buildings Directive** (EPBD) (EU/2024/1275) (EU, 2024), supports this objective by requiring Member States to accelerate renovations, prioritise the worst-performing buildings, and stimulate the deployment of renewables. It sets out four focus areas: renovation, decarbonisation, modernisation and digitalisation, and financing and technical assistance.

Looking beyond 2030, the **European Climate Law** requires the EU to adopt a 2040 climate target within six months of the first global stocktake. In July 2025, the Commission proposed a target to reduce the net GHG emissions by 90% by 2040 relative to 1990 levels (European Commission, 2025b). This aligns with the advice of the European Scientific Advisory Board on Climate Change, which called for a 90-95% reduction compared to 1990 levels. A decision on the 2040 target will mark the first step in shaping the EU's post-2030 climate and energy policy framework.

1.3 Outline of the report

This report is structured as follows. Chapter 2 introduces the key characteristics of the PaMs reported in 2025, while Chapter 3 delves into dimension-related reporting. Chapter 4 examines the quantitative expected and realised impacts of PaMs in terms of volume effects and costs and benefits. Chapter 5, then provides an overview of reporting under the additional tables in Annexes X to XIV. Chapter 6 summarises reporting on the national system for PaMs and GHG emission projections, and Chapter 7 discusses in detail the findings of the quality assurance and quality control process. Finally, Chapter 8 draws conclusions and sets recommendations to further improve PaMs reporting.

2 Climate and energy policies and measures in Member States

2.1 Key characteristics of the reported national climate and energy policies and measures

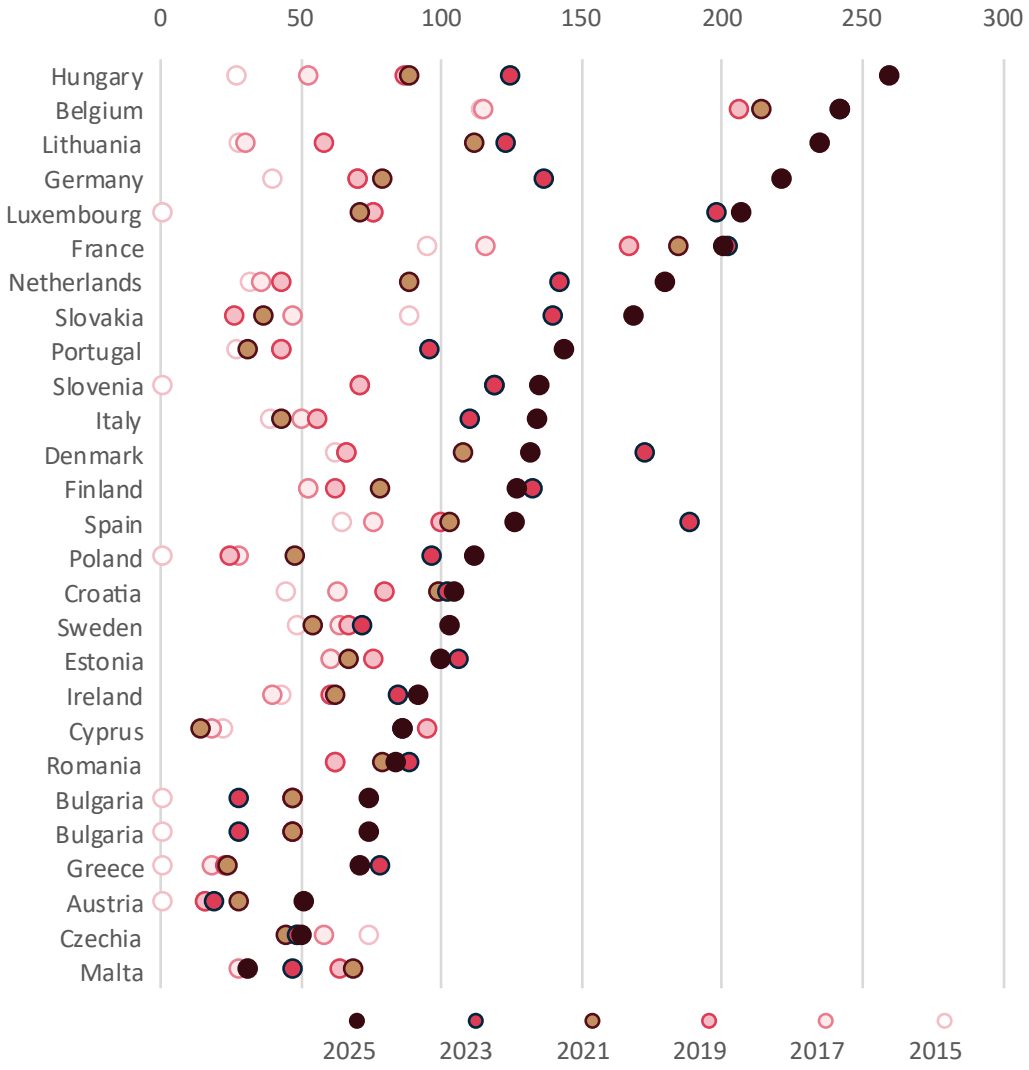
The total number of single PaMs reported increased from 3 039 in 2023 (ETC-CM, 2023) to 3 519 in 2025[9], an average of 130 PaMs per Member State. This represents a 16% increase compared with 2023. In most countries, the number of reported single PaMs increased over time, reaching its highest level in 2025. For example, Austria, Bulgaria, Germany, Hungary, and Lithuania, reported substantial relative and/or absolute increases. These changes reflect not only the addition of new PaMs that are planned, adopted and/or implemented between reporting years, but also the further refinement, adjustment, and complementation of already implemented PaMs. A few exceptions stand out. Spain (-63), Denmark (-41), and Malta (-16) recorded the largest declines in the number of reported single PaMs compared with 2023. Estonia, Finland, France, Latvia, and Romania also reported on fewer single PaMs, which together account for a reduction of 30 PaMs.

Significant differences remain between Member States in the number of reported PaMs. In 2025, Hungary reported the highest number with 259 single PaMs, more than doubling from the 124 PaMs in 2023. Hungary was followed by Belgium[10] (241), Lithuania (234), Germany (220), Luxembourg (206), and France (200), all of which reported more than 200 single PaMs. These countries tended to report PaMs at a highly disaggregated level, while others report at a more aggregated level. Such differences may reflect national reporting cultures, varying interpretations of the legislation, experience gained from the 2023 PaMs reporting cycle, and links to existing UNFCCC reporting in the National Communications and Biennial Reports, which are closely connected to Governance Regulation reporting. A positive development is that Member States which reported very few PaMs in 2023, such as Austria and Bulgaria, increased their reporting substantially, from 18 to 50 and from 27 to 73 respectively. By contrast, Malta reported fewer PaMs for the second reporting cycle in a row, with the number falling from 68 in 2021, down to 49 in 2023, and 30 in 2025. In the case of Malta, the decrease seems to be caused mostly by combining PaMs (e.g. five PaMs on fluorinated greenhouse gases in 2023 were combined in 1 PaM in 2025) and to a minor extent removing PaMs from the 2023 report. It is important to note, however, that the number of single PaMs is not in itself a reliable indicator of the past, current and future ambition level of Member States.

9 Belgium did not report on time to be included in the 2025 report and data was gap-filled with its 2023 submissions.

10 Data for Belgium is based on the report submitted in 2023.

Figure 2-1 Number of single PaMs reported by Member States in different reporting years.

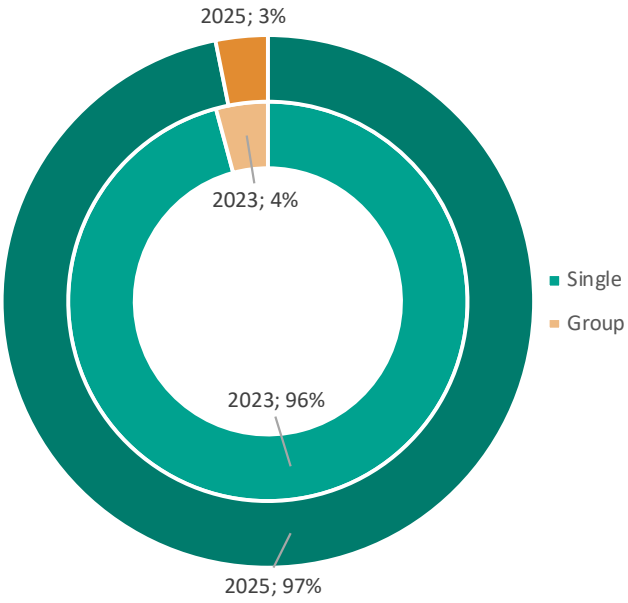


Notes: Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on PaMs datasets.

Member States have the option to provide information on one or more groups of single PaMs. Grouping allows Member States to report information, often quantitative, that is not available at the level of single PaM but only for a group. In the 2025 reporting template, annexes other than IX, did not allow multi-selection of PaM IDs. As a result, multiple PaMs that could previously be reported together had to be entered as a grouped PaM in Annex IX, to report on them in the other annexes. To encourage more complete reporting of quantitative data, the EEA, the ETC-CM, and the European Commission placed increased emphasis on grouping in 2025, providing technical assistance through reporting guidance and training. Despite these efforts, as shown in Figure 2-2, 115 grouped PaMs were recorded in 2025, down from 133 in 2023.

Figure 2-2 Share of single PaMs and grouped PaMs in the EU-27, in 2025 reporting compared with 2023.



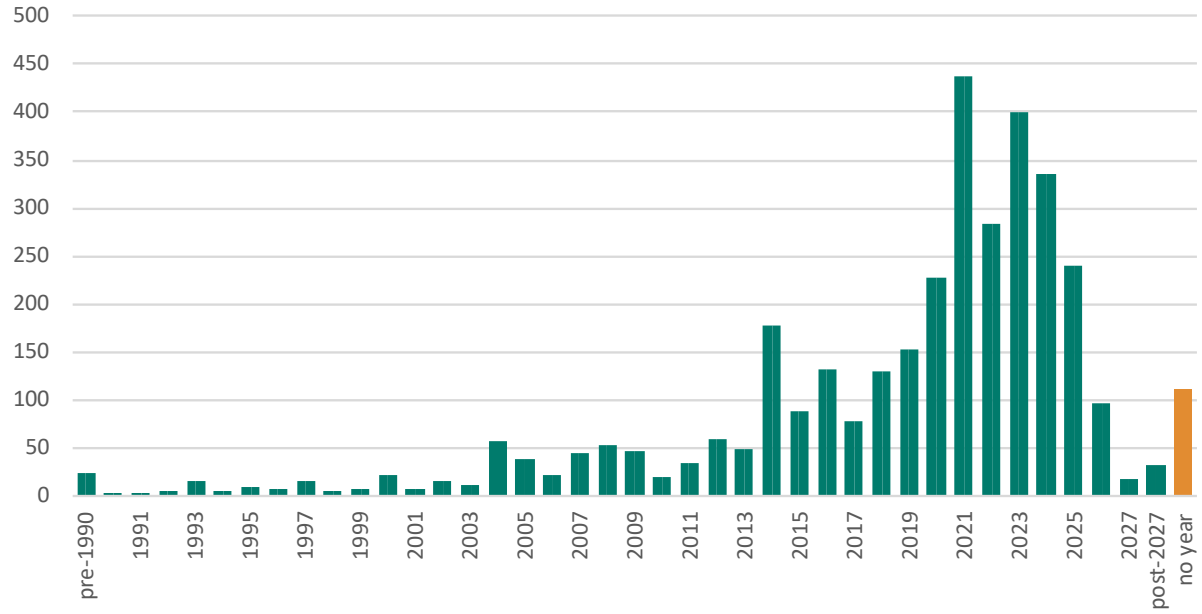
Sources: Authors' calculations/analysis, based on 2023 and 2025 PaMs datasets.

Looking at the starting year of reported single PaMs (Figure 2-3), three periods of accelerated policy development can be observed. This pattern was already visible in the 2023 reporting and is again confirmed in 2025. The first acceleration occurred in 2004, when a markedly higher number of PaMs were implemented compared with earlier years. This is mostly driven by Belgium, as 41 new PaMs started in 2004. While this effect is still visible in the data, it becomes less pronounced with each reporting cycle as several PaMs that started in 2004 have since expired and replaced by new or amended measures. A second increase occurred in 2014. As in 2004 this also seems to be related to a few Member States with many PaMs starting in that year (e.g. Slovakia 44 PaMs and Hungary 20 PaMs). The greatest increase in number of PaMs was recorded in 2021, a finding consistent with the 2023 reporting. This increase in 2021 is found in many Member States and seems to reflect a more general increase in national policy development across the EU.

Notably, 32% of all single PaMs reported in 2025 started in 2023 or later. This high share likely reflects the introduction of new PaMs by many Member States, implementing the NECPs to meet 2030 climate and energy objectives. Some of these PaMs were described and included in the updated NECPs and are now reported under the Governance Regulation.

In 2025 reporting, a substantial number of single PaMs (112) did not include a start year or were reported with a start year of zero. Of these, 53 PaMs were from Belgium's 2023 reporting. Such entries were typically applied for planned PaMs where the start year was unknown, suggesting considerable uncertainty about if or when these PaMs will be implemented.

Figure 2-3 Number of single PaMs by start year in the EU-27 as reported in 2025.



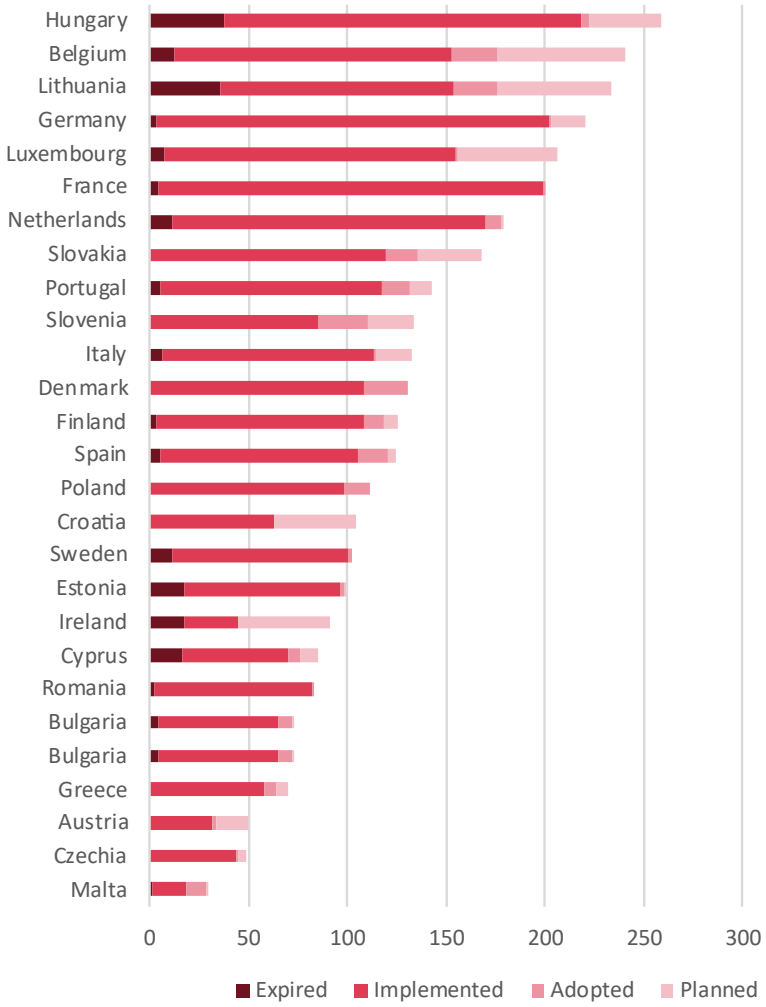
Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

The *implementation status* of reported PaMs can be classified as follows:

- Planned: PaMs that have a realistic chance of being adopted and implemented in the future;
- Adopted: PaMs for which an official government decision has been made and clear commitment to proceed with implementation exists;
- Implemented: PaMs for which one of the following applies: a) national legislation is in force; b) one or more voluntary agreements have been established; c) financial resources have been allocated; or d) human resources have been mobilised;
- Expired: PaMs for which the policy timeline has passed. Expired policies may still have long-term impacts on GHG emissions savings.

As shown in Figure 2-4, as can be expected, most of the single PaMs are implemented (75%). Planned PaMs account for 13% and adopted PaMs for 6%, illustrating that the policy landscape remains dynamic and, with many Member States continuously amending and updating their climate and energy policies to meet their national and the EU objectives and targets. The share of planned reported planned PaMs has steadily decreased across reporting cycles: from 25% in 2019 to 22% in 2021, 16% in 2023, and just 6% in 2025. Expired PaMs represent 6% of reported single PaMs, reflecting only those that still have an effect.

Figure 2-4 Distribution of single PaMs by implementation status per Member State, in 2025 reporting.



Notes: The implementation status is only empty for one PaM, from Poland's report, which is from 2023.

Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

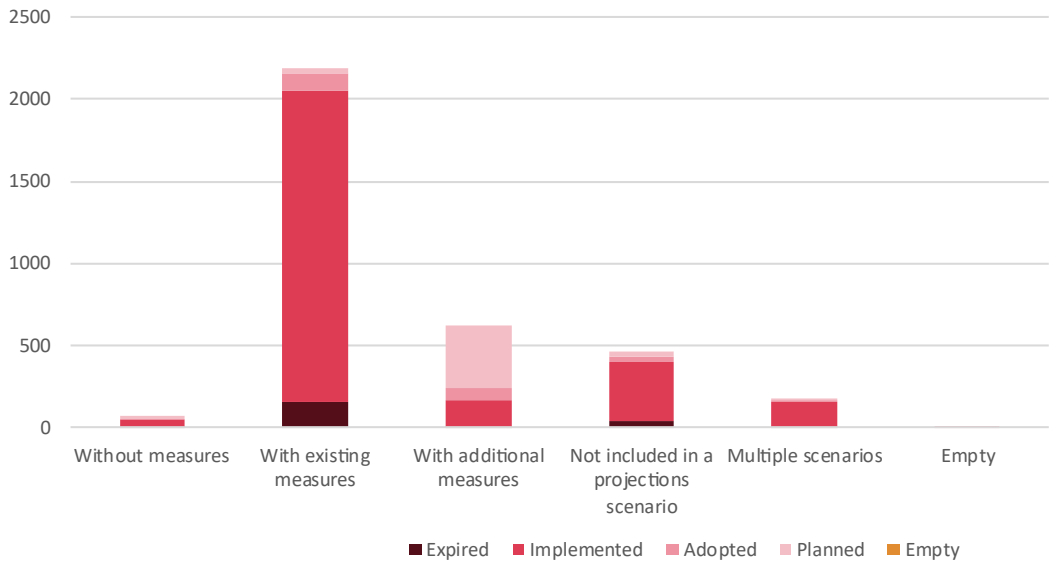
The high combined share of single PaMs that are *expired*, *adopted,* or *implemented* also explains the large proportion of PaMs linked to the *with existing measures* (WEM) projection scenario (62%), as shown Figure 2-5. Linking the reported PaMs to GHG emission projections, which must also be reported biennially and by the same deadline, ensures that emission trends can be interpreted and explained in the context of the national policy landscape. In 2025 reporting, 18% of PaMs were linked to the *with additional measures* (WAM) scenario, while 13% were reported as *not included in a projection* (NIP) scenario. The latter could reflect the expansion of projection scenario reporting to all PaMs[11], including those linked to Energy Union dimensions with limited or no direct impact on GHG emissions.

It should also be noted that Member States reporting is not always consistent with respect to implementation status, start/end year, and projection scenario, especially when the start year is close to the reporting year. In such cases, differences in interpretation arise over whether a PaM should be implemented or adopted, reflecting national circumstances. Misalignments may also occur due to

[11] In previous reporting exercises, projection scenarios were reported only for PaMs related to the dimension *decarbonisation: GHG emissions and removals*, so this assumption cannot be verified against earlier reporting data.

mismatch in the timing between the preparation of PaMs reporting and GHG projections reporting and differences in the underlying assumptions and methodologies used for the two reporting streams. Although guidelines are provided, potential inconsistencies remain between (i) the start year (and end year) and the status of a PaM, and (ii) the status and its assigned projection scenario.

Figure 2-5 Distribution of single PaMs by projection scenario and implementation status in the EU-27 as reported in 2025.

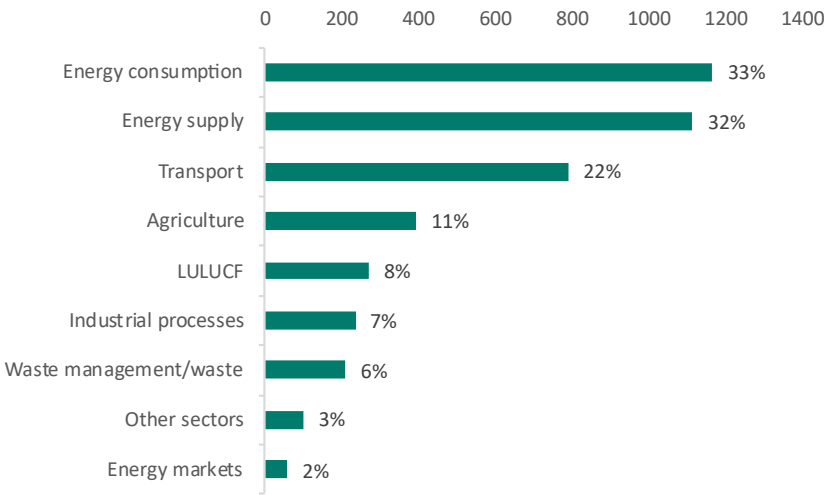


Notes: The implementation status is empty for PaMs in Belgium's report, as this is based on 2023 reporting when it was not mandatory to report on projections scenario.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

For each PaM, the sector(s) affected must be reported. This refers to the sector or sectors where the measure is intended to address a problem or where its impact can be observed. As displayed by Figure 2-6, the sectors most frequently affected sectors by reported single PaMs are *energy consumption* (33%), *energy supply* (32%) and *transport* (22%). Other sectors account for smaller shares, with *agriculture* representing 11%, and the rest even less. In the 2025 reporting, *energy markets* was introduced as a new sector, linked to 59 (2%) single PaMs.

Figure 2-6 Distribution of single PaMs by affected sector in the EU-27 as reported in 2025.



Notes: Multiple sectors may be selected for individual PaMs.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Table 2-1 provides the share of PaMs reported by each Member State per sector. It must be noted that each PaM may be linked to multiple sectors. The total EU-27 shares per sector objective are presented in Annex 1.

Table 2-1 Share of single PaMs by affected sector per Member State, in 2025 reporting.

	Agriculture	Energy consum-ption	Energy markets	Energy supply	Industrial processes	LULUCF	Transport	Waste manage-ment/ waste	Other sectors
Austria	11%	23%	0%	15%	8%	19%	25%	6%	2%
Belgium	5%	37%	0%	24%	4%	4%	29%	3%	6%
Bulgaria	12%	18%	1%	41%	3%	8%	16%	7%	0%
Croatia	16%	33%	1%	37%	13%	14%	15%	10%	7%
Cyprus	2%	49%	0%	72%	1%	1%	20%	4%	0%
Czechia	14%	39%	0%	14%	8%	8%	24%	4%	4%
Denmark	24%	21%	0%	21%	8%	10%	29%	18%	0%
Estonia	15%	29%	0%	22%	2%	15%	20%	5%	1%
Finland	14%	27%	2%	23%	8%	10%	28%	8%	2%
France	15%	26%	1%	20%	10%	14%	31%	11%	6%
Germany	5%	59%	0%	13%	2%	7%	11%	3%	0%
Greece	11%	37%	3%	47%	10%	9%	16%	10%	0%
Hungary	5%	27%	0%	47%	3%	3%	14%	5%	9%
Ireland	16%	57%	0%	15%	1%	5%	13%	1%	0%
Italy	1%	27%	0%	47%	7%	0%	21%	2%	1%
Latvia	23%	30%	0%	14%	1%	23%	19%	4%	0%
Lithuania	14%	15%	3%	27%	12%	4%	23%	3%	0%
Luxembourg	11%	35%	0%	47%	13%	13%	21%	10%	9%
Malta	3%	33%	0%	33%	3%	0%	17%	17%	0%
Netherlands	21%	40%	0%	21%	9%	9%	28%	2%	1%
Poland	9%	19%	0%	61%	6%	5%	16%	4%	5%
Portugal	8%	31%	8%	55%	10%	4%	18%	6%	6%
Romania	19%	25%	0%	20%	11%	14%	28%	17%	0%
Slovakia	13%	48%	0%	13%	2%	5%	17%	3%	0%
Slovenia	9%	34%	14%	43%	4%	8%	25%	4%	0%
Spain	4%	36%	7%	34%	5%	2%	44%	4%	2%
Sweden	10%	29%	4%	26%	11%	9%	29%	10%	0%
EU-27	**11%**	**33%**	**2%**	**32%**	**7%**	**8%**	**22%**	**6%**	**3%**

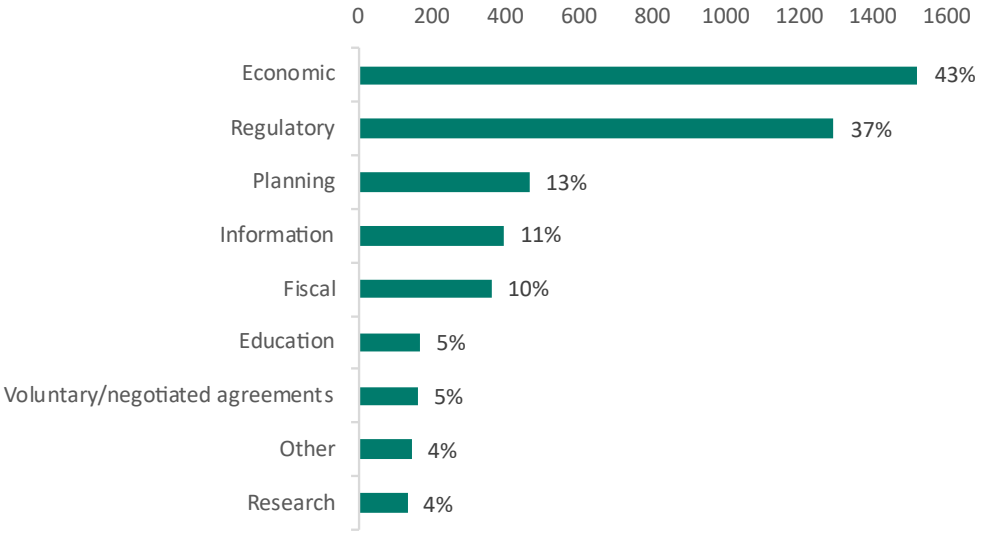
Notes: The shares adding up to over 100% reflect the fact that multiple sectors may be selected for individual PaMs.

Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Member States are required to report the instrument type of each single PaM, distinguishing between *fiscal*, *economic*, *regulatory*, *planning*, *voluntary/negotiated agreements*, *research*, *education*, *information*, and *other* policy instruments. As in previous years, in 2025 economic and regulatory instrument types were dominant, accounting for 43% and 37% of single PaMs respectively (Figure 2-7). These are followed by planning (13%), information (11%), and fiscal (10%) instruments. The remaining types have a combined share of 17%. Table 2-2 provides a detailed breakdown of reported instrument types per Member State.

Figure 2-7 Distribution of single PaMs by instrument type in the EU-27, as reported in 2025.



Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Table 2-2 Share of single PaMs by instrument type per Member State, in 2025 reporting.

	Economic	Fiscal	Voluntary/ negotiated agreements	Regulatory	Information	Education	Research	Planning	Other
Austria	55%	25%	13%	49%	21%	13%	4%	19%	4%
Belgium	30%	10%	11%	28%	20%	6%	4%	17%	9%
Bulgaria	23%	0%	3%	77%	10%	0%	0%	5%	0%
Croatia	79%	1%	2%	35%	14%	20%	7%	39%	0%
Cyprus	33%	14%	1%	55%	7%	6%	2%	18%	1%
Czechia	65%	14%	2%	45%	8%	8%	2%	14%	0%
Denmark	52%	13%	6%	39%	8%	1%	1%	0%	0%
Estonia	75%	4%	1%	23%	9%	4%	5%	6%	2%
Finland	37%	20%	8%	52%	28%	5%	3%	8%	2%
France	39%	12%	4%	42%	20%	4%	1%	14%	0%
Germany	20%	24%	1%	22%	8%	1%	3%	2%	19%
Greece	39%	16%	0%	66%	11%	4%	10%	10%	20%
Hungary	31%	28%	2%	25%	1%	3%	3%	15%	3%
Ireland	38%	11%	13%	48%	13%	22%	2%	4%	0%
Italy	52%	6%	1%	25%	2%	1%	8%	16%	0%
Latvia	68%	7%	16%	26%	5%	0%	0%	10%	0%
Lithuania	65%	6%	0%	22%	2%	6%	8%	3%	3%
Luxembourg	30%	5%	7%	39%	13%	2%	4%	17%	7%
Malta	37%	0%	0%	13%	3%	0%	3%	27%	17%
Netherlands	46%	7%	13%	20%	12%	2%	8%	6%	0%
Poland	48%	3%	3%	55%	4%	5%	3%	5%	12%
Portugal	22%	8%	9%	51%	20%	10%	7%	36%	1%
Romania	23%	0%	0%	63%	0%	0%	1%	25%	0%
Slovakia	55%	2%	2%	50%	4%	2%	1%	2%	1%
Slovenia	59%	5%	0%	31%	32%	11%	1%	33%	7%
Spain	58%	3%	4%	34%	8%	5%	5%	22%	1%
Sweden	35%	9%	1%	37%	20%	1%	2%	7%	0%
EU-27	**43%**	**10%**	**5%**	**37%**	**11%**	**5%**	**4%**	**13%**	**4%**

Notes: The shares adding up to over 100% reflect the fact that multiple instrument types may be selected for individual PaMs.

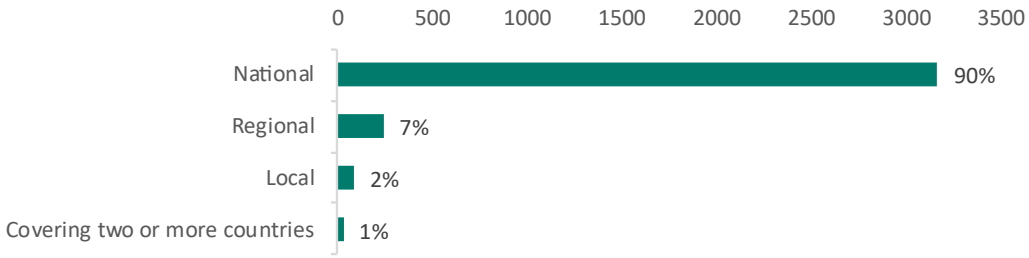
Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

As shown in Figure 2-8, most PaMs (90%) are implemented at national level. A smaller share (7%) is implemented at regional level, most of which were reported by Belgium[12], although more than half of Member States (15), most notably France and Greece, also reported regional PaMs. Member States additionally have the option to report PaMs affecting other countries, for example, those contributing to cross-border infrastructure projects. Hungary, Germany and Luxembourg reported the largest number of single PaMs covering two or more countries.

12 Data for Belgium is based on the report submitted in 2023.

Figure 2-8 Distribution of single PaMs by geographical coverage in the EU-27, in 2025 reporting.

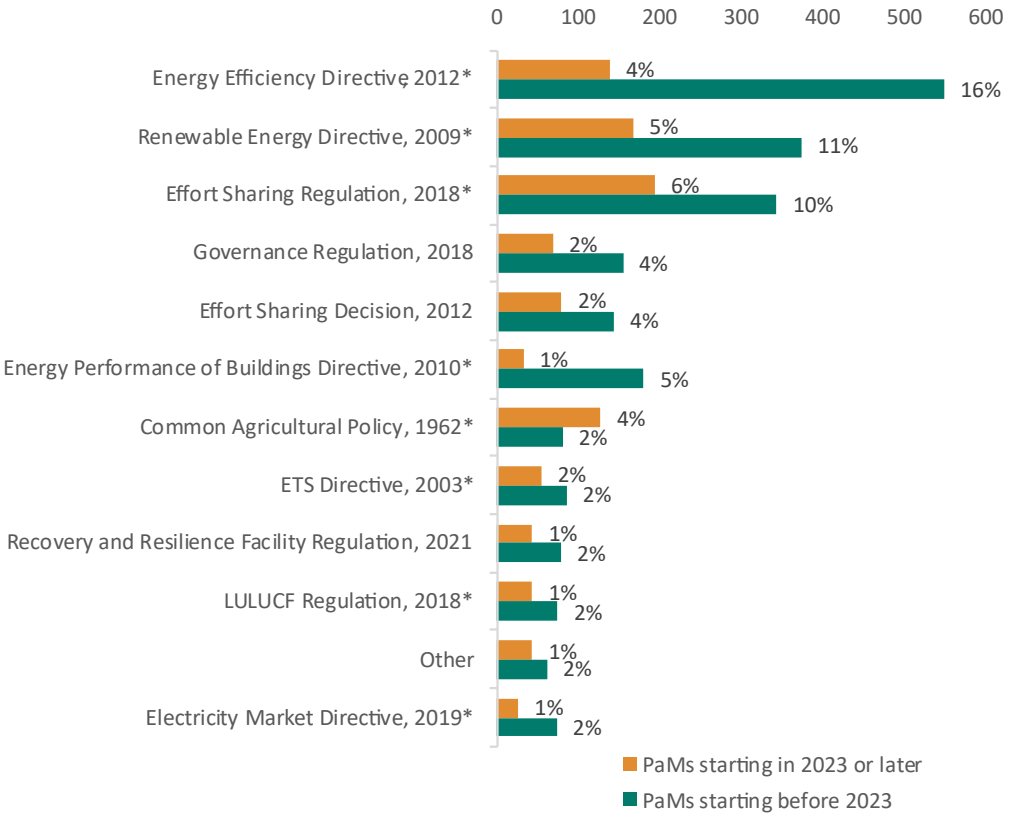


Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Furthermore, most single national PaMs are implemented in response to one or more Union policies. As shown in Figure 2-9, in 2025 reporting, the most frequently referenced Union policies are the Energy Efficiency Directive (Directive 2012/27/EU, 20%), the Renewable Energy Directive (Directive 2018/2001; 15%), and the Effort Sharing Regulation (Regulation EU 2018/842, 15%). The Effort Sharing Decision, predecessor of the Effort Sharing Regulation, continued to be reported relatively often (6%), even for new PaMs starting 2023 or later.

Although the EU ETS is one of the most important EU climate mitigation policies, it requires relatively few national PaMs for national implementation and is therefore selected less often (4% of all single PaMs). A notable change compared with the 2023 reporting cycle is the increased share of Union policies linked to other Energy Union dimensions beyond decarbonisation and energy efficiency. These include, for example, the Recovery and Resilience Facility Regulation, the Electricity Market Directive, the European Structural and Investment Funds, and the Electricity Market Regulation.

Figure 2-9 Distribution of single PaMs across the 12 most frequently-reported Union policies in the EU-27, in 2025 reporting.



Notes: * Union policies with high relevance.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Box 1 PaMs for buildings and road transport, complementing the EU ETS2 and Social Climate Fund.

The EU Emissions Trading System (EU ETS) has been extended to road transport, buildings, and small industries under the new EU ETS2, which will become fully operational in 2027. The EU ETS2 aims to reduce emissions by 42% by 2030 compared to 2005 levels and is expected to make a substantial contribution to the EU's 2030 climate targets. As a market-based instrument, it provides economic incentives for reducing GHG emissions, complemented by the Social Climate Fund to support investments in energy efficiency, building decarbonisation, clean mobility, and temporary income support for vulnerable groups.

To explore how the reported PaMs align with the objectives of the EU ETS2 and the Social Climate Fund, just over 400 relevant single PaMs were identified in the buildings and road transport sectors. Of these, 71% are implemented, 15% are planned, 5% are adopted, and 9% are expired. About 62% target energy consumption in buildings, one-third address transport, and 4.5% cover both sectors. Within these, 70 PaMs promote renewable energy generation and cleaner energy supply, while 9 address energy markets and households through energy communities, participation frameworks, or measures tackling energy poverty. In terms of instruments, 40% of PaMs are economic (mainly direct financial aid), rising to 58% when economic type is mixed with other instruments. Regulatory instruments account for 15%, fiscal 9%, planning 8%, information 5%, while research, education, and voluntary agreements each represent 1% or less.

Focusing on PaMs specifically targeting residential buildings, five main themes emerge from the dataset. For each theme, non-exhaustive examples are provided below.

1. **Financial support for decarbonisation of buildings** aims to make building energy performance upgrades and integration of renewable energy more affordable through grants, loans, and tax incentives. For example, the Dutch *ISDE subsidy* (ID 25) provides economic support for smaller renewable heating technologies, such as heat pumps and biomass boilers for households. Similarly, Lithuania (ID 8) has an economic scheme to *modernise space and water heating systems in buildings*.
2. **Energy poverty alleviation in buildings** is observed through measures that aim to reduce energy costs for vulnerable households via direct financial aid and social support. For example, Austria has a set of *measures against energy poverty* (ID 48) providing social support for low-income households. Belgium's *0% energy loan* (ID 50) provides interest-free loans for vulnerable families[13], Denmark's *SHDF-3 scheme* (ID 75) delivers financial aid to the social housing sector, and Spain's *social bonus* (ID 703) offers discounts on electricity and heating bills for vulnerable consumers.
3. **Regulatory measures** set minimum requirements and standards for buildings and equipment. For example, Ireland and Finland have implemented building regulations (ID 54 and ID 24, respectively) to establish minimum energy performance standards for new and renovated buildings, while Austria has adopted eco-design standards (ID 25) for equipment used in buildings.
4. **Enabling measures for renewable energy production and energy communities** focus on developing infrastructure that enables renewable energy production, district heating, and energy communities. For instance, Greece and Slovenia are investing in distribution network upgrades (ID 33 and ID 87, respectively) to improve infrastructure for renewable energy integration and electrification. Furthermore, Portugal has launched community energy-related PaMs (example ID 88) to promote local renewable self-consumption and energy communities.

[13] Data for Belgium is based on the report submitted in 2023.

5. **Information and advisory services** aim to provide technical advice, information, and financial guidance to households. In Malta, an advisory scheme (ID 4) offers financial advice and appliance replacement for vulnerable households, while Hungary has introduced certification labels for the energetic characteristics of buildings (ID 312).

In the road transport sector, focusing on private use only, four key themes prevail in the PaMs dataset. For each theme, non-exhaustive examples are presented below.

1. **Incentives for fuel switching and decarbonisation of private transport** promote the uptake of low-carbon vehicles through grants, subsidies, and other planning incentives. For example, in Cyprus, *purchase incentives for electric vehicles* (EV) *(ID 60)* offer grants and subsidies to boost EV uptake. Likewise, in Lithuania, *incentives for cleaner vehicles* (ID 200) deliver financial support for the purchase and use of low-emission vehicles. France provides grants for the purchase of EV through the *Bonus à l'achat ou à la location de voitures particulières électriques (Bonus for the purchase or rental of electric passenger cars*, ID 110), with the level of support varying by household income decile. In contrast, Slovakia has developed *low emission zones* (ID 159) to encourage the adoption of low-emission vehicles.
2. **Enabling actions for electric mobility through charging infrastructure** focus on developing electric vehicle charging networks and related enabling infrastructure. For instance, the Swedish *support for fast charging along major routes* (ID 80) provides economic incentives for the installation of fast-charging stations nationwide. Similarly, in Slovenia, *infrastructure for charging and alternative fuels* (ID 116) introduces regulatory measures to expand charging points and promote the uptake of alternative fuels.
3. **Modal shift and public transport promotion** aims to reduce reliance on private cars by improving and expanding public transport and sustainable mobility options. In Austria, *Expansion of public transport* (ID 13) channels financing into projects that expand rail networks and cut emissions. In Poland, *Sustainable Urban Mobility Plans* (ID 25) establish long-term strategies for urban mobility to increase public transportation use, and shifts toward cycling and walking. In Belgium, the *Captive fleet zero emission* (ID 193) introduced new regulations for car sharing[14]. Denmark's *Climate agreements on transport* (ID 53) reflect government commitments to greener public transport mobility.
4. **Taxation and pricing measures** use fiscal tools to shift consumer behaviour and promote low-carbon choices. For example, in Finland, *Vehicle tax reform* (ID 78) introduced a new taxation scheme to encourage the purchase of low-emission vehicles. In Belgium, *Tax deductions for EV purchase and charging infrastructure* (ID 218) provide fiscal incentives to support both electric vehicle adoption and the rollout of charging infrastructure[15]. In France, the *Malus écologique sur les véhicules neufs* (*ecological penalty on new vehicles*, ID 118), imposes a surcharge on the purchase price of new vehicles based on their carbon dioxide (CO_2) emissions and weight.

2.2 Link with the National Energy and Climate Plans

In June 2024, Member States had to submit their final updated National Energy and Climate Plans (NECPs)[16]. The plans set out updated national objectives and targets, as well as the PaMs that the Member States plan to adopt to meet the 2030 objectives for energy efficiency, renewable energy, and GHG emissions mitigation.

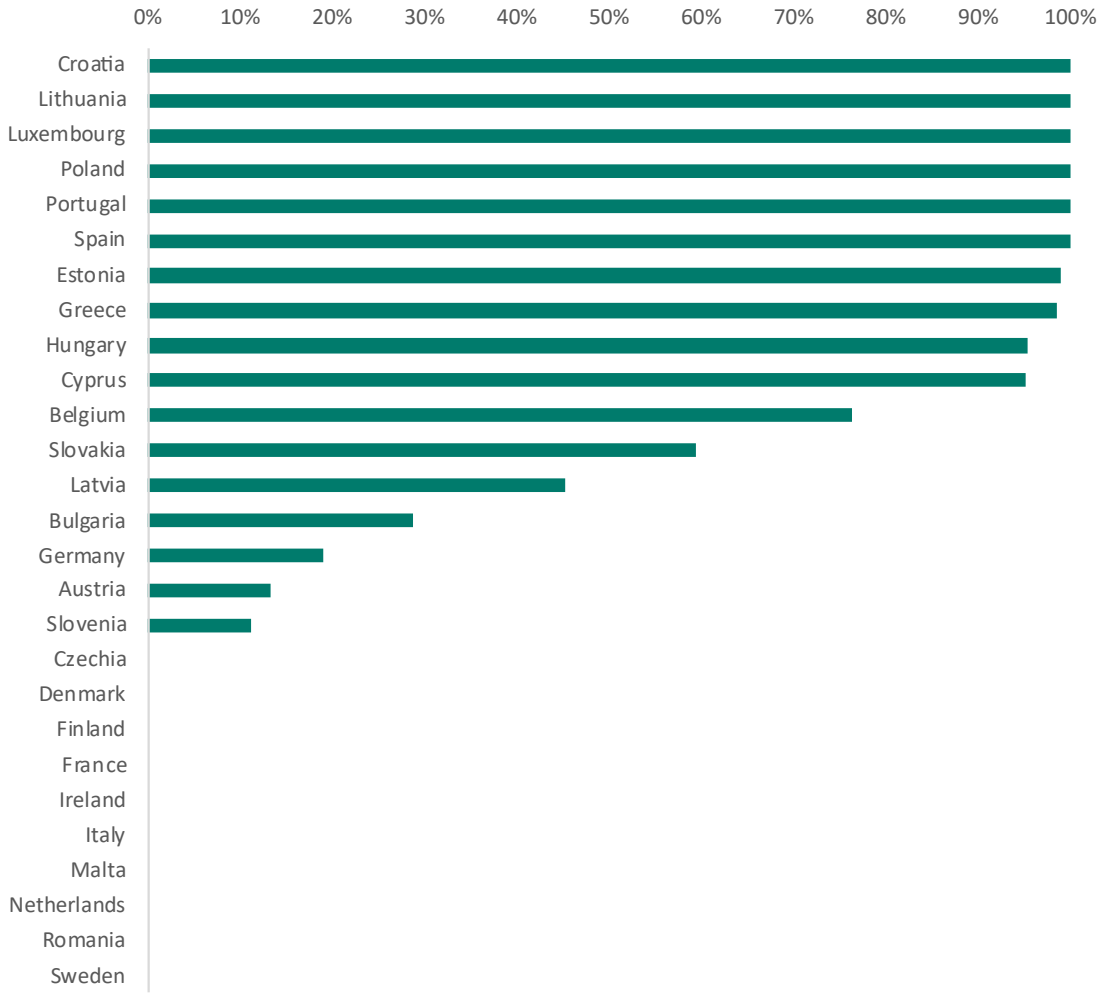
[14] Based on PaMs reported by Belgium in 2023 reporting cycle.

[15] Ibid.

[16] Available on: National energy and climate plans.

When reporting on the national integrated PaMs, Member States may indicate the PaM number used in the NECP, if it differs from that provided in the PaMs report. If a PaM was not included or not numbered in the NECP, this field may be left empty. The NECP reference number was not provided by all Member States. In the 2025 reporting, 17 Member States made this reference for at least 1 PaM. Croatia, Lithuania, Luxembourg, Poland, Portugal, and Spain referenced the NECP number for all their single PaMs, while Estonia, Greece, Hungary, and Cyprus did so for the vast majority (over 90%). The remaining 10 Member States did not link any of the PaMs reported in the NECPR to those in the NECP. It is unclear why this is the case, whether because the reference numbers are identical for all PaMs in both reports, or due to incomplete reporting.

Figure 2-10 Share of PaMs linked to NECP per Member State, in 2025 reporting.



Notes: A 100% share indicates that all the PaMs reported under Article 17 of the Governance Regulation are linked to an NECP ID. However, this does not necessarily mean that all PaMs included in the NECP are reported under Article 17.

Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

2.3 Iceland, Norway and Switzerland

In 2025, Iceland, Norway and Switzerland reported on their national GHG PaMs. Unlike EU Member States, European Free Trade Association (EFTA) countries are required to report only on their GHG PaMs (corresponding to Article 18 of the Governance Regulation).

In total, the three countries reported 190 single PaMs, averaging 63 per country. This marks a substantial increase compared with 2023, when they reported a total of 166 single PaMs. As the scope of reporting has not changed, the increase (14%) is similar in scale to that observed for EU Member States (15%). Most PaMs in Iceland, Norway, and Switzerland were implemented before 2023 (62%), while a smaller share (38%) refers to new PaMs implemented in 2023 or later. This share of new PaMs is higher than in 2023, suggesting an acceleration of climate and energy policy developments in these countries.

Compared to the EU Member States, PaMs in the EFTA countries are more evenly distributed across sectors, a pattern already visible in the 2023 reporting. Transport-related PaMs are the most frequently reported (37%), while other sectors range from 8% for *LULUCF* to 14% for both *energy consumption* and *energy supply*. The relatively low share for *energy consumption* and *energy supply* differs from the pattern in most EU Member States, where these sectors usually dominate.

The type of instruments used are broadly similar across the three countries. Regulations (44%) and economic (41%) instruments are reported most frequently, followed by planning instruments (13%). Information (11%) and fiscal (10%) instruments also appear relatively often, while other instrument types represent smaller shares of 5% or less.

3 Reported dimensions of policies and measures

3.1 Overview of reported dimensions of policies and measures

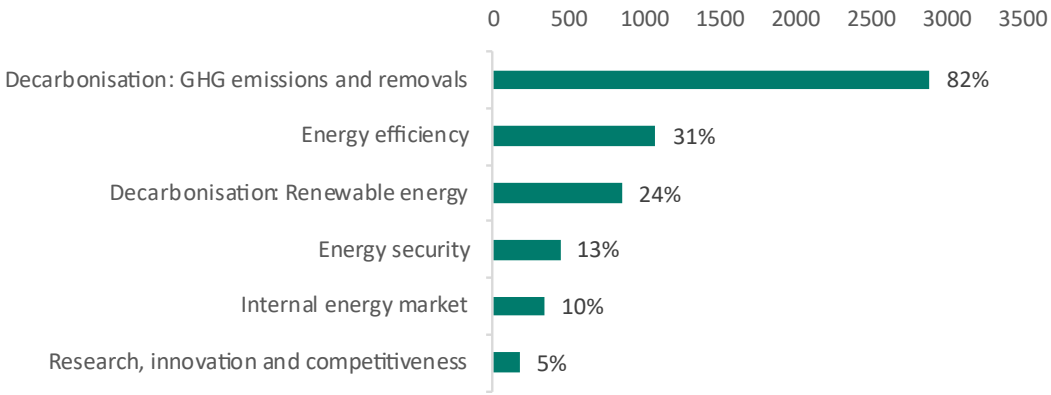
The NECPs set out how each Member State plans to achieve its national objectives and contributions to the EU's targets across the five dimensions of the Energy Union. These dimensions are:

- Decarbonisation;
- Energy efficiency;
- Energy security;
- Internal energy market; and
- Research, innovation and competitiveness.

Since the dimension of decarbonisation accounts for a large share of reported PaMs, it has been further split into two sub-dimensions: *decarbonisation: GHG emissions and removals* and *decarbonisation: renewable energy*. It should be noted that in PaMs reporting, a PaM may fall under multiple different dimensions, for example, a PaM may be linked to both *energy security* and *decarbonisation: renewable energy*. For PaMs reported under the dimension *decarbonisation: renewable energy* and *energy efficiency,* Member States are also encouraged to include the dimension *decarbonisation: GHG emissions and removals*, since such PaMs are likely to have an impact on GHG emissions. However, reporting across dimensions in these cases does not seem to be complete. The completeness of dimensions reporting is discussed in more detail in Chapter 7.

Due to introduced blockers in the PaMs dataflow in Reportnet 3, all PaMs are associated with at least one dimension. Despite this improvement, dimensions other than *decarbonisation: GHG emissions and removal* are still less reported, even though the new dimensions have been in place since 2023. As shown in Figure 3-1, *decarbonisation: GHG emissions and removals* remains the most frequently reported dimension, covering 2 888 (82%) of single PaMs. This is 1 811 more than the second most common dimension, *energy efficiency,* which accounts for 31% of single PaMs, while *decarbonisation: renewable energy* represents a share of 24%. Together, *energy security, internal energy market, and research, innovation and competitiveness* account for 27% of PaMs, with the latter making up the smallest share at just 5%.

Figure 3-1 Distribution of single PaMs by dimension in the EU-27, as reported in 2025.



Notes: Multiple dimensions may be selected for individual PaMs.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Across the EU, the number of PaMs under each dimension varies considerably, as shown in Table 3-1. In four Member States, Czechia, Denmark, Ireland, and Latvia, all reported PaMs fall under *decarbonisation: GHG emissions and removals dimension*. Slovakia is the only country where the majority of PaMs are linked to another dimension, with 58% reported under *energy efficiency*.

Some dimensions are less reported on in several countries. In five Member States, no PaMs were reported under *internal energy market* and *research, innovation and competitiveness*, and in four Member States no PaMs were reported under *energy security*. Conversely, Poland (20%), Greece (14%), and Italy (13%) report the highest shares of PaMs under *research, innovation and competitiveness*. For the *internal energy market*, the highest shares are observed in Cyprus and Hungary (both 34%), followed by Portugal (23%).

Table 3-1 Share of single PaMs by dimension per Member State, in 2025 reporting.

	Decarbonisation: GHG emissions and removals	Decarbonisation: Renewable energy	Energy efficiency	Energy security	Internal energy market	Research, innovation and competitiveness
Austria	81%	19%	17%	6%	4%	2%
Belgium	98%	15%	24%	0%	2%	1%
Bulgaria	99%	48%	15%	3%	3%	0%
Croatia	86%	10%	25%	11%	10%	6%
Cyprus	87%	55%	58%	40%	34%	2%
Czechia	100%	0%	4%	0%	0%	0%
Denmark	100%	21%	11%	0%	0%	3%
Estonia	99%	33%	40%	11%	0%	6%
Finland	91%	17%	26%	6%	4%	2%
France	99%	11%	24%	2%	2%	7%
Germany	55%	2%	30%	5%	1%	6%
Greece	37%	23%	10%	23%	14%	14%
Hungary	82%	34%	37%	66%	34%	5%
Ireland	100%	9%	64%	7%	9%	0%
Italy	80%	45%	35%	8%	13%	13%
Latvia	100%	23%	42%	3%	0%	0%
Lithuania	74%	15%	14%	5%	10%	9%
Luxembourg	74%	29%	21%	6%	5%	3%
Malta	50%	17%	40%	20%	3%	3%
Netherlands	99%	33%	36%	9%	13%	9%
Poland	61%	37%	46%	34%	22%	9%
Portugal	55%	48%	25%	14%	23%	7%
Romania	99%	4%	13%	0%	1%	1%
Slovakia	40%	2%	58%	0%	0%	0%
Slovenia	94%	39%	49%	22%	15%	1%
Spain	90%	51%	40%	11%	9%	11%
Sweden	95%	25%	21%	6%	8%	3%
EU-27	**82%**	**24%**	**31%**	**13%**	**10%**	**5%**

Notes: The shares adding up to over 100% reflect the fact that multiple dimensions may be selected for individual PaMs.

Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Further dimension-specific information is requested from Member States, depending on the dimensions they link with each PaM. The reporting on these aspects is discussed in the following sections.

3.2 Reported dimension-specific characteristics of policies and measures

3.2.1 Dimension-related objectives, targets and contributions

Table 3-2 Share of single PaMs by objective, target, or contribution in the EU-27, in 2025 reporting.

Dimension	Objective, target and contribution	Share of single PaMs
Decarbonisation: GHG emissions and removals	Binding national target for greenhouse gas emissions	65%
	National commitments pursuant to Regulation (EU) 2018/841	5%
	Other objectives and targets	14%
Decarbonisation: Renewable energy	Contribution to the Union's binding renewable energy target for 2030	17%
	Estimated trajectories for sectoral shares of renewable energy in final energy consumption	7%
	Estimated trajectories by renewable energy technology	2%
	Estimated trajectories on disaggregated bioenergy demand	0%
	Other national trajectories and objectives	3%
Energy efficiency	Indicative national energy efficiency contribution to the 2030 Union's energy efficiency targets	13%
	Cumulative amount of end-use energy savings on the energy saving obligations	13%
	Indicative milestones of the long-term strategy for the renovation of buildings	3%
	Total floor area to be renovated in public bodies' buildings	1%
	Other national objectives	8%
Energy security	National objectives to increase the diversification of energy sources and supply from third countries	3%
	National objectives to reduce energy import dependency from third countries	3%
	National objectives to increase the flexibility of the national energy system	4%
	National objectives to address constrained or interrupted supply of an energy source	8%
Internal energy market	Level of electricity interconnectivity in 2030	0%
	Key electricity and gas transmission infrastructure projects	2%
	Main infrastructure projects	1%
	National objectives related to other aspects of the internal energy market	5%
	National objectives on non-discriminatory participation of renewable energy, demand response and storage	1%
	National objectives to ensure consumer participation in the energy system	1%
	National objectives to ensure electricity system adequacy and energy system flexibility	1%
	National objectives to protect energy consumers and improve the competitiveness of the retail energy sector	1%
	National objectives on energy poverty	1%
Research, innovation and competitiveness	National objectives and funding targets for public and private research and innovation	2%
	National 2050 objectives to promote clean energy technologies	3%
	National objectives on competitiveness	1%

Notes: Names are shortened for convenience. The complete titles of the objectives, targets and contributions can be found in Annex 2.

Multiple objectives, targets, or contributions may be selected for individual PaMs.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Out of the 3 519 single PaMs reported by Member States, all PaMs are associated with at least 1 of the Energy Union's relevant objectives, targets, or contributions. This improvement results from blockers introduced in Reportnet 3 in 2024. Almost half (45%) of all reported objectives, targets, or contributions are linked to dimension *decarbonisation: GHG emissions and removals*, covering 2 949 PaMs. This is followed by objectives, targets, or contributions linked to *energy efficiency* (1 322 PaMs), *decarbonisation: renewable energy* (1 029 PaMs), *energy security* (616 PaMs), *internal energy market* (450 PaMs), and *research, innovation and competitiveness* (203 PaMs). The most frequently reported target is *Member State's binding national target for greenhouse gas emissions and the annual binding national limits pursuant to Regulation (EU) 2018/842*, with 65% of PaMs linked to it.

3.2.2 Decarbonisation: GHG emissions and removals-related characteristics

Table 3-3 Share of single PaMs by affected GHG emission per Member State, in 2025 reporting.

	CO_2	CH_4	N_2O	SF_6	NF_3	HFC	PFC
Austria	79%	51%	56%	2%	2%	2%	2%
Belgium	96%	8%	5%	2%	1%	4%	2%
Bulgaria	88%	32%	33%	1%	1%	1%	1%
Croatia	90%	37%	38%	6%	0%	4%	0%
Cyprus	96%	3%	1%	0%	0%	1%	0%
Czechia	90%	29%	20%	4%	4%	6%	6%
Denmark	84%	44%	43%	3%	0%	3%	3%
Estonia	90%	87%	91%	1%	0%	1%	1%
Finland	88%	27%	27%	9%	2%	9%	9%
France	94%	24%	15%	10%	7%	11%	10%
Germany	84%	40%	44%	14%	12%	14%	13%
Greece	88%	8%	0%	4%	0%	4%	4%
Hungary	92%	84%	86%	10%	0%	0%	10%
Ireland	82%	7%	10%	0%	0%	1%	0%
Italy	100%	7%	7%	0%	0%	0%	0%
Latvia	73%	21%	22%	0%	0%	0%	0%
Lithuania	89%	28%	28%	0%	0%	1%	0%
Luxembourg	88%	55%	16%	3%	2%	5%	2%
Malta	67%	73%	60%	7%	0%	7%	7%
Netherlands	93%	24%	23%	4%	3%	4%	5%
Poland	93%	32%	34%	3%	0%	3%	3%
Portugal	95%	35%	29%	4%	3%	4%	4%
Romania	88%	39%	41%	7%	0%	10%	9%
Slovakia	72%	47%	44%	0%	0%	0%	1%
Slovenia	87%	12%	8%	1%	0%	2%	2%
Spain	93%	51%	49%	2%	0%	2%	2%
Sweden	93%	21%	13%	8%	7%	8%	9%
EU-27	**90%**	**34%**	**31%**	**4%**	**2%**	**4%**	**4%**

Notes: The shares adding up to over 100% reflect the fact that multiple dimensions may be selected for individual PaMs.

Data for Belgium is based on the report submitted in 2023.

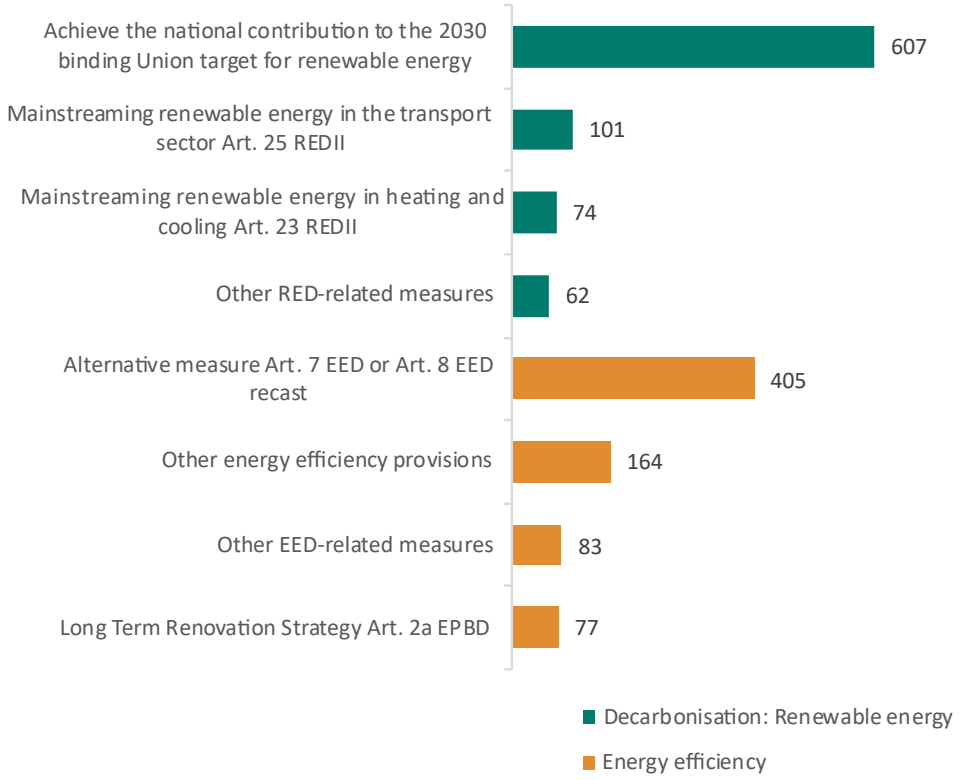
Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

For PaMs linked to dimension *decarbonisation: GHG emissions and removals*, Member States are required to report the affected GHG emissions. In 2025 reporting cycle, all PaMs under this dimension were linked to at least one GHG emission, with carbon dioxide (CO_2) being the most frequently reported emission across the EU-27 (90%). The share of relevant PaMs linked to CO_2 varies by Member State (as shown by Table 3-3), ranging from 67% in Malta 67% and 100% in Italy. Methane (CH_4) and nitrous oxide (N_2O) follow, which are linked to 34% and 31% of relevant PaMs respectively. The four fluorinated GHGs (F-gases), which are hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF6), and nitrogen trifluoride (NF_3), together account for 14% of the relevant PaMs.

3.2.3 Decarbonisation: Renewable energy and Energy efficiency-related characteristics

Member States are required to report on PaMs contributing to the dimensions *decarbonisation: renewable energy* and *energy efficiency*. For both dimensions, almost 6% of PaMs are not reported to be related to any provision, with just over one-third of these cases arising from Belgium's report, which is based on data reported in 2023. Figure 3-2 highlights the four most frequently reported provisions under these two dimensions. The most reported provision under dimension *decarbonisation: renewable energy* is linked to 607 PaMs[17], and the most reported provision under *energy efficiency* is linked to 405 PaMs[18].

Figure 3-2 Number of single PaMs linked to the four most frequently-reported provisions for each dimension in the EU-27, as reported in 2025.



Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

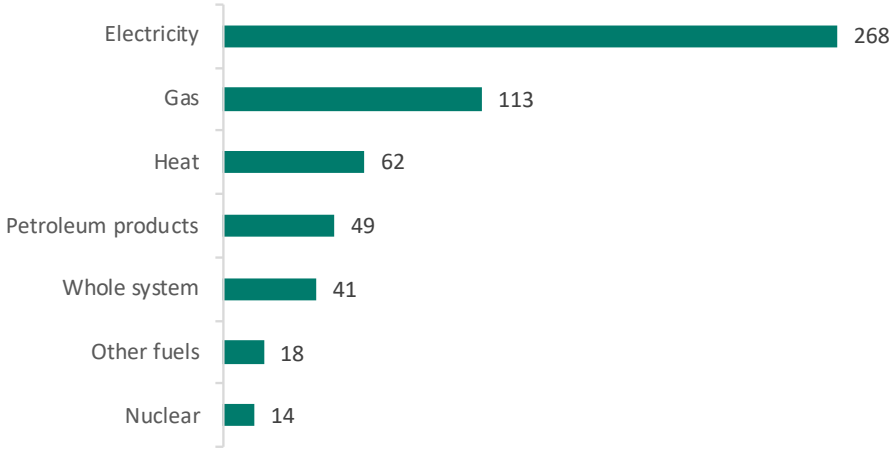
[17] This refers to provision *achieve the national contribution to the 2030 binding Union target for renewable energy as indicated in point (Art. 4(a)(2) of the Governance Regulation as amended by Directive 2023/2413), including sector- and technology-specific measures as indicated in Art. 20(b)(1) of Governance Regulation*.

[18] This refers to provision *alternative measure Art. 7 EED or Art. 8 EED recast*.

3.2.4 *Energy security-related characteristics*

PaMs reported under the dimension *energy security* are linked to affected energy vector(s). Of the 442 PaMs reported under this dimension, all PaMs are associated with at least one vector, and 91 PaMs affect more than one vector. The majority (268 PaMs) are linked to the electricity vector, while nuclear energy is the least affected vector.

Figure 3-3 Number of single PaMs linked to the different energy security vectors in the EU-27, as reported in 2025.

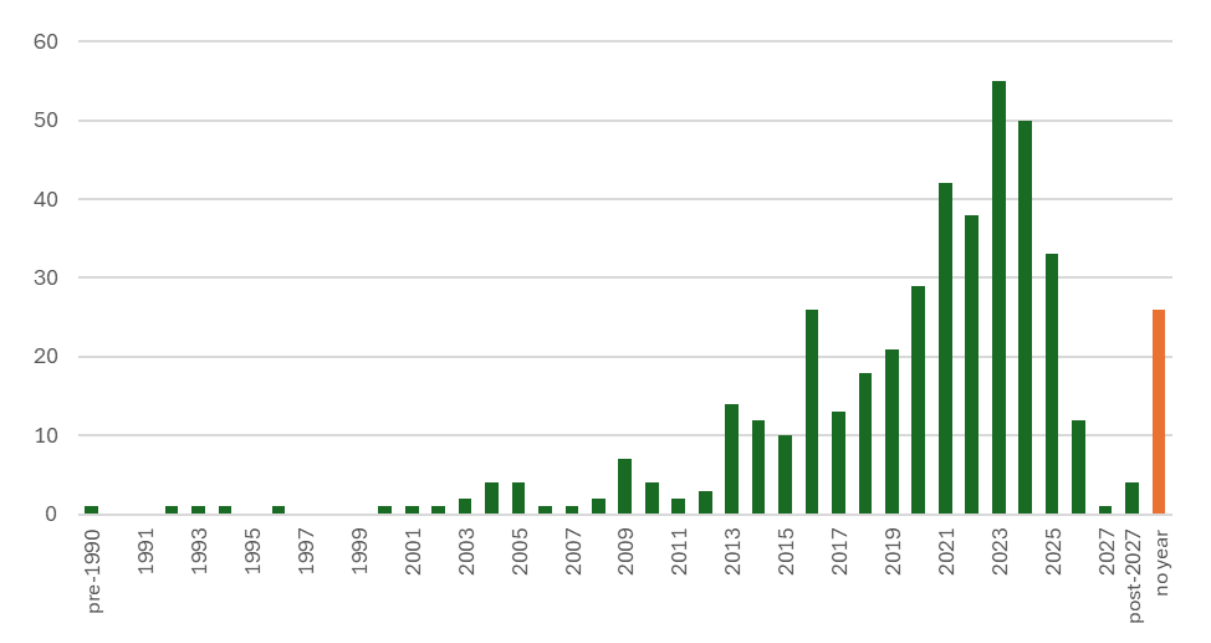


Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Box 2 Energy security PaMs

Despite the important steps taken in the decarbonisation of the energy system, the EU is still very reliant on imported fossil fuels, such as natural gas and petroleum. EU energy import dependency rate, the share of the total EU energy need that is met by imports, stood at 58,4% in 2023 (Eurostat, 2025a). Europe's competitiveness and economic growth is therefore still intrinsically linked to its energy security and autonomy. Increasing energy security in Europe has become a very important topic after the military invasion of Russia into Ukraine in 2022. This resulted in 2022 in the REPowerEU Plan to phase out Russian fossil fuel imports by reducing energy consumption, diversify energy supplies, and produce clean energy. It is also exacerbated by other emerging risks and geopolitical disputes that could further disrupt and undermine Europe's energy security. The EU already reduced gas demand by 18% from August 2022 to November 2024 (European Commission, 2025a) and diversified gas supply to reduce dependence on Russian gas imports. Despite the more recent policy attention for energy security, the distribution of the number of PaMs in the energy security dimension per start year (Figure 3-4), is not different from the number of all PaMs per start year.

Figure 3-4 Number of single PaMs linked to dimension energy security by start year in the EU-27, in 2025 reporting.

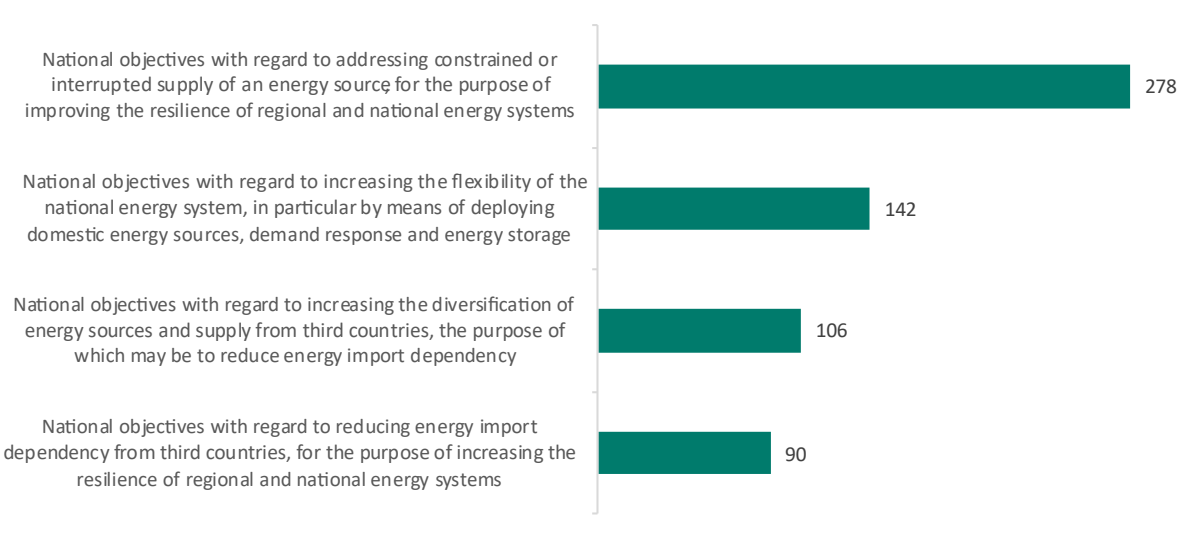


Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

A total of 442 national policies and measures specifically linked to the dimension energy security were reported by 23 Member States in 2025. In absolute terms, Hungary, Cyprus, Slovenia, Poland, and Portugal reported the most PaMs. The Czechia, Denmark, Romania, and Slovakia did not report any energy security PaMs. Most of these PaMs are regulatory (39%), economic (35%), and planning (20%) instruments.

The reported PaMs linked to energy security contribute to four Union and national objectives, targets, or contributions. These are aimed at reducing energy import dependency from third countries; increasing the diversification of energy sources and supply from third countries; increasing the flexibility of the national energy system (by means of deploying domestic energy sources, demand response and energy storage); and addressing constrained or interrupted supply of an energy source (see Figure below).

Figure 3-5 Number of single PaMs linked to dimension energy security, by objective, target, or contribution in the EU-27, in 2025 reporting.



Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Storage is also an important element to security in electricity supply. As can be seen in Figure 3-5, most energy security PaMs relate to electricity. The reported PaMs are very diverse, covering many topics such as promoting renewable energy, increasing energy efficiency, matching demand and supply, storage before and after the meter, and promoting energy communities.

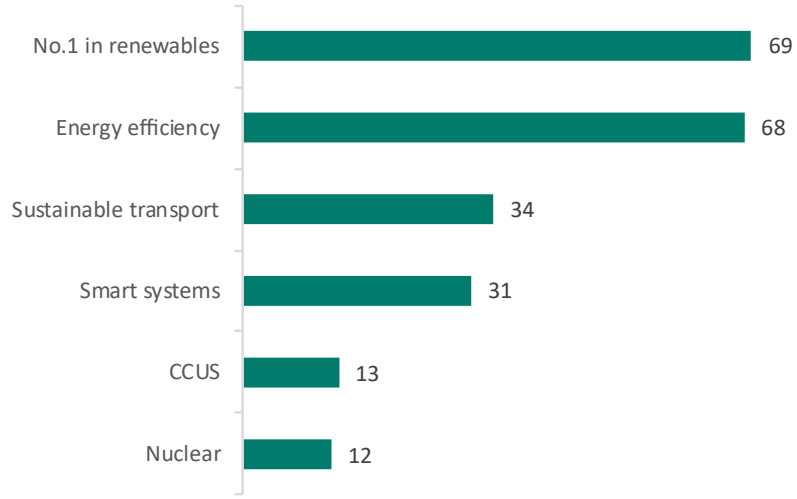
To guarantee the security of energy supply, gas storage capacity in the EU is also crucial, especially in winter. Gas storage, in particular underground, provides and additional reserve to meet additional demand or respond to supply disruptions. This also helps in stabilizing energy prices. In 2022, the European Gas Storage Regulation (EU/2022/1032) was adopted, which imposes filling targets for the aggregated capacity of all underground gas storage facilities of Member States of 80% (in 2022) to 90% (from 2023). The regulation was set to end 2025 but will be extended for at least two years. In response to this, the 18 Member States with underground storage facilities amended and implemented new policies and measures to ensure sufficient underground gas storage and to expand capacity. More detailed information can be found in the 2023 ACER report (S.A., 2023). However, a limited number of Member States, e.g. Sweden and Hungary, reported PaMs aimed at increasing gas storage. Other member states reported PaMs that increased the capacity of LNG terminals (e.g. Croatia), diversified the supply of natural gas (e.g. Austria) and/or improved the interconnection of the gas network within and beyond Europe (e.g. Hungary), all strategies also implemented at EU level to improve energy security.

The reporting provides only a partial picture of national PaMs aimed at improving energy security. In its assessment of the final NECPs (European Commission, 2025a), the European Commission noted that while the updated plans expand on national strategies for energy security, few Member States detail their diversification efforts, specific objectives for energy storage, storage policies, or the long-term adequacy of fossil fuel infrastructure. Energy security therefore remains an area requiring closer examination of national plans, strategies, and PaMs.

3.2.5 Research, innovation and competitiveness-related characteristics

For PaMs associated with the dimension *research, innovation and competitiveness*, Member States are required to select the Energy Union research and innovation (R&I) priority most closely aligned with each PaM. In total, 22 Member States reported 176 PaMs under this dimension, with all linked to an R&I priority. As shown in Figure 3-6, these PaMs are distributed between the six R&I priorities. The two most frequently reported priorities were *no.1 in renewables and energy efficiency*, with an almost equal number of PaMs linked to them, at 69 and 68 respectively. These are followed by *sustainable transport* and *smart systems*. The least reported priorities were *CCUS* and *nuclear*.

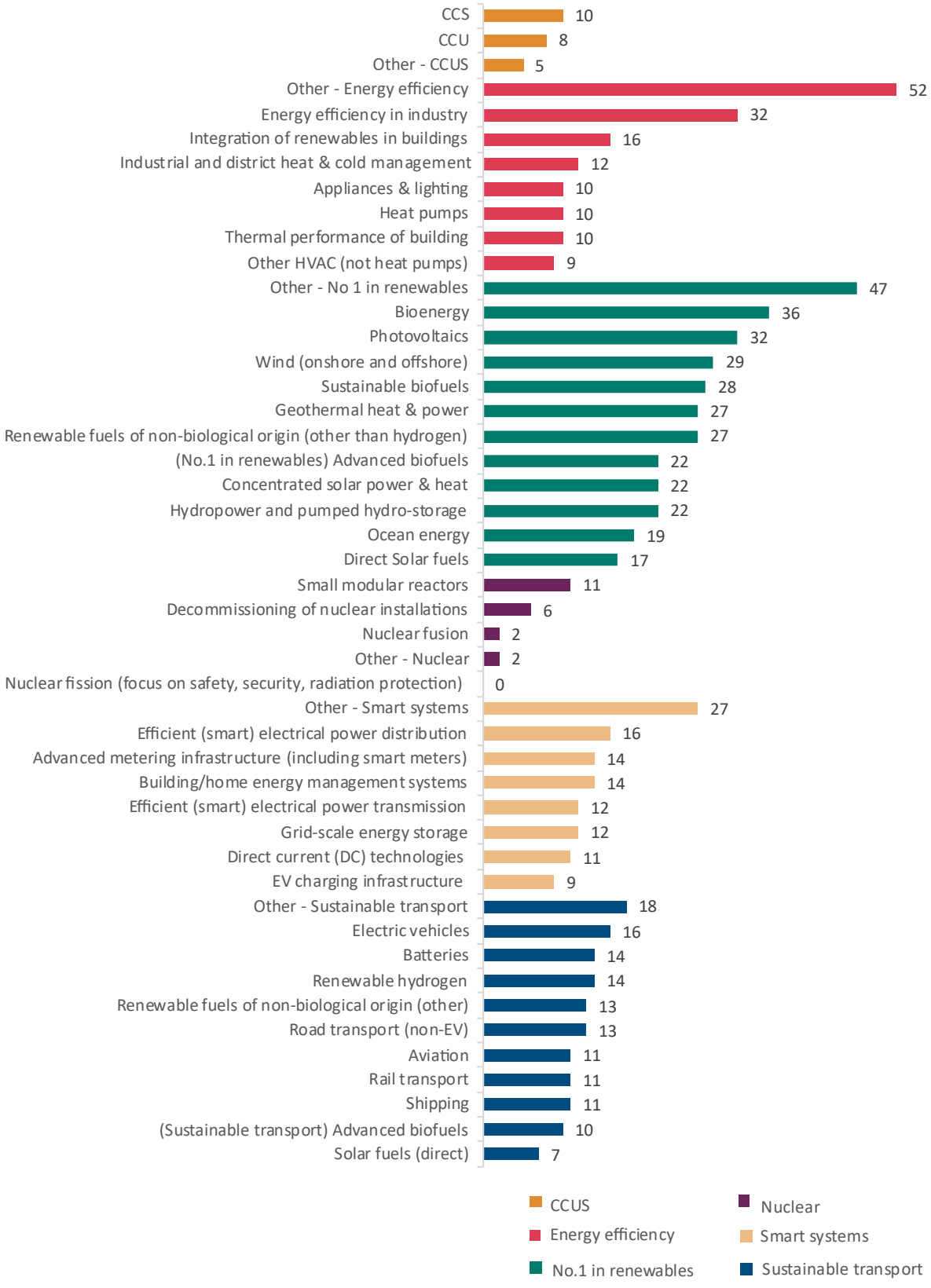
Figure 3-6 Number of single PaMs by research and innovation priority in the EU-27 as reported in 2025.



Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Every R&I priority is linked to a range of *clean energy/low carbon technology* options, which Member States report on to provide further detail on the PaM and its related technology. Figure 3-7 displays the distribution of clean energy/low carbon technologies per R&I priority. Excluding the *other* technology categories, the most frequently reported technology is *bioenergy* (36 PaMs), followed by *energy efficiency in industry* and *photovoltaics*, with 32 PaMs each. No PaMs were reported under *nuclear fission (focus on safety, security, radiation protection)* under the *nuclear energy* priority.

Figure 3-7 **Number of single PaMs by technology type for each research and innovation priority in the EU-27, as reported in 2025.**



Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

4 Reported impacts of policies and measures

4.1 Quantified objectives and indicators used to monitor progress of policies and measures

This section provides an overview of quantitative information reported for PaMs, focusing on quantified objectives, indicators, and policy indicators. These elements offer complementary insights into the ambition, implementation, and monitoring of PaMs. In the reporting webform, they are captured in three distinct fields completed by Member States.

Quantified objectives provide insight into the ambition and envisaged impact of a PaM, while *indicators* track progress toward these objectives using monitoring parameters to assess the effective implementation and impact. Indicators are further divided into two groups: (ex-ante) *indicators*, which are used to monitor and evaluate progress over time, and (ex-post) *policy indicators*, which measure achieved progress against policy indicators.

To illustrate these parameters, an example of reported quantified objective under the *energy consumption* sector is *reducing GHG emissions from the public sector by 95% by 2035 compared with 1990*, with the corresponding indicator *direct annual CO_2 emissions [kt CO_2-eq]*. Another example from the *energy supply* sector sets the objective of *producing 600 000 m^3 of biogas by 2030*, monitored through the indicator *biogas production [m^3/year]*.

As shown by Table 4-1, in 2025, all Member States reported a quantified objective for at least 3 PaMs, with 1 041 PaMs (29% of all reported PaMs) having a quantified objective linked to them[19]. Estonia and Latvia reported the highest shares, each reporting a quantified objective for 62% of their total PaMs, followed by Lithuania with 60%. By contrast, seven Member States, Denmark, Ireland, the Netherlands, Romania, Slovakia, Slovenia, and Sweden, reported quantitative objectives for fewer than 10% of their PaMs.

[19] The number of PaMs with a quantified objective excludes entries reported as “N/A”, “none”, or similar.

Table 4-1 Number and share of PaMs with a quantified objective by Member State, in 2025 reporting.

	Total number of reported PaMs	Number of PaMs with a quantified objective	Share of PaMs with a quantified objective
Austria	50	14	28%
Belgium	251	98	39%
Bulgaria	73	33	45%
Croatia	119	15	13%
Cyprus	86	31	36%
Czechia	49	17	35%
Denmark	131	8	6%
Estonia	99	61	62%
Finland	136	22	16%
France	201	43	21%
Germany	226	85	38%
Greece	70	7	10%
Hungary	259	112	43%
Ireland	96	6	6%
Italy	133	73	55%
Latvia	73	45	62%
Lithuania	236	141	60%
Luxembourg	210	24	11%
Malta	30	6	20%
Netherlands	185	8	4%
Poland	111	66	59%
Portugal	157	33	21%
Romania	83	7	8%
Slovakia	168	3	2%
Slovenia	152	7	5%
Spain	137	68	50%
Sweden	113	8	7%
EU-27	**3 634**	**1 041**	**29%**

Notes: The number and share of PaMs with a quantified objective exclude entries reported as "N/A", "none", or similar.

Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

As shown in Table 4-2, for the monitoring of progress, 16 Member States reported at least 1 (ex-ante) indicator in 2025, with or without a quantified value, compared with 17 countries in 2023. In addition, 18 Member States reported at least 1 (ex-post) policy indicator in 2025, compared with 17 in 2023. Although the indicator and policy indicator fields are intended to capture ex-ante and ex-post values respectively, reporting does not always follow this distinction. Therefore, for this overview the two fields are combined and analysed together. In total, 765 PaMs included at least 1 indicator and/or policy indicator in 2025, equivalent to around 21% of all reported PaMs. This shows an improvement compared with 2023, when 530PaMs (17%) included such indicators. Furthermore, 750 PaMs in 2025 included at least 1 quantified indicator and/or policy indicator, representing 21% of the total. This shows a significant increase compared with 2023, when only 357 PaMs (11%) reported quantified indicators.

A full comparison by country is provided in Table 4-2. Although all PaMs in Denmark's report include an indicator with a quantified value, the same indicator description and value is applied to each of them. After Denmark, Poland reports the highest share of PaMs with individualised quantified indicators (68%), followed by Austria (64%), and Lithuania (48%).

Table 4-2 Share of total number of PaMs with reported indicators and corresponding quantified values by Member State in 2025 reporting, compared with quantified indicators in 2023.

	Share of PaMs with (ex-ante) indicator	Share of PaMs with (ex-post) policy indicator	Share of PaMs with quantified (ex-ante and/or ex-post) indicator	2023 Share of PaMs with quantified (ex-ante and/or ex-post) indicator
Austria	64%	4%	64%	28%
Belgium	4%	8%	10%	10%
Bulgaria	0%	0%	0%	0%
Croatia	0%	0%	0%	0%
Cyprus	26%	26%	26%	26%
Czechia	0%	2%	2%	0%
Denmark	100%	0%	100%	0%
Estonia	7%	6%	7%	9%
Finland	10%	4%	10%	10%
France	11%	12%	20%	15%
Germany	0%	0%	0%	0%
Greece	9%	3%	9%	2%
Hungary	5%	31%	33%	13%
Ireland	0%	0%	0%	0%
Italy	0%	26%	26%	20%
Latvia	34%	1%	36%	35%
Lithuania	48%	21%	48%	12%
Luxembourg	0%	0%	0%	0%
Malta	47%	3%	47%	24%
Netherlands	0%	0%	0%	0%
Poland	68%	5%	66%	52%
Portugal	7%	4%	10%	3%
Romania	0%	0%	0%	0%
Slovakia	0%	0%	0%	14%
Slovenia	22%	17%	26%	21%
Spain	52%	35%	48%	24%
Sweden	0%	1%	1%	1%
EU-27	**17%**	**9%**	**21%**	**11%**

Notes: The share of PaMs with (ex-ante and/or ex-post) indicator refers to the number of PaMs from total reported PaMs with at least a description of a policy indicator. The share of PaMs with quantified (ex-ante and/or ex-post) indicators refers to the number of PaMs from total reported PaMs with at least a description of an indicator and one value for at least one year for indicator.

Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Table 4-3 below presents an overview of the types of quantified objectives and indicators reported by Member States. The information is grouped by sector, and categorises quantified objectives and indicators

in three main groups: (1) GHG emissions-related, (2) energy-related, and (3) activity-related. Each category is illustrated by examples of quantified objectives and indicators for the reported PaMs.

Table 4-3 Overview of PaM quantified objectives and (ex-ante and/or ex-post) indicators by sector with examples from Member States' reporting in 2025.

Sector	Types of quantified objectives and (ex-ante/ex-post) indicators, with examples
Energy consumption	• **GHG emissions**: for building sector, or total emissions. Examples of quantified objective: - Direct CO_2 emission reduction of 1.4 thousand tonnes by 2028 from residential buildings. - Reducing GHG emissions of the public sector 95% in 2035 compared to 1990 (the reference). Example of indicator: - Direct annual CO_2 emissions [$ktCO_2$-eq]. • **Energy**: final energy consumption reduction, primary energy consumption reduction, energy neutrality, cumulative end-use savings. Examples of quantified objective: - To reduce the national final energy consumption by 23% in 2030 compared to 2005, to reach 115 TWh for all sectors. - For the residential sector, the objective is to reach on average 100kWh/m²/year in primary energy. - Expected cumulative end-use energy savings for the period 2021-2030 of 71.11 kilo-tonne of oil equivalent (ktoe). - 50% of federal buildings energy neutral by 2030 in line with the neutrality objective by 2040. Examples of indicator: - Average specific consumption of primary energy for the residential sector [kilowatt-hour (kWh)/m^2/year]. - Cumulative end use energy savings for the period 2021-2030 [ktoe]. • **Activity-level**: building renovation rates, heat pump stock/sales. Example of quantified objective: - Renovate 656 583 m^2 of public buildings by 2033. Examples of indicator: - Useful heat per gross floor area of subsidised new build under the scheme [kWh/(m² per year). - Energy renovation in public buildings (cumulative m²). - Annual sales of heat pumps (units).
Energy supply (and energy markets)	• **GHG emissions**: for the energy production sector, or total emissions. Example of quantified objective: - CO_2 emission reduction 2030 of 18 036 tCO_2-eq in 2030. Example of indicator: - Total annual net GHG emissions [$ktCO_2$-eq]. • **Energy**: renewable energy in primary energy mix, installed renewable energy capacity, production of renewable energy, reduction of grid losses. Examples of quantified objective: - Production of 600 000 m^3 of biogas by 2030. - To reach 23.5% of the final energy consumption in 2030 based on renewable energy sources. - Savings in electricity losses of 15.1 GWh on average per year from 2025 to 2030. - By 2030 the contribution of offshore wind production will be 4 GW. Examples of indicator: - Share of RES in the gross final energy consumption [%]. - Nominal electricity output of the new solar installations [MW]. - Installed capacity of renewable power plants except hydro power [GW]; RES electricity generated in the support scheme [GWh/year].

Sector	Types of quantified objectives and (ex-ante/ex-post) indicators, with examples
	• **Activity-level**: grid connectivity, energy poverty (linked to energy markets sector). Example of quantified objective: - Increased grid interconnectivity: Increase interconnection infrastructure by 300 km by 2030. Example of indicator: - Number of beneficiaries of the electric social bonus [number].
Transport	• **GHG emissions**: for transport sector, or total emissions. Example of quantified objective: - 40% reduction in GHG emissions from the transport sector in 2030. Example of indicator: - Total annual net GHG emissions including indirect emissions [ktCO_2-eq]. • **Energy**: renewable energy share in final energy use in transport, final energy consumption reduction, cumulative end-use savings. Examples of quantified objective: - 14% share of renewable energy in transport by 2030. - Reduction of a minimum of 29% in final energy consumption in transport until 2030, compared to 2005 level. - 199.6 ktoe of cumulative end use energy savings for the period 2021 – 2030. Examples of indicator: - Share of renewable energy in transport including electricity [%]. - Specific fuel consumption of passenger car fleet on motorways [grammes/gramme (g/g) fuel]. • **Activity-level**: stock of vehicles, share of electric vehicles, installed capacity of charging points, use of alternative modes of transport. Examples of quantified objective: - Number of buses running on 100% biomethane by 2030. - Number of fully electric vehicles placed on the market, for own use by companies. - 11 000 charging points by 2035. - Rail use increase to 40% by 2030, equivalent to around 35 billion tonne-kilometres. - At least 3 000 certified cycling-friendly services in the country by 2028. 35% of the population use bicycles as their main means of transport more than once a week by 2028. - Cycling fatalities will be reduced by 50% by 2028 compared to 2022. Examples of indicator: - Number of electric chargers [quantity]. - Share of EVs in new passenger cars registrations [%]. - Number of fully electric vehicles placed on the market, for own use by companies [number]. - Share of active mobility in modal split [% of total passenger-km]. - Share of fleet with low emission vehicles (EURO6 or better) [%].
Agriculture	• **GHG emissions**: for agriculture sector or total emissions, including non-CO_2 emissions. Example of quantified objective: - Reduction of fertiliser/manure use on cropland of 15% by 2030, compared to 2020. Examples of indicator: - Annual net GHG emissions including indirect emissions [ktCO_2-eq]. - NH_3 emissions of the agriculture sector [kilo tonnes]. • **Energy:** final energy consumption reduction, renewable energy production in sector. Examples of quantified objective: - Reduction of energy consumption of 2 426 GWh by 2030. - 400 000 tonnes of manure and slurry per year use for biogas production by 2030. Example of indicator: - Amount of energy produced in biogas facilities [GWh]. • **Activity-level**: manure application, manure use for biogas production. Example of quantified objective: - 33 000 tonnes of slurry directly applied to the land per year.

Sector	Types of quantified objectives and (ex-ante/ex-post) indicators, with examples
	Examples of indicator: - Amount of manure and slurry use for biogas production [thousand tonnes]. - Amounts of manure applied with low-spreading techniques [km^3].
LULUCF	• **GHG emissions:** for LULUCF sector, or total emissions. Example of quantified objective: - Minimum of 5 million tCO_2-eq by 2030. Example of indicator: - GHG emissions from the new forest plantations compared 2016 [$ktCO_2$-eq]. • **Energy:** not relevant. • **Activity-level:** LULUCF sink, forest area, funding. Example of quantified objective: - 10 000 hectares (ha) increased forest land per year from 2025 to 2030. Examples of indicator: - Funds dedicated to the forestry sector 2021-2026 [thousands EUR]. - Area of restored forest land [ha/year]. - Forest/other wooded area under management contracts supporting biodiversity [ha].
Waste management /waste	• **GHG emissions:** for waste sector, or total emissions. Example of quantified objective: - Expected GHG savings are 45.12 kt CO_2-eq in 2025 and 69.70 kt CO_2-eq in 2030. Example of indicator: - Total annual GHG net emissions including indirect emissions [$ktCO_2$-eq]. • **Energy:** renewable energy production from waste. Example of quantified objective: - Annual production of 19 GWh of biogas is expected when the plant will be fully operational. Example of indicator: - Amount of energy produced in biogas facilities [GWh]. • **Activity-level:** waste generation, waste processing capacity and rates, landfill reduction. Examples of quantified objective: - Five waste recycling installations built by 2029. - 50% recycling rate of municipal waste (paper, plastics, metal, glass) in 2030. - Decrease the share of landfilled biodegradable municipal waste to 75% by 2030. Examples of indicator: - Landfilled quantities of waste with organic content [tonne per year]. - Food waste: Reduction in food waste per capita compared to 2020 [%].
Industrial processes	• **GHG emissions:** for industry sector, or total emissions, including F-gases. Examples of quantified objective: - By 2030 cut F-gas emissions by two-thirds compared with 2014 level. - Phase out F-gas import and production by 2050. - Reduction of N_2O emissions as by-product in the manufacture of chemical substances. Examples of indicator: - Emissions on sub-sector level 2 IPPU sector [kt CO_2-eq]. - Weighted average of the global warming potential (GWP) of gases emitted [Gas GWP]. • **Energy:** not relevant. • **Activity-level:** beneficiaries to schemes, Example of quantified objective: - Not available. Examples of indicator: - Number of enterprises receiving subsidies [number]. - Number of research proposals funded [number]. - Number of enterprises receiving subsidies [number].

4.2 Reported ex-ante GHG emission savings from policies and measures

Reporting of quantitative ex-ante GHG emission savings is only mandatory when such information is available. These estimates may be reported for a sequence of seven years ending in zero or five, starting from 2025. In the 2025 reporting cycle, the period has been extended from 2040 to 2055, ensuring that data is collected for the same years across countries, and that it is aligned with GHG projections.

In 2025, 17 Member States reported ex-ante quantified data for at least 1 PaM, compared with 18 in 2023. While the number of reporting countries remains broadly stable, the composition of reporting Member States has changed: Bulgaria and Sweden reported in 2025 but not in 2023, while Malta, Romania, and Slovenia reported in 2023 but not in 2025.

In 2025, reporting of ex-ante savings covered 582 PaMs (16% of all reported PaMs) up from 521 PaMs (16 %). These PaMs together generated 2 432 reported data points, with an average of 4 years of quantitative values per measure. Each data point represents a reported quantitative estimate, with a non-zero reported value, for a specific year in the period 2025-2055and a category (*ETS*, *ESR*, *LULUCF,* or *Total)* under a given PaM. The most frequently reported year was 2030, with a coverage of 95% of the relevant PaMs, while the least reported years were 2045 (38%), 2050 (36%), and 2055 (19%), which were newly introduced in the 2025 cycle. Of the 582 PaMs, 47 were grouped PaMs reported by 7 Member States. When considering the single PaMs included in the groups, reporting of ex-ante savings covered 982 (28%) single PaMs. However, since individual PaMs may be included in multiple groups, this value may include double counted PaMs.

In the 2023 cycle, reporting only covered the years until 2040. When restricting the comparison to this period, 1 895 data points were reported in 2025, compared with 1 763 in 2023 (on 521 PaMs), indicating that overall, the volume of quantitative data reported has increased.

The number of PaMs with reported ex-ante emission savings, disaggregated by Member State, is shown in Table 4-4.

There is limited methodological guidance in the reporting guidelines on how to assess ex-ante GHG emission impacts of PaMs. As a result, approaches and assumptions used to calculate PaMs' emission savings may differ considerably across Member States, making comparisons of savings particularly challenging.

Figure 4-1 and Figure 4-2 show the reported emission savings disaggregated by year and type. For the EU-27, the reported PaMs are estimated to deliver 483 billion tonnes CO_2-equivalent (CO_2-eq) in 2025, rising to a maximum of 854 billion tonnes CO_2-eq in 2040, before declining to 62 billion tonnes CO_2-eq by 2055. In Figure 4-1, savings are disaggregated by *EU ETS*, *ESR*, and *LULUCF*, showing that between 2025 and 2055, the EU ETS accounts for roughly half of total savings, followed by ESR (36%), and LULUCF (3%). Differences between the sum of disaggregated savings and the reported total result in an 11% share of unallocated savings. Reporting for the years 2045, 2050 and 2055 is limited, as these years were only introduced in the 2025 reporting cycle (to align reporting to GHG projections reporting), which restricts data availability.

Table 4-4 Number and share of PaMs with reported ex-ante emission savings by Member State in 2025 reporting.

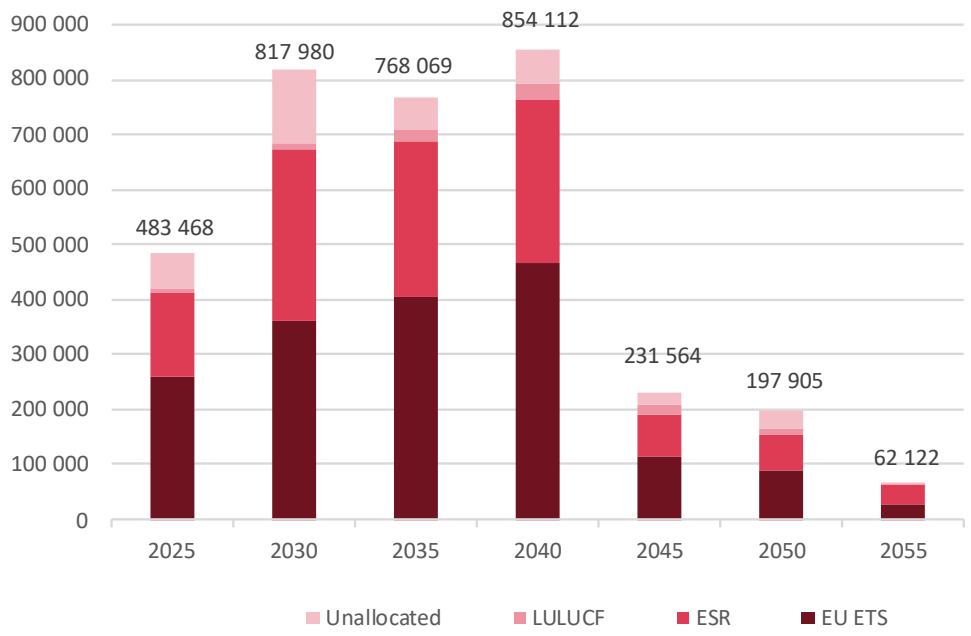
	Number of PaMs with quantified savings	*Of which reported in grouped PaMs*	Share of PaMs with quantified savings
Austria	22	0	44%
Belgium	49	0	20%
Bulgaria	28	0	38%
Croatia	15	15	13%
Cyprus	0	0	0%
Czechia	34	0	69%
Denmark	0	0	0%
Estonia	46	0	46%
Finland	51	3	38%
France	11	1	5%
Germany	71	2	31%
Greece	14	0	20%
Hungary	0	0	0%
Ireland	80	0	83%
Italy	0	0	0%
Latvia	49	0	67%
Lithuania	0	0	0%
Luxembourg	0	0	0%
Malta	0	0	0%
Netherlands	6	6	3%
Poland	31	0	28%
Portugal	0	0	0%
Romania	0	0	0%
Slovakia	49	0	29%
Slovenia	0	0	0%
Spain	14	12	10%
Sweden	12	8	11%
EU-27	**582**	**47**	**16%**

Notes: The number of PaMs with quantified savings refers to PaMs with at least one reported effect for at least one year with a non-zero value.

Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

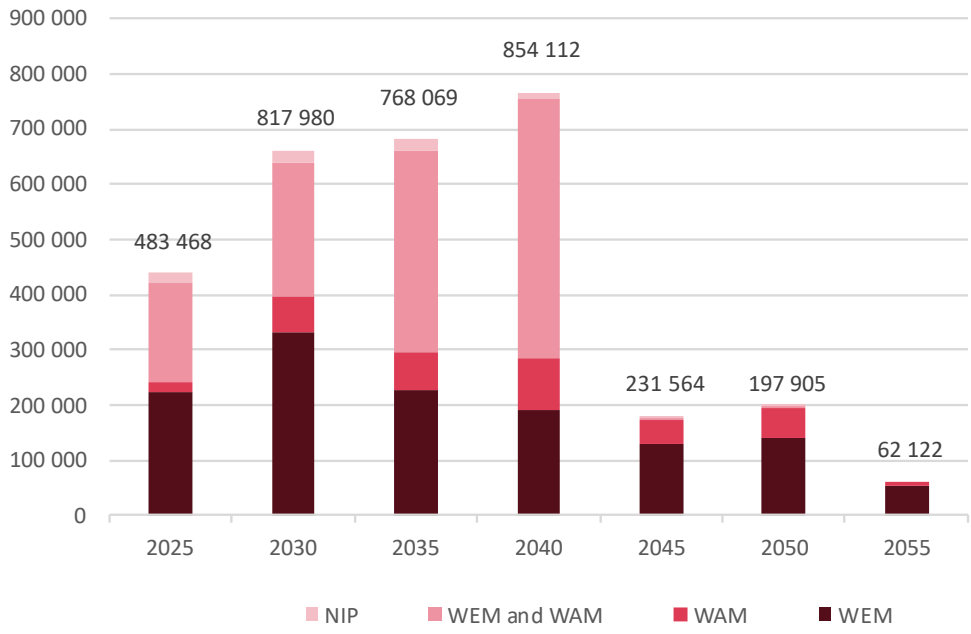
Figure 4-1 **Total EU-27 ex-ante GHG emissions savings reported by year and split by *EU ETS*, *ESR,* and *LULUCF*, in 2025 reporting (kt CO_2-eq).**



Notes: Where the sum of the reported EU ETS, ESR, and LULUCF is not equal to the reported total, the difference between the sum of the parts and total is presented under "unallocated".

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Figure 4-2 **Total EU-27 ex-ante GHG emissions savings by year, split between *WEM*, *WAM*, *NIP,* and combined *WEM and WAM*, in 2025 reporting (kt CO_2-eq).**



Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

As shown in Figure 4-2, most GHG emission savings are reported for PaMs under the WEM scenario, which accounts for 43% of the total. This is not surprising, given that expired, implemented or adopted PaMs represent 87% of all reported PaMs. A notable share of 12% of emission savings is reported under the WAM scenario. Furthermore, three Member States, Germany, Greece and Slovakia, reported savings linked to combined WEM and WAM scenarios in 2025, representing a significant 42% share. By contrast, emission savings linked to NIP PaMs comprise only 2% of the total.

Table 4-5 Emissions savings by year reported by Member State, in 2025 reporting (kt CO_2-eq).

	2025	2030	2035	2040	2045	2050	2055
Austria	6 468	27 858	16 568	21 875	18 725	32 416	
Belgium	27 780	39 703	39 499	40 696			
Bulgaria	1 700	9 096					
Croatia	1 917	4 505	9 160	15 114	18 921	22 943	
Czechia	23 208	42 797	45 066	21 115			
Estonia	1 665	1 997	2 147	2 166	1 924	1 910	1 897
Finland	58 223	76 321	85 015	69 995	50 185	54 908	
France	34 985	27 427	27 432				
Germany	132 110	182 000	305 685	412 913			
Greece	50 179	56 069	60 968	72 007			
Ireland	19 903	33 389	41 680	48 985	53 268	57 491	60 163
Latvia	1 036	3 696	7 196	11 032	10 556	11 735	63
Netherlands	31 892	56 004					
Poland	43 865	158 027	85 839	86 921	54 421		
Slovakia	3 562	12 281	14 201	16 442	17 335	16 501	
Spain		48 410	3 813	5 250	6 228		
Sweden	44 976	38 400	23 800	29 600			
Total	**483 468**	**817 980**	**768 069**	**854 112**	**231 564**	**197 905**	**62 122**

Notes: Where the sum of the reported EU ETS, ESR and LULUCF is not equal to the reported total, the presented values include the maximum value between the sum of parts and total.

Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Table 4-5 disaggregates data by Member State. For 2030, which is the most frequently reported year, Germany accounts for 22% of all EU-27 reported emission savings, followed by Poland (19%) and Finland (9%). The remaining 14 reporting Member States each contribute less than 10%, together comprising the remaining 49% share.

To further understand the magnitude of the reported GHG emission savings in a national context, the reported savings are compared with emission projections (total GHG including LULUCF)[20], as illustrated in Figure 4-3.

WEM projections, reported by all Member States, are used as a starting point for this comparison. Building on these, the impacts of WEM PaMs are added to define an upper line, labelled on the country charts as *WEM projection + WEM PaMs savings* (depicted with discontinued blue lines). This upper line is not intended as a proxy for a *without measures* (WOM) scenario; but it is the result of comparing WEM PaM savings with WEM projections. Thus, it illustrates the relative size of aggregated WEM PaMs savings

[20] The 2025 projections dataset is available in the EEA Datahub: Member States' greenhouse gas emission projections.

compared with WEM projections. From there, moving downward, WAM PaMs are deducted from the WEM projections, with the resulting level compared with WAM projections.

It should be reiterated that Member States apply different methodologies to estimate PaM emission reductions. As a result, the values are not directly comparable across countries and not necessarily summable, given the potential for double counting of effects. In addition, differences in the definitions of WEM and WAM scenarios used in PaMs and emissions projections, both within and across Member States, further limit the comparability of these two datasets.

The charts in Figure 4-3 show gaps between the reported WAM PaMs savings and the WAM emission projections, indicating possible underreporting of WAM PaMs savings, as observed across all years for Belgium[21] and Spain. Several other Member States also display gaps in certain years, such as Austria in 2045. By contrast, Ireland's, Poland's, and Latvia's estimates, show only very marginal gaps. Minor inconsistences between emission projections and PaMs savings are expected because a complex set of interdependent factors is at play, with interactions between the different PaMs influencing the savings results. In some cases, the reported WAM PaMs savings exceed the difference between the WEM and WAM projections, as seen for Bulgaria in 2030, Croatia from 2040 onwards, and for Czechia in 2030 and 2035. These comparisons highlight potential persistent misalignments between PaMs and projections reported in the NECPR, as well as instances of underreporting of PaMs savings.

Furthermore, for Member States reporting emission savings from PaMs that contribute simultaneously to both WEM and WAM scenarios, namely Germany, Greece, and Slovakia, a separate comparison is provided in Figure 4-4 In these cases, WEM and WAM PaM savings cannot be distinguished, and therefore the line "WEM projection + WEM PaMs savings" is not calculated. Instead, total savings from PaMs contributing to WEM and/or WAM are aggregated and compared against the WEM and WAM projection levels, illustrating the relative size of aggregated PaMs savings

For Germany (for 2040) and Greece (for 2030 to 2040), the combined PaMs savings appear significantly larger than both the WEM and WAM projections. For Slovakia, the aggregated PaMs savings in 2040 is estimated almost equal to the WAM emission projection and continues to exceed it until 2050. These could indicate a potential double counting between savings reported under different PaMs.

It is also important to mention that this comparison is based on projections total GHG including LULUCF, thus excluding international bunkers and aviation sectors, amongst others, which may be relevant from PaMs' perspective of emission savings. Therefore, PaMs savings and projections may also not be directly comparable due to this reason.

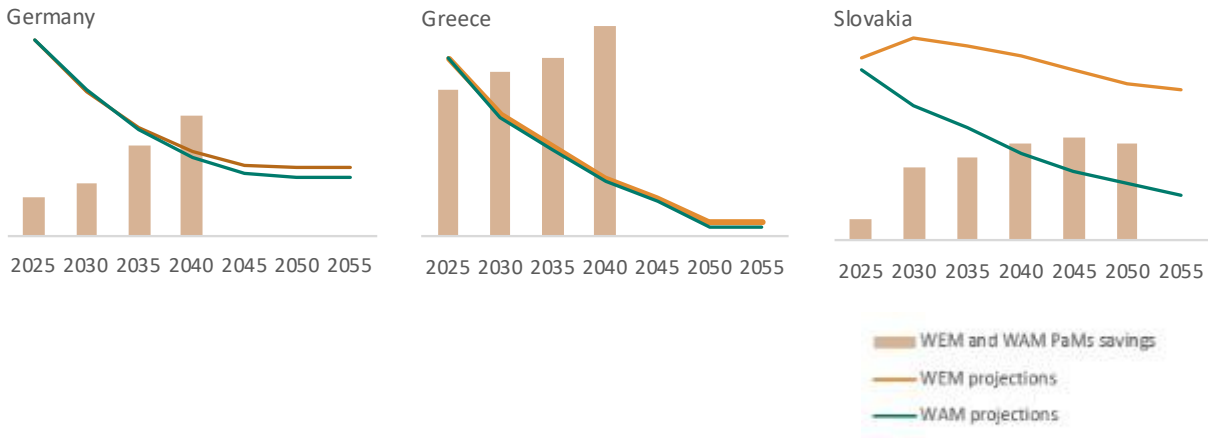
[21] Data for Belgium is based on the report submitted in 2023.

Figure 4-3 **A comparison of GHG emission savings reported (for WEM and WAM separately) by Member States in 2025 and GHG emission projections (kt CO_2-eq).**

Notes: The emission projections refer to *Total GHG emissions including LULUCF*. The y-axes of the charts are not scaled across Member States, therefore the height of the bars and lines is not directly comparable between countries, but all y-axes start at zero. Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs and 2025 projections datasets.

Figure 4-4 A comparison of emissions reductions reported (WEM and WAM combined) by Member States in 2025 and emission projections (kt CO_2-eq).



Notes: The emission projections refer to *Total GHG emissions including LULUCF*. The y-axes of the charts are not scaled across Member States, therefore the height of the bars and lines is not directly comparable between countries, but all y-axes start at zero.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset; Emission projections obtained from ETC-CM, 2025.

4.3 Reported ex-post GHG emission savings from policies and measures

Reporting of quantitative data is mandatory only when available. In 2025, seven Member States reported ex-post quantified data for at least one PaM, namely Belgium[22], Greece, Finland, France, Ireland, Poland, and Spain. The same number of Member States reported in 2023; however, Slovenia, which reported in 2023, did not report in 2025, while Spain reported in 2025 but not in 2023.

The 2025 reporting covers 119 PaMs and a total of 425 quantified emission savings. This indicates a decline in number of PaMs compared with 2023 (142 PaMs), with the number of quantified emission savings remaining broadly stable (448 data points in 2023). As shown in Table 4-6, almost all savings in 2025 were reported for single PaMs, with only two grouped PaMs included, one from Finland and one from Spain. Overall, the reported PaMs with ex-post GHG emission savings represent just 3% of all reported PaMs in 2025. At country level, Ireland reported ex-post savings for the largest share (39%), followed by Poland (23%) and Greece (14%). France and Spain reported data for only three and one PaM respectively, although in Spain's case the single PaM represents a group of four.

Figure 4-5 illustrates the total ex-post GHG emission savings reported by the seven Member States, disaggregated by EU ETS, ESR, and LULUCF, for the period 2004–2025. The year 2025 is included only in Greece's ex-post assessment for one PaM. Reported emission savings peaked at 107 billion tonnes CO_2-eq in 2020. Differences between years are evident, highlighting gaps in the availability of ex-post emission savings data. The breakdown by EU ETS, ESR, and LULUCF shows irregular patterns throughout the time series. For example, the EU ETS share ranges between 92% and 1% across reported years, with similarly large variations observed in ESR. Ex-post savings for LULUCF were reported only for one PaM in Poland's submission. As with ex-ante savings, discrepancies exist between the sum of the reported disaggregated savings and the reported totals, leading to a relatively large share of unallocated savings (40% in 2018, 26% in 2020, and 36% in 2022). No ex-post data were reported for 2024.

[22] Data for Belgium is based on report submitted in 2023

Table 4-6 Number and share of PaMs with reported ex-post emission savings by Member State, in 2025 reporting.

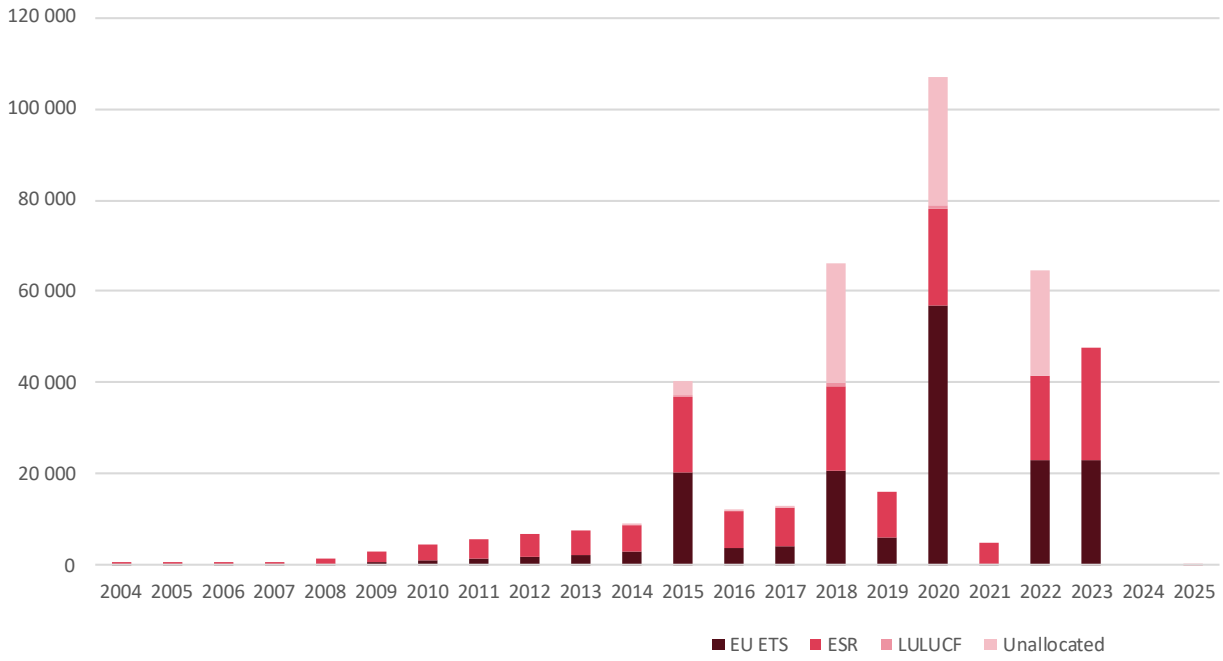
	Number of PaMs with quantified savings[1]	*Of which reported in grouped PaMs*	Share of PaMs with quantified savings[1]
Belgium	27	0	11%
Finland	16	1	12%
France	3	0	1%
Greece	10	0	14%
Ireland	37	0	39%
Poland	25	0	23%
Spain	1	1	1%
Total	**119**	**2**	**3%**

Notes: The number of PaMs with quantified savings refers to PaMs with at least one reported effect for at least one year with a non-zero value.

Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Figure 4-5 Total EU-27 ex-post GHG emissions savings reported by year and split by EU ETS, ESR, and LULUCF, in 2025 reporting (kt CO_2-eq).



Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Furthermore, the total ex-post emission savings reported by each Member State are presented in Table 4-7 for all reporting years. To provide context, the table also includes 2021 inventory values for total GHG emissions including LULUCF, to indicate the magnitude of savings relative to total national emissions. When comparing the largest ex-post value reported by each country to its 2021 inventory, the highest relative shares are observed for Greece (42%), Finland (39%), and Ireland (22%).

Table 4-7 Total ex-post GHG emissions savings reported per year, by Member States in 2025 reporting and 2021 GHG inventory value (kt CO_2-eq).

	Belgium	Finland	France	Greece	Ireland	Poland	Spain
2004	20						
2005	54						
2006	83						
2007	117						
2008	1 462						
2009	3 085						
2010	4 277						
2011	5 688						
2012	6 601						
2013	7 671						
2014	8 827	5					
2015	10 240			730		29 438	
2016	11 203		400				
2017	12 437	120	200				
2018	13 837					52 166	
2019	15 398					647	
2020	10 953	13 238		30 010		52 847	
2021	4 891						
2022	2 211	122				62 390	
2023		18 952			14 968		13 663
2024							
2025				300			
2021 Inventory	*110 627*	*48 286*	*403 272*	*72 013*	*69 448*	*379 344*	*244 326*

Notes: Where the sum of the reported EU ETS, ESR and LULUCF is not equal to the reported total, the presented values include the maximum value between the sum of parts and total.

The emission projections refer to *Total GHG emissions including LULUCF*.

Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset; UNFCCC GHG inventory data (UNFCCC, n.d.).

4.4 Reported ex-ante and ex-post renewable energy production from policies and measures

A similar overview is presented for data reported on renewable energy production. In 2025, Estonia, Ireland, Malta, Poland, Portugal, and Spain reported ex-ante quantitative data on renewable energy production. This marks an increase in the number of reporting Member States compared with 2023, when only Malta, Ireland, and Poland submitted such data. In addition, Estonia, Ireland, and Spain reported ex-post renewable energy production data in 2025, whereas in 2023 only Ireland provided information.

Despite this slight improvement, the total number of PaMs with reported ex-ante quantitative renewable energy production remains low, with only 17 single PaMs, 8 of which come from Ireland's submission. Ex-post values were reported for 15 single PaMs, 22 of which originate from Spain's report. Table 4-8 and Table 4-9 present the reported annual renewable energy production impacts for ex-ante and ex-post assessments by Member State. Across the period 2025–2055, Ireland's submission accounts for at least

95% of all Member State's reported ex-ante renewable energy production, peaking at 17 000 kilo tonnes of oil equivalent (ktoe) in 2055. This highlights that reporting on renewable energy production remains significantly limited, with fewer than 0.5% of PaMs linked to a quantified ex-ante or ex-post value.

Table 4-8 Ex-ante renewable energy production reported by Member States in 2025 (ktoe).

	Number of PaMs	2025 total value	2030 total value	2035 total value	2040 total value	2045 total value	2050 total value	2055 total value
Estonia	3	67	64	62	62			
Ireland	8	4 807	8 079	11 531	13 559	14 466	16 265	17 070
Malta	3	52	77					
Poland	1		1		1			
Spain	2		287	287	287	287		
Total	**18**	**4 927**	**8 508**	**11 879**	**13 911**	**14 752**	**16 265**	**17 070**

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Table 4-9 Ex-post renewable energy production reported by Member States in 2025 (ktoe).

	Number of PaMs	2021 total value	2023 total value	2025 total value
Estonia	1	60		
Ireland	4		1 865	
Spain	22		232	0. 04
Total	**27**	**60**	**2 097**	

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

4.5 Reported ex-ante and ex-post energy savings from policies and measures

In 2025, only three Member States reported quantitative data on ex-ante energy savings: Belgium, Ireland, and Malta. Of these, Ireland also reported ex-post energy savings. Belgium[23] reported ex-ante savings for just one PaM, limited to the year 2025. Malta reported ex-ante five PaMs with ex-ante savings, covering 2025 and 2030. Ireland reported ex-ante savings for 50 of its 96 PaMs, projecting continued but slowing growth, rising from 2 500 ktoe in 2025 to 6 300 ktoe in 2055. In addition, Ireland reported ex-post energy savings for 34 PaMs in 2023. Table 4-10 presents the annual ex-ante and ex-post energy savings for Belgium, Ireland, and Malta.

[23] Data for Belgium is based on the report submitted in 2023.

Table 4-10 Ex-ante and ex-post energy saving reported by Member States in 2025 (ktoe).

		Ex-ante energy savings							Ex-post energy savings	
	Number of PaMs	2025 total value	2030 total value	2035 total value	2040 total value	2045 total value	2050 total value	2055 total value	Number of PaMs	2023 total value
Belgium	1	1							0	
Ireland	50	2 513	4 004	4 846	5 639	6 009	6 200	6 302	34	2 120
Malta	5	2	3						0	
Total	**56**	**2 516**	**4 007**	**4 846**	**5 639**	**6 009**	**6 200**	**6 302**	**34**	**2 120**

Notes: Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

4.6 Reported projected and realised costs and benefits of policies and measures

The Governance Regulation requires Member States to report information on the projected (ex-ante) and realised (ex-post) costs and benefits of PaMs related to GHG emission savings, where available. For renewable energy production and energy savings, such reporting is voluntary. Historically, under the Monitoring Mechanism Regulation, reporting on costs and benefits has been very limited, and this remained the case in 2021, 2023, and again in 2025, with barely any improvement. In 2025, only five Member States, Belgium[24], Czechia, France, Latvia, and Spain, reported data on costs and benefits for at least one PaM. Slovakia reported in 2023 but not in 2025.

In total, fragmented information was provided for 38 PaMs, covering costs and benefits related only to GHG emission savings. No reporting was submitted for costs and benefits related to renewable energy production or energy savings.

Table 4-11 Number of data points reported on GHG projected and realised costs and benefits by Member States in 2025 reporting.

Data	Member States reporting data for at least one PaM	Number of single or grouped PaMs
Projected costs	Belgium, Czechia, Latvia	23
Projected benefits	No data reported	0
Projected net costs	Belgium, Czechia	16
Realised costs	France, Spain	3
Realised benefits	France	1
Realised net costs	France, Spain	2

Notes: Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Reporting on this element has declined steadily over the years. In 2017, 10 Member States reported quantitative information on 118 PaMs. This number fell to 9 countries covering 135 PaMs in 2019, 8 countries on 41 PaMs in 2021, and 5 countries on 30 PaMs in 2023. In 2025, the number of reporting countries remained at 5, with a slight increase in the number of PaMs to 38. Czechia reported the most data among all Member States in 2025, providing information on projected costs for 21 PaMs. However,

[24] Data for Belgium is based on the report submitted in 2023.

the start and end years of the cost period were not specified. Latvia followed with 12 PaMs, an increase from 5 in 2023. France and Belgium each reported two PaMs, while Spain reported one.

4.7 Non-greenhouse gas mitigation benefits

Since 2021, reporting on the non-greenhouse gas mitigation benefits of PaMs has been required where information is available. Only Greece and Spain have provided data for this field in 2021, 2023, and 2025 reporting cycles. However, even in these cases, the information reported has declined both in the number of PaMs covered (from 15 to 6) and in the level of detail. In the 2025 submission, Greece gave a generic description of the non-mitigation benefits for both projected and realised benefits as “reduction in air pollutant emissions”, applying the same description to five PaMs. Spain reported on only 1 PaM, down from 10 in 2023, and provided a broad description of positive effects: “reduce impacts on the environment, air, water, soil, and health; protect resources; efficient use of resources; promote a change in the economic model; contribute to other energy transition measures; food security”.

5 Reporting requirements under Annexes X - XIV

5.1 Annex X – New PaMs pursuant to Directive 2012/27/EU

5.1.1 Introduction

Article 21(b) of the Governance Regulation, on integrated reporting on energy efficiency, stipulates that Member States shall report on the implementation of the following PaMs:

1. Implemented, adopted, and planned policies, measures, and programmes to achieve the indicative national energy efficiency contribution for 2030, as well as other objectives referred to in Article 6. This includes planned measures and instruments (also of a financial nature) to promote the energy performance of buildings, measures to utilise energy efficiency potentials in gas and electricity infrastructure, and other measures to promote energy efficiency.
2. Where applicable, market-based instruments that incentivise energy efficiency improvements, including but not limited to energy taxes, levies and allowances.
3. National energy efficiency obligation scheme (EEOS) and alternative measures pursuant to Articles 7a and 7b of Directive 2012/27/EU.
4. Long-term renovation strategies in accordance with Article 2a of Directive 2010/31/EU.
5. PaMs to promote energy services in the public sector, and measures to remove regulatory and non-regulatory barriers that impede the uptake of energy performance contracting and other energy efficiency service models.
6. Regional cooperation in the area of energy efficiency, where applicable.
7. Without prejudice to Articles 107 and 108 of the Treaty on the Functioning of the European Union, financing measures, including Union support and the use of Union funds, in the area of energy efficiency at national level, where applicable.

When reporting on the new PaMs referred to in Article 21(b)3, Member States must follow the information requirements detailed in Annex III of the Governance Regulation and the formats set out in Annex X to the Implementing Regulation 2022/2299.

Annex X thus collects important information related to Article 7 of the Energy Efficiency Directive. This Article obliges Member States to achieve cumulative end-use energy savings at least equivalent to:

- new savings each year from 1 January 2014 to 31 December 2020 of 1.5 % of annual energy sales to final customers;
- new savings each year from 1 January 2021 to 31 December 2030 of 0.8 % of annual final energy consumption[25].

5.1.2 Reported information

Member States can report on multiple single PaMs and/or a group of single PaMs. In 2025, Greece, reported for the first time on its EEOS. Updates from other Member States include:

- Croatia: updated certain fields on their EEOS, including an updated impact estimate showing a 28% decrease in cumulative energy savings compared with 2023.
- France: updated certain fields on their EEOS, including the impact, resulting in an increase in cumulative energy savings of 0.1% compared with 2023.
- Hungary: reported a new PaM linked to the EEOS.

[25] Cyprus and Malta only have to achieve new savings each year from 1 January 2021 to 31 December 2030 equivalent to 0.24 % of annual final energy consumption.

- Ireland: updated a substantial number of fields on their EEOS, including the impact, which showed a 20% decrease in cumulative energy savings compared with 2023.
- Luxembourg: updated only the link to an attachment on the actions eligible under the EEOS.
- Slovenia: updated certain fields on their EEOS, including the impact, which showed increase of 44% in cumulative energy savings compared with 2023.
- Spain: increased the number if PaMs reported as EEOS from three in 2023 to six in 2025. The PaM *Aid program for energy rehabilitation actions in existing buildings* was reported in both years, but only classified as EEOS in 2023,. resulting in a very substantial increase in expected cumulative energy savings.
- Poland: updated the reporting on their EEOS, including the impact for 2021, which showed a 12% decrease of cumulative energy savings compared with 2023.

Overall, the cumulative energy savings from the reported Member States' EEOS in the period 2021-2030 amounted to 127 220 ktoe.

Table 5-1 Information reported by Member States on Annex X in 2025, compared with 2023.

	Energy efficiency Obligation Schemes (EEOS)		Alternative policy measures referred to in Article 7b and Article 20(6)		Information on taxation measures	
	2023	2025	2023	2025	2023	2025
Austria	NO	NO	YES	NO	NO	NO
Belgium	NO	-	NO	-	NO	-
Bulgaria	NO	NO	YES	YES	NO	NO
Croatia	YES	YES	YES	YES	NO	NO
Cyprus	NO	NO	NO	NO	NO	NO
Czechia	NO	NO	YES	YES	NO	NO
Denmark	NO	NO	NO	NO	YES	NO
Estonia	NO	NO	NO	NO	NO	NO
Finland	NO	NO	NO	NO	NO	NO
France	YES	YES	NO	NO	NO	NO
Germany	NO	NO	NO	YES	NO	NO
Greece	NO	YES	NO	YES	NO	NO
Hungary	YES	YES	NO	NO	NO	YES
Ireland	YES	YES	YES	YES	YES	YES
Italy	NO	NO	NO	NO	NO	NO
Latvia	NO	NO	YES	NO	NO	NO
Lithuania	NO	NO	YES	YES	YES	YES
Luxembourg	YES	YES	NO	NO	YES	YES
Malta	NO	NO	YES	YES	NO	NO
Netherlands	NO	NO	YES	YES	YES	NO
Poland	YES	YES	YES	YES	NO	NO
Portugal	NO	NO	YES	YES	NO	NO
Romania	NO	NO	YES	NO	NO	NO
Slovakia	NO	NO	NO	NO	NO	NO
Slovenia	YES	YES	YES	YES	NO	NO
Spain	YES	YES	YES	YES	NO	NO
Sweden	NO	NO	NO	NO	YES	YES

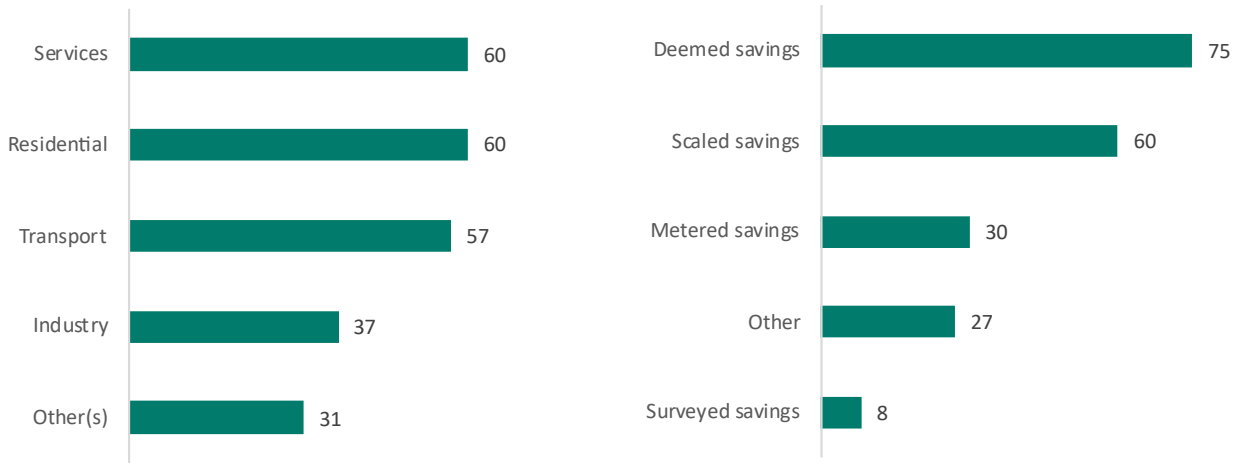
Notes: Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2023 and 2025 PaMs datasets.

While 15 EU Member States established an EEOS to achieve the energy savings target, few countries rely only on the EEOS to achieve the energy savings target of Article 7, namely Luxembourg, France and Denmark. Most Member States rely additionally, or exclusively, on alternative policy measures. A similar number of Member States reported alternative measures in 2025 as in 2023 although the reporting countries differed: Austria, Latvia, Romania, and Poland reported in 2023 only, while Germany and Greece reported for the first time in 2025. The total number of policy measures reported decreased from 121 in 2023 to 105 in 2025. Across the two years, a total of 192 new PaMs were reported.

Member States are required to report the sectors and the calculation methodologies used to quantify energy savings. Considering both the PaMs reported in 2023 and the new PaMs reported in 2025 (not reported in 2023), the most frequently covered sectors are the services, residential and transport. More than one sector can be linked to a PaM. For calculation methodologies, the options include deemed, metered, scaled, surveyed, and other methods, with multiple selections possible. For the majority of PaMs, however only one methodology was selected. Deemed savings was the most frequently applied method, while surveyed savings was the least popular.

Figure 5-1 Number of new policy measures in 2023 and 2025 per selected sector (left) and calculation methodology (right) for alternative policy measures.



Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

The energy savings reported for these 192 PaMs is most complete for the cumulative energy savings over the 2021-2023 period. For a total of 172 PaMs, energy savings were reported. Romania's reported energy savings were very high; this information was reported at the end of 2023, therefore it was not included in the ETC-CM PaMs 2023 report, and was not quality-checked. Excluding this case, 137 PaMs reported expected cumulative energy savings of 113 719 ktoe between 2021 and 2030. The average savings per policy measures is 830 ktoe, although this value is largely influenced by a number of measures with very large impacts; the median value is 71 ktoe. For 100 PaMs, information was also provided on an annual basis.

Only one new taxation measure was reported in 2025, by Hungary. Other Member States reported the same taxation measure as in 2023.

5.2 Annex XI – Information on the energy savings achieved under Article 7 of Directive 2012/27/EU

5.2.1 Introduction

Following Article 21(d) of the Governance Regulation, Member States have to provide additional information in the area of energy efficiency on:

1. the cumulative amount of energy savings achieved through Article 7 of the EED in years X-3 and X-2;
2. the amount of savings achieved by policy measures aimed at alleviation of energy poverty (in line with Article 7(11) of the EED);
3. where applicable, the amount of savings achieved in accordance with point (c) of Article 7(4) of the EED, i.e., energy savings achieved in the energy transformation, distribution and transmission sectors, including efficient district heating and cooling infrastructure.

This information must be reported in accordance with the formats set out in Annex XI of the Implementing Regulation 2022/2299.

5.2.2 Reported information

Apart from Romania and Sweden, all Member States reported information on Annex XI. Belgium did not provide information on integrated PaMs, including Annex XI, in time to be included in this report. Eleven Member States also reported information on the impact on final energy savings achieved by PaMs aimed at alleviating energy poverty. Of the 279 single or grouped PaMs for which information was reported, 51 or 18% also addressed energy savings by vulnerable households.

Table 5-2 Information reported by Member States on Annex XI in 2025.

	Final energy savings achieved through national EEOs referred to in Article 7a of Directive 2012/27/EU or alternative measures adopted in application of Article 7b of that Directive	Of which final energy savings achieved by PaMs aimed at alleviation of energy poverty in line with Article 7(11) of Directive 2012/27/EU	Amount of final energy savings achieved in accordance with Article 7(4), point (c) of Directive 2012/27/EU
Austria	YES	YES	NO
Belgium	NO	NO	NO
Bulgaria	YES	NO	NO
Croatia	YES	YES	YES
Cyprus	YES	YES	NO
Czechia	YES	NO	NO
Denmark	YES	YES	NO
Estonia	YES	NO	NO
Finland	YES	NO	NO
France	YES	YES	NO
Germany	YES	YES	NO
Greece	YES	YES	NO
Hungary	YES	NO	NO
Ireland	YES	YES	NO
Italy	YES	NO	NO
Latvia	YES	NO	NO
Lithuania	YES	NO	NO
Luxembourg	YES	NO	NO
Malta	YES	NO	NO
Netherlands	YES	NO	NO
Poland	YES	YES	NO
Portugal	YES	NO	NO
Romania	NO	NO	NO
Slovakia	YES	YES	YES
Slovenia	YES	YES	YES
Spain	YES	YES	NO
Sweden	NO	NO	NO

Notes: Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

The reported total end-use savings are presented in Table 5-3 and Figure 5-2, including end-use energy savings in 2021 (as reported in 2023). The highest end-use energy savings were reported by Germany, France, Italy, and the Netherlands.

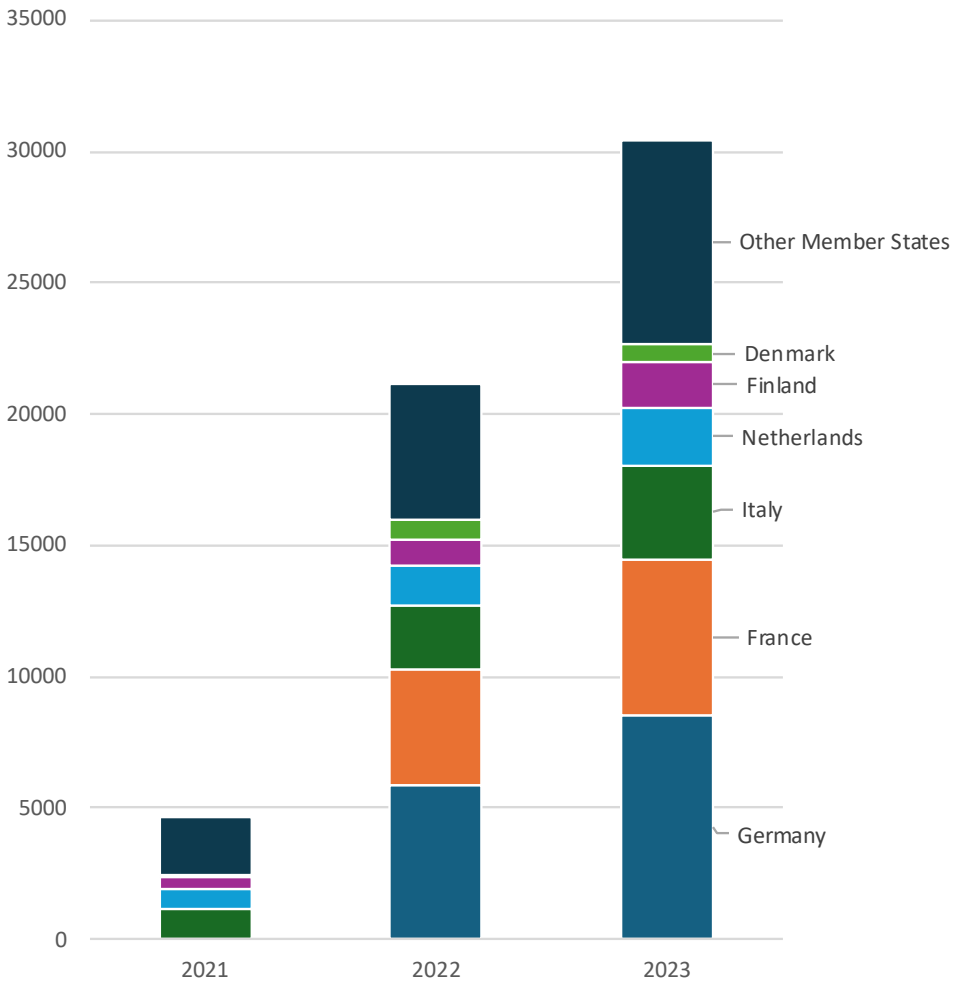
Table 5-3 Results of reporting by Member States on Article 7 on annual end-use savings in 2025 (ktoe).

	Total annual end-use savings achieved in 2021	Total annual end-use savings achieved in 2022	Total annual end-use savings achieved in 2023
Austria	117	5	33
Belgium	276	-	-
Bulgaria	24	3	3
Croatia	83	117	174
Cyprus	54	42	31
Czechia	120	152	328
Denmark	64	736	690
Estonia	66	205	234
Finland	463	1 681	987
France	24	4 390	5 995
Germany	3 691	5 859	8 439
Greece	35	331	376
Hungary	45	66	100
Ireland	66	308	409
Italy	1 128	2 448	3 529
Latvia	46	333	436
Lithuania	177	198	255
Luxembourg	20	203	200
Malta	2	3	4
Netherlands	752	1 520	2 247
Poland	552	1 776	2 614
Portugal	105	295	366
Romania	-	-	-
Slovakia	106	401	970
Slovenia	52	108	189
Spain	270	283	405
Sweden	-	-	

Notes: Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Figure 5-2 **Annual end-use energy savings achieved under Article 7 of the EED in 2021-2023, as reported by Member States in 2025 (ktoe).**



Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

5.3 Annex XII – Reporting in accordance with Article 5 of Directive 2012/27/EU on central government buildings

5.3.1 Introduction

The Governance Regulation requires Member States to report additional information in the area of energy efficiency under Annex IX, part 2. This includes, among other elements, the total renovated floor area of heated and/or cooled buildings owned and occupied by the Member States' central government in year X-3 and X-2, as referred to in Article 5(1) of the Directive 2012/27/EU, or the amount of energy savings achieved in eligible buildings owned and occupied by central government, as referred to in Article 5(6) of Directive 2012/27/EU. The reporting format for this information is laid down in Annex XII of Implement Regulation 2022/2299.

Under Article 5(1) of Directive 2012/27/EU, Member States are required to ensure that 3% of the total floor area of heated and/or cooled buildings owned and occupied by central government that do not meet minimum energy requirements is renovated each year, to comply with at least the minimum energy performance requirements established in accordance with Article 4 of Directive 2010/31/EU.

Alternatively, under Article 5(6), Member States may opt for an alternative approach, using other cost-effective measures, including deep renovations or measures to encourage behavioural change among occupants, to achieve an amount of energy savings in eligible central government buildings that is at least equivalent to that required in Article 5(1).

5.3.2 Reported information

Most countries provided information on Article 5, either under 5(1) or 5(6). Member States can report on multiple single PaMs and/or groups of PaMs. Czechia and Denmark provided information in both tables, although it is only required to report under 5(6). Germany, Hungary, and Romania did not report under Annex XII in either 2023 or 2025, while Greece reported in 2023 but not in 2025. Poland reported information for one PaM, but all quantitative values were reported as zero. Denmark, Estonia, and Portugal reported for the first time in 2025. Belgium did not provide information on integrated PaMs, including Annex XII, in time to be included in this report.

Table 5-4 Information reported by Member States on Annex XII in 2025.

	Total renovated building floor area of heated and/or cooled buildings owned and occupied by the Member States' central government referred to in Article 5(1) of the Directive 2012/27/EU	The amount of energy savings in eligible buildings owned and occupied by their central government as referred to in Article 5(6) of Directive 2012/27/EU
Austria	NO	YES
Belgium	NO	NO
Bulgaria	YES	NO
Croatia	NO	YES
Cyprus	NO	YES
Czechia	NO	YES
Denmark	YES	YES
Estonia	YES	NO
Finland	NO	YES
France	NO	YES
Germany	NO	NO
Greece	NO	NO
Hungary	NO	NO
Ireland	NO	YES
Italy	YES	NO
Latvia	YES	NO
Lithuania	YES	NO
Luxembourg	YES	NO
Malta	NO	YES
Netherlands	NO	YES
Poland	YES	YES
Portugal	NO	YES
Romania	NO	NO
Slovakia	NO	YES
Slovenia	YES	NO
Spain	YES	NO
Sweden	NO	YES

Notes: Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

The results are presented in Table 5-5 and Table 5-6 for reporting on respectively Articles 5(1) and 5(6), respectively. For Bulgaria, Greece, Spain, Lithuania, Luxembourg, and Slovenia, the average renovated floor area in 2022-2023 increased compared with 2021, while in Estonia, Italy and Latvia it decreased.

Table 5-5 Results of reporting by Member States in 2025 on renovated floor area through Article 5(1) (m^2).

	2021	2022	2023
Bulgaria	23 475	39 596	78 350
Denmark	-	1 763 594	1 754 280
Estonia	18 681	8 436	16 308
Greece	0	12 000	12 000
Hungary	-	-	-
Italy	132 160	86 083	85 000
Lithuania	34 290	26 188	146 079
Latvia	63 769	23 177	22 800
Luxembourg	0	3 047	0
Portugal	-	-	-
Romania	-	-	-
Slovenia	0	2 595	5 820
Spain	234 688	409 797	269 032

Notes: *Zero* indicates that the country reported that no renovation of government buildings occurred in that year, while "-" indicates that the field was intentionally left blank.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Table 5-6 Results of reporting by Member States in 2025 on savings achieved through Article 5(6) (ktoe).

	PEC			FEC		
	2021	2022	2023	2021	2022	2023
Austria	-	-	-	0.35	7.58	5.95
Belgium	0.97	-	-	-	-	-
Croatia	0.27	-	0.78	0.20	-	0.27
Cyprus	0.53	0.22	0.22	0.28	0.12	0.12
Czechia	-	-	-	0.38	-	0.35
Denmark	-	-	-	-	0.87	-1.63
Germany	-	-	-	-	-	-
Finland	0.22	1.77	1.88	-	-	-
France	-15.00	859	794	-24.00	536	493
Ireland	0.40	0.40	0.09	-	-	-
Malta	21.66	21.75	21.75	6.28	6.31	6.31
Netherlands	-	-	-	-0.20	0	9.5
Poland	0.50	-	-	-	-	-
Portugal	-	2.33	15.98	-	0.93	6.39
Slovakia	-	10.35	14.38	5.81	7.06	10.12
Sweden	-	-	-	-0.59	3.30	-

Notes: Reporting for year 2021 combines the energy savings achieved in 2021 with corrections needed to the previous reporting on 2020 energy savings. Therefore, some energy saving values are negative.

"-" means that the field was intentionally left blank.

Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

5.4 Annex XIII – Progress towards financing

5.4.1 Introduction

The Governance Regulation sets out specific requirements for reporting on progress towards financing:

> *"Member States shall report the information on progress towards financing the policies and measures, or groups of policies and measures, referred to in Article 17(2), point (a), Article 20, point (b)(3), Article 21, point (b)(7), Article 22, point (g), Article 23(1), point (j) and Article 25, point (g) of Regulation (EU) 2018/1999 and reported in accordance with Article 7(1) of this Regulation, including a review of actual investment against initial investment assumptions, in accordance with the formats set out in Annex XIII to this Regulation."*

In practice, this means that Member States are required to report on the progress of financing PaMs listed in their NECP, including a comparison of actual investments with the initial investment assumptions.

5.4.2 Reported information

Table 5-7 indicates whether each Member State reported any information under Annex XIII, along with the share of total PaMs covered.

In 2025, 22 Member States reported under Annex XIII, one less than 2023. This value includes Belgium's 2023 report, as the 2025 submission was not provided in time for inclusion in this report. Of the five Member States that did not provide information in 2025, Austria, Italy, and Romania had also not reported in 2023, while Czechia, and Ireland had previously reported, but not in 2025. By contrast, Germany did not report in 2023, but did so in 2025.

Compared with 2023, the number of PaMs reported under Annex XIII decreased overall in 2025. Significant reductions were observed for Luxembourg (-115), Greece (-70), and Slovakia (-40). Conversely, Lithuania reported 72 more PaMs in 2025 than in 2023, while France (+14) and Denmark (+11) also recorded increases.

The share of PaMs reported under Annex XIII varied across Member States, most commonly ranging between 5% and 20% of their total reported PaMs. Poland (100%), Estonia (64%), and Malta (57%) had the highest shares in 2025, although for Poland only 42% of the reported PaMs contained actual financing values.

Table 5-7 Information reported by Member States under Annex XIII in 2025.

	Information reported	Number of PaMs	Share of total PaMs
Austria	NO	0	0%
Belgium	YES	13	5%
Bulgaria	YES	5	7%
Croatia	YES	16	13%
Cyprus	YES	25	29%
Czechia	NO	0	0%
Denmark	YES	64	49%
Estonia	YES	63	64%
Finland	YES	8	6%
France	YES	26	13%
Germany	YES	30	13%
Greece	YES	10	14%
Hungary	YES	30	12%
Ireland	NO	0	0%
Italy	NO	0	0%
Latvia	YES	3	4%
Lithuania	YES	94	40%
Luxembourg	YES	4	2%
Malta	YES	17	57%
Netherlands	YES	37	20%
Poland	YES	111	100%
Portugal	YES	33	21%
Romania	NO	0	0%
Slovakia	YES	54	32%
Slovenia	YES	12	8%
Spain	YES	46	33%
Sweden	YES	9	8%
EU-27		**713**	**20%**

Notes: Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Table 5-8 compares the initial investment assumptions, funding mobilised up to 2023, and funding still to be implemented, for each Member State. Funding reported up to 2023 includes national public funding, financing of PaMs through EU-level funding, namely, the Recovery and Resilience Facility (RRF), the European Regional Development Fund (ERDF), and Cohesion Fund (CF), and private funding.

Table 5-8 Disaggregated funding reported by Member States in 2025 reporting (EUR$_{2024}$ million).

	Initial Investment Assumption	National Public Funding	EU RRF Funding	EU ERDF and/or Cohesion Fund	Private Funding	Still to be Implemented
Austria	-	-	-	-	-	-
Belgium	3 277	2 101	3	0	957	567
Bulgaria	14 667	5 342	58	0	0	2 716
Croatia	19 195	555	89	151	51	17 445
Cyprus	6 536	135	33	63	181	5 845
Czechia	-	-	-	-	-	-
Denmark	-	-	-	-	-	-
Estonia	7 388	549	270	490	89	4 084
Finland	0	9 016	0	0	0	0
France	73 635	18 425	0	0	1 196	1 219
Germany	335 464	79 482	6 067	0	115 474	360 048
Greece	105 834	1 521	637	506	0	99 755
Hungary	22 999	3 619	143	4 299	149	9 126
Ireland	-	-	-	-	-	-
Italy	-	-	-	-	-	-
Latvia	97	40	0	0	0	29
Lithuania	17 534	1 761	8	758	963	8 997
Luxembourg	13 701	0	0	0	0	0
Malta	51	390	0	0	2	1 335
Netherlands	19 649	10 295	11	0	9 050	18 283
Poland	40 761	4 488	1 738	3 203	519	32 652
Portugal	9 886	4 084	1 169	0	0	0
Romania	-	-	-	-	-	-
Slovakia	77 535	1 087	0	195	2 414	59 826
Slovenia	1 716	704	0	44	968	0
Spain	44 154	449	2 285	152	5 633	29 493
Sweden	8 625	2 296	0	0	0	7 654
EU-27	**738 049**	**134 100**	**9 679**	**9 867**	**124 015**	**574 856**

Notes: The reported values are converted to 2024 real EUR values, based on national annual average EU-27 GDP price index (implicit deflator), 2010=100, euro, seasonally and calendar adjusted data, obtained from Eurostat dataset namq_10_gdp.

"-" means that no data was submitted.

Data for Belgium are based on the report submitted in 2023.

Data for Poland are based on the first submission dated 19 September 2025 and were converted from Polish złoty to EUR by the ETC-CM, following confirmation from Poland's reporters that the values had been reported in the incorrect currency. This adjustment was made to prevent distortion of the overall investment values and to ensure consistency with the cut-off date applied throughout the report.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset; Gross domestic product and main components dataset (Eurostat, 2025b).

Two main points emerge from this information. First, the majority of funding reported up to 2023, (EUR 284 out of EUR 306 billion) has come from national governments and private sources. Second, when combining funding mobilised up to 2023 with funding still to be implemented, the reported total exceeds the initial investment assumptions by EUR 143 billion (EUR 965 billion in comparison to EUR 823 billion). In this regard, there are notable differences between the individual Member States. For example, the Netherlands, has already exceeded its initial investment assumptions, while in Germany, private funding constitutes the main component of total funding reported. Other country-specific examples are provided in Table 5-8.

Table 5-9 shows the share of allocated EU funding to PaMs relative to the total amount of EU funding disbursed to each Member State. Sixteen Member States reported using EU funds to finance PaMs. The extent of reliance on these sources varies across Member States. Overall, 4.1% of the total RRF disbursements and 4.4% of the total ERDF and CF disbursements are reported to be allocated to PaMs financing. At Member State level, these shares are typically less than 10% of national disbursements. However, several Member States stand out with significantly higher proportions. Estonia reported using over 50% of its RRF disbursement and approximately 20% of its ERDF and CF disbursement for the implementation of PaMs. Hungary also uses a comparatively large proportion; 15.5% of RRF and 26.6% of ERDF and CF and Germany similarly report utilising 31% of RFF financing. Additional examples can be seen in Table 5-9 below.

Table 5-9 Share of reported PaMs' financing from total RRF, CF and ERDF disbursed funding in 2025 reporting.

	Share of reported RRF financing for PaMs from national RRF disbursement	Share of reported ERDF and CF financing for PaMs from national CF and ERDF disbursement
Belgium	0.2%	N/A
Bulgaria	4.2%	N/A
Croatia	2.0%	2.3%
Cyprus	8.9%	9.7%
Denmark	>0.1%	>0.1%
Estonia	53.5%	19.8%
Germany	30.7%	N/A
Greece	3.5%	3.7%
Hungary	15.5%	26.6%
Lithuania	0.5%	15.6%
Netherlands	0.8%	N/A
Poland	8.4%	5.5%
Portugal	10.3%	7.9%
Slovakia	N/A	2.0%
Slovenia	N/A	1.9%
Spain	4.7%	0.6%

Notes: **"**N/A" means that no financing data is reported in relation to the funding instrument.

Data for Belgium are based on the report submitted in 2023.

Data for Poland are based on the first submission dated 19 September 2025 and were converted from Polish złoty to EUR by the ETC-CM, following confirmation from Poland's reporters that the values had been reported in the incorrect currency. This adjustment was made to prevent distortion of the overall investment values and to ensure consistency with the cut-off date applied throughout the report.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset; National RRF disbursement (European Commission, n.d.); Cohesion Open Data Platform (European Commission, n.d.).

5.5 Annex XIV – Impacts on air quality and emissions to air

5.5.1 Introduction

The Governance Regulation sets out specific requirements regarding the impacts of PaMs on air quality and on emissions of air pollutants:

> *"When reporting on quantification of the impact of the policies and measures, or groups of policies and measures, on air quality and on emissions of air pollutants, that are covered by the reports submitted in accordance with Article 7(1) and (2), Member States shall do so in accordance with the formats set out in Annex XIV".*

Accordingly, Member States are required to report any quantified impacts on air quality resulting from their reported PaMs, or, where such data are not available, to provide qualitative descriptions instead.

5.5.2 Reported information

Table 5-10 presents whether each Member States reported information under Annex XIV, along with the share of total PaMs covered.

In 2025, 18 Member States reported under Annex XIV, one less than in 2023. Of the nine Member States that did not provide information, five had previously reported in 2023. By contrast, Slovakia and Luxembourg, reported under Annex XIV in 2025 but not in 2023.

Across the EU-27, 675 PaMs were reported under Annex XIV. The number of PaMs reported varies widely between Member States, from fewer than 10 to over a 100. Denmark reported on 100% of its PaMs to Annex XIV, a significant increase compared with its 2023 submission. Luxembourg also reported on nearly all its PaMs (98%). In other Member States, between 20% and 40% of their total PaMs were included, except for Cyprus, Spain, Slovenia, and the Netherlands, where only a relatively small number were reported. In some cases, only a single PaM was submitted, generally because a grouped PaM was used to capture multiple measures and estimate their combined impacts. Greece was the only exception, submitting one PaM without any quantitative emission impacts.

Most Member States reported qualitative descriptions rather than quantified estimates. Of the PaMs reported under Annex XIV, 529 contained qualitative information, 115 included quantified estimates, and 31 PaMs were without either type of estimate.

Table 5-10 Information reported by Member States under Annex XIV in 2025.

	Information reported	Number of PaMs with reported information	Share of total PaMs
Austria	YES	20	40%
Belgium	NO	0	0%
Bulgaria	NO	0	0%
Croatia	YES	24	20%
Cyprus	YES	2	2%
Czechia	NO	0	0%
Denmark	YES	131	100%
Estonia	NO	0	0%
Finland	YES	1	1%
France	YES	1	0%
Germany	YES	1	0%
Greece	YES	1	1%
Hungary	NO	0	0%
Ireland	YES	63	66%
Italy	NO	0	0%
Latvia	YES	16	22%
Lithuania	YES	98	42%
Luxembourg	YES	206	98%
Malta	YES	12	40%
Netherlands	YES	5	3%
Poland	NO	0	0%
Portugal	NO	0	0%
Romania	NO	0	0%
Slovakia	YES	49	29%
Slovenia	YES	4	3%
Spain	YES	9	7%
Sweden	YES	32	28%
EU-27		**675**	**19%**

Notes: Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Data for Belgium is based on the report submitted in 2023.

Table 5-11 provides the total expected impacts by affected pollutant across the EU-27. Table 5-12, Table 5-13, and Table 5-14 provide more detailed information on the expected impacts of PaMs by Member State for the three pollutants with highest reported values; NO_X, NMVOC, and $PM_{2.5}$ pollutants, by year. Reported negative values represent an expected decrease in emissions for that pollutant, positive values represent an expected increase.

Member States also report PaMs impacting air quality and emissions to air under the National Emission Ceiling Directive (NECD). For comparison, the inventory values reported to the NECD are provided in Table 5-12, Table 5-13, and Table 5-14 in the column *2023 Inventory value*, alongside the PaMs-related emission impacts reported under Annex XIV.

The EU-27 totals for each pollutant show that most emissions are estimated to decline over time. Clear downward trends are visible for NMVOC, "Other", and NH_3, while reductions in $PM_{2.5}$ and NO_X are less consistent, with substantial reductions in early or late years but not across the full time series.

For NO_X, 11 Member States reported at least 1 quantified emission estimate, most of which are negative (indicating reductions), except for Germany in 2025 where an increase is reported. Compared with 2023 NECD inventory values, Finland estimated reductions of more than one-quarter of its current NO_X emissions by 2030. Latvia, Germany, and Slovenia report smaller continuous reductions, while France projected reductions that exceed its 2023 inventory value by 2050.

For $PM_{2.5}$, 11 Member States reported quantified emission estimates. By 2050 Germany, Ireland, and the Netherlands project significant reductions relative to their 2023 inventories. Conversely, Spain reports only modest reductions, and Slovenia is the only Member State estimating an increase in $PM_{2.5}$ emissions. France reported the largest absolute reduction in 2050 relative to its 2023 inventory value.

For NMVOC, nine Member States reported quantified emission estimates. In most cases, projected reductions are relatively small compared with the 2023 inventory levels. However, France report significantly large reductions, with totals across all years being almost equal to 2023 inventory value.

It is worth noting that France's exceptionally high reported estimates, may reflect an error in the units used for reporting. If so, this would also influence the EU-27 totals shown in Table 5-11.

Table 5-11 Aggregated annual expected emission impacts, by pollutant, in 2025 reporting (kt).

	2025 emission impact	2030 emission impact	2035 emission impact	2040 emission impact	2045 emission impact	2050 emission impact
SO_2	- 48.1	- 134.0	- 140.5	- 153.9	- 150.2	- 149.3
NOx	- 999.1	- 1 216.0	- 106.5	- 131.1	- 51.2	- 1 255.5
NMVOC	- 815.5	- 1 052.1	- 448.4	- 514.9	- 533.5	- 1 305.8
NH_3	- 127.5	- 178.0	- 134.6	- 142.4	- 108.4	- 182.3
$PM_{2.5}$	- 158.9	- 183.2	- 15.2	- 18.5	- 16.1	- 182.6
Other	- 140.7	- 452.4	- 716.7	- 908.9	- 1 027.0	- 1 142.6

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Table 5-12 Annual quantified NO_X emission impacts, by Member State, in 2025 reporting, compared with 2023 NO_X inventory value (kt).

	2023 Inventory value	2025 emission impact	2030 emission impact	2035 emission impact	2040 emission impact	2045 emission impact	2050 emission impact
Austria	*108.8*	-	-	-	-	-	-
Belgium	*123.3*	-	-	-	-	-	-
Bulgaria	*83.5*	-	-	-	-	-	-
Croatia	*47.9*	- 0.5	- 0.9	- 0.5	- 0.7	-	-
Cyprus	*12.1*	- 11.3	- 7.8	-	-	-	-
Czechia	*134.1*	-	-	-	-	-	-
Denmark	*81.0*	-	-	-	-	-	-
Estonia	*18.7*	-	-	-	-	-	-
Finland	*90.3*	-	- 24.9	-	-	-	-
France	*653.9*	- 973.0	- 1 092.0	-	-	-	- 1 204.0
Germany	*844.9*	10.4	- 5.0	- 13.8	- 20.1	- 20.7	- 17.2
Greece	*218.1*	-	-	-	-	-	-
Hungary	*90.9*	-	-	-	-	-	-
Ireland	*85.9*	- 10.6	- 17.6	- 21.8	- 26.5	- 30.4	- 34.4
Italy	*557.4*	-	-	-	-	-	-
Latvia	*32.4*	- 0.2	- 0.7	- 1.1	- 1.2	-	-
Lithuania	*44.7*	-	-	-	-	-	-
Luxembourg	*10.2*	-	-	-	-	-	-
Malta	*4.6*	- 0.1	>0.1	-	-	-	-
Netherlands	*183.8*	- 13.9	- 44.1	- 67.3	- 79.6	-	-
Poland	*492.0*	-	-	-	-	-	-
Portugal	*120.0*	-	-	-	-	-	-
Romania	*194.9*	-	-	-	-	-	-
Slovakia	*51.3*	-	-	-	-	-	-
Slovenia	*23.8*	-	- 2.1	- 2.0	- 3.1	-	-
Spain	*565.8*	-	- 20.9	-	-	-	-
Sweden	*104.0*	-	-	-	-	-	-
EU-27	***4 978.1***	**- 987.3**	**- 1 207.3**	**- 105.9**	**- 130.5**	**- 51.2**	**- 1 255.5**

Notes: "-" means that no data was submitted.

Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset; National air pollutant emissions data (EEA, n.d.).

Table 5-13 Annual expected NMVOC emission impacts, by Member State, in 2025 reporting, compared with 2023 NMVOC inventory value (kt).

	2023 Inventory value	2025 emission impact	2030 emission impact	2035 emission impact	2040 emission impact	2045 emission impact	2050 emission impact
Austria	*103.7*	-	-	-	-	-	-
Belgium	*122.1*	-	-	-	-	-	-
Bulgaria	*65.8*	-	-	-	-	-	-
Croatia	*54.5*	-	-	-	-	-	-
Cyprus	*7.4*	-6.1	-5.8	-	-	-	-
Czechia	*244.9*	-	-	-	-	-	-
Denmark	*97.9*	-	-	-	-	-	-
Estonia	*23.1*	-	-	-	-	-	-
Finland	*72.5*	-	-2.8	-	-	-	-
France	*1 045.5*	-681.0	-707.0	-	-	-	-755.0
Germany	*974.8*	-129.6	-331.1	-437.9	-499.2	-530.0	-548.3
Greece	*137.1*	-	-	-	-	-	-
Hungary	*114.5*	-	-	-	-	-	-
Ireland	*107.3*	-1.2	-2.3	-3.0	-3.7	-3.6	-2.6
Italy	*871.0*	-	-	-	-	-	-
Latvia	*33.6*	-	-	-	-	-	-
Lithuania	*51.5*	-	-	-	-	-	-
Luxembourg	*8.8*	-	-	-	-	-	-
Malta	*2.8*	>- 0.1	>- 0.1	-	-	-	-
Netherlands	*238.4*	2.4	-0.8	-6.5	-11.1	-	-
Poland	*640.2*	-	-	-	-	-	-
Portugal	*152.3*	-	-	-	-	-	-
Romania	*215.3*	-	-	-	-	-	-
Slovakia	*76.0*	-	-	-	-	-	-
Slovenia	*27.8*	-	0.2	-0.9	-0.9	-	-
Spain	*505.3*	-	-2.5	-	-	-	-
Sweden	*137.6*	-	-	-	-	-	-
EU-27	***6 131.7***	**- 809.4**	**- 1 046.3**	**- 448.4**	**- 514.9**	**- 533.5**	**- 1 305.8**

Notes: Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset; National air pollutant emissions data (EEA, n.d.).

Table 5-14 **Annual expected $PM_{2.5}$ emission impacts, by Member State, in 2025 reporting, compared with 2023 $PM_{2.5}$ inventory value (kt).**

	2023 Inventory value	2025 emission impact	2030 emission impact	2035 emission impact	2040 emission impact	2045 emission impact	2050 emission impact
Austria	*12.9*	-	-	-	-	-	-
Belgium	*17.2*	-	-	-	-	-	-
Bulgaria	*22.3*	-	-	-	-	-	-
Croatia	*25.9*	- 1.1	- 2.0	- 0.5	- 0.6	-	-
Cyprus	*0.9*	- 0.7	- 0.6	-	-	-	-
Czechia	*42.6*	-	-	-	-	-	-
Denmark	*11.2*	-	-	-	-	-	-
Estonia	*4.7*	-	-	-	-	-	-
Finland	*13.1*	-	- 3.5	-	-	-	-
France	*160.2*	- 151.0	- 163.0	-	-	-	- 166.0
Germany	*77.5*	- 4.9	- 8.8	- 11.1	- 13.6	- 14.5	- 14.9
Greece	*37.0*	-	-	-	-	-	-
Hungary	*32.8*	-	-	-	-	-	-
Ireland	*9.4*	- 0.6	- 0.9	- 1.2	- 1.4	- 1.6	- 1.7
Italy	*139.0*	-	-	-	-	-	-
Latvia	*14.4*	- 0.1	- 0.4	- 0.5	- 0.5	-	-
Lithuania	*9.2*	-	-	-	-	-	-
Luxembourg	*1.3*	-	-	-	-	-	-
Malta	*0.3*	>- 0.1	>- 0.1	-	-	-	-
Netherlands	*13.8*	- 0.5	- 1.7	- 2.5	- 2.9	-	-
Poland	*233.4*	-	-	-	-	-	-
Portugal	*43.0*	-	-	-	-	-	-
Romania	*100.0*	-	-	-	-	-	-
Slovakia	*13.2*	-	-	-	-	-	-
Slovenia	*9.2*	-	0.2	0.5	0.5	-	-
Spain	*106.7*	-	- 2.5	-	-	-	-
Sweden	*14.3*	-	-	-	-	-	-
EU-27	**1 165.4**	**- 157.1**	**- 180.6**	**- 14.7**	**- 18.0**	**- 16.1**	**- 182.6**

Notes: Data for Belgium is based on the report submitted in 2023.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset; National air pollutant emissions data (EEA, n.d.).

6 National System reporting

Reporting on the national system for reporting on PaMs and GHG projections was already mandatory under the EU Monitoring Mechanism Regulation. In the Governance Regulation, the requirements have been further specified. Countries have to report on 12 reporting items and for each, guidance has been provided in the implementing act and in the guidance document for reporters[26].

Twenty-seven EU Member States and three non-EU countries (Iceland, Norway, and Switzerland) reported information on their national system for reporting PaMs and GHG projections in 2021. As this was the first reporting year, reporting was mandatory. In 2025, 17 Member States and 3 non-EU countries updated information in their report, compared with 21 Member States and 2 non-EU countries in 2023 cycle. Countries that reported in 2025 are Austria, Belgium, Croatia, Denmark, Estonia, Finland, Greece, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, and Spain, and the three non-EU countries are Iceland, Norway and Switzerland. The updated items per Member State are indicated in Table 6-1. Following the quality control checks conducted by the ETC-CM reviewers, 11 reports (10 of which from EU Member States) were adjusted to address questions raised by reviewers, another 6 were adjusted without fully addressing the questions, and another 3 (2 of which were EU Member State reports) were not adjusted, despite questions or recommendations for improvement.

The information reported by Member States on the National System can be consulted and downloaded from Reportnet 3 dataflow (Reportnet 3 Dataflow GovReg: National systems for policies and measures and projections) and the EEA Datahub (National systems for policies and measures and greenhouse gas projections). In addition, this information has also been combined by the European Environment Agency and published on the Climate and Energy Platform (Climate and Energy in the EU: National system for policies and measures and projections).

26 Guidelines for reporting on National systems for policies and measures and projections 2023.

Table 6-1 Updated information on national systems by reporting question in Member States' 2025 reporting.

	Name and contact information for the entities with overall responsibility	Institutional arrangements	Legal arrangements	Procedural and administrative arrangements	Information collection process	Alignment with the national inventory system	Description of the links to arrangements on NECPs	Quality assurance and quality control activities	Process for selecting assumptions, methodologies and models	Procedures for the official consideration and approval	Relevant arrangements for domestic implementation of the EU's NDC	Stakeholder engagement
Austria	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	YES	NO
Belgium	YES	YES	NO	YES	YES	NO	YES	YES	YES	NO	YES	NO
Bulgaria												
Croatia	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO
Cyprus												
Czechia												
Denmark	YES	YES	YES	YES	YES	NO	NO	NO	YES	NO	YES	NO
Estonia	YES	YES	YES	YES	NO	YES	YES		YES	YES	YES	NO
Finland	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES
France												
Germany												
Greece	YES	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES	YES
Hungary												
Iceland	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Ireland												
Italy												
Latvia	YES	YES	YES	YES	NO	YES	YES	YES	YES	NO	YES	NO
Lithuania	YES	YES	YES	YES	YES	YES	YES	NO	YES	NO	YES	YES
Luxembourg	YES	YES	NO	YES	NO	YES	NO	NO	NO	NO	NO	NO
Malta												
Netherlands	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	YES
Norway	NO	YES	NO	YES	YES	YES	N/A	YES	NO	NO	NO	NO
Poland	NO	YES	YES	YES	YES	NO	YES	NO	YES	NO	YES	NO
Portugal	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES
Romania	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	NO
Slovakia	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Slovenia	NO	YES	YES	YES	YES	NO	YES	NO	YES	NO	NO	NO
Spain	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES
Sweden												
Switzerland	NO	YES	YES	YES	YES	NO	N/A	YES	NO	YES	NO	YES

Notes: If "YES" or "NO" is indicated, this means that a submission was made in 2025 and that the reporting for this information was, or was not, updated, respectively. Empty cells indicate that no submission was made by the country in 2025. "N/A" refers to cases where reporting is not applicable because the country is not an EU Member State. In some cases, the differences in updated information in 2025 compared with previous years is very minor.

Sources: Authors' calculations/analysis, based on 2025 and 2023/2024 national systems dataset.

A recent study carried out by the ETC-CM (2025) (Strengthening National Governance Systems) analysed the status of national systems. Given its recent publication, this section draws on the study's key findings

to describe the current state-of-play. The analysis was primarily based on national system reports submitted under the Governance Regulation in 2023, complemented by surveys and interviews with lead national reporters and governance experts. It should be noted that, with the updates submitted in 2025 and the subsequent resubmissions addressing quality questions, the completeness of reporting has improved compared with 2023.

The study identified a number of key findings (ETC-CM, 2025):

1. Most Member States have put in place **institutional structures** with clearly defined roles, engaging a wide range of policy areas and expert communities. Data collection procedures are also well established in many cases.
2. **Capacity constraints** in several countries weaken reporting systems, as limited human and financial resources hinder meeting quality and timeliness requirements.
3. Building and reinforcing **networks of sectoral experts** is essential for enhancing stakeholder contributions, improving policy integration, and strengthening cross-ministerial coordination. Despite existing collaboration mechanisms, many countries lack formal expert networks, face delays in data provision, and struggle to align climate reporting with both national and EU policy objectives.
4. Procedures for the **consideration, approval, and review of the national system** are insufficient in most countries. Strengthening them would improve system effectiveness and reliability.
5. In countries without **legal frameworks** for reporting, formalising national systems would help improve accountability and consistency over time. Stronger legal provisions also support inter-ministerial collaboration, data exchange, and timely submissions, whereas less formal systems often encounter coordination challenges for data collection.
6. Reporting of PaMs and emission projections is generally well **aligned with the GHG inventory and the NECPR**. This alignment is largely due to the robust institutional arrangements already in place for inventory systems, which often serve as a foundation for projections reporting.
7. Although many countries have introduced quality assurance and quality control (**QAQC) procedures**, significant shortcomings remain in the quality and timeliness of PaMs and projections reporting, with some Member States lacking established QAQC systems altogether.
8. **Policy monitoring and evaluation processes** remain underdeveloped in most countries, contributing to the low level of reporting on PaM impacts.
9. **Public consultation** in climate policymaking and reporting varies considerably across countries, pointing to the need for stronger practices to improve transparency and better reflect participatory governance principles.

Based on these challenges, the report (ETC-CM, 2025) provides the following recommendations for Member States and EU institutions to strengthen both national and Union-level systems:

- **Strengthen and continuously improve governance systems.** Countries are encouraged not only to establish and maintain but also to continuously improve their governance systems, as these form the foundation for reliable data to guide climate policy, monitor progress, and meet international commitments.
- **Ensure a robust legal and institutional frameworks**. Effective governance requires strong legal frameworks, backed by political commitment, adequate financial resources, and standardised procedures.
- **Invest in capacity building.** Tailored training, structured cross-border learning, and EU/EEA support should be used to strengthen national capacity. Independent advisory bodies and formalised monitoring tools can also strengthen the objectivity and transparency of reporting.
- **Leverage digital innovation.** Innovative digital tools, such as Big Data and Artificial Intelligence, can help bridge gaps in reporting quality and equip national systems for emerging challenges.
- **Enhance public participation.** Mechanisms such as citizens' assemblies can build transparency and trust. Highlighting co-benefits such as improved health, access to clean energy, or economic opportunities can help build stronger political and public support for climate governance.

7 The findings of the quality assurance and quality control procedures

The EEA and the ETC-CM, on behalf of the European Commission, carried out quality assurance and quality control (QAQC) procedures on the data entered in Reportnet 3.0 webform and submitted by Member States. QAQC is the process of managing data quality by preventing errors proactively (quality assurance) and identifying and verifying errors reactively (quality control).

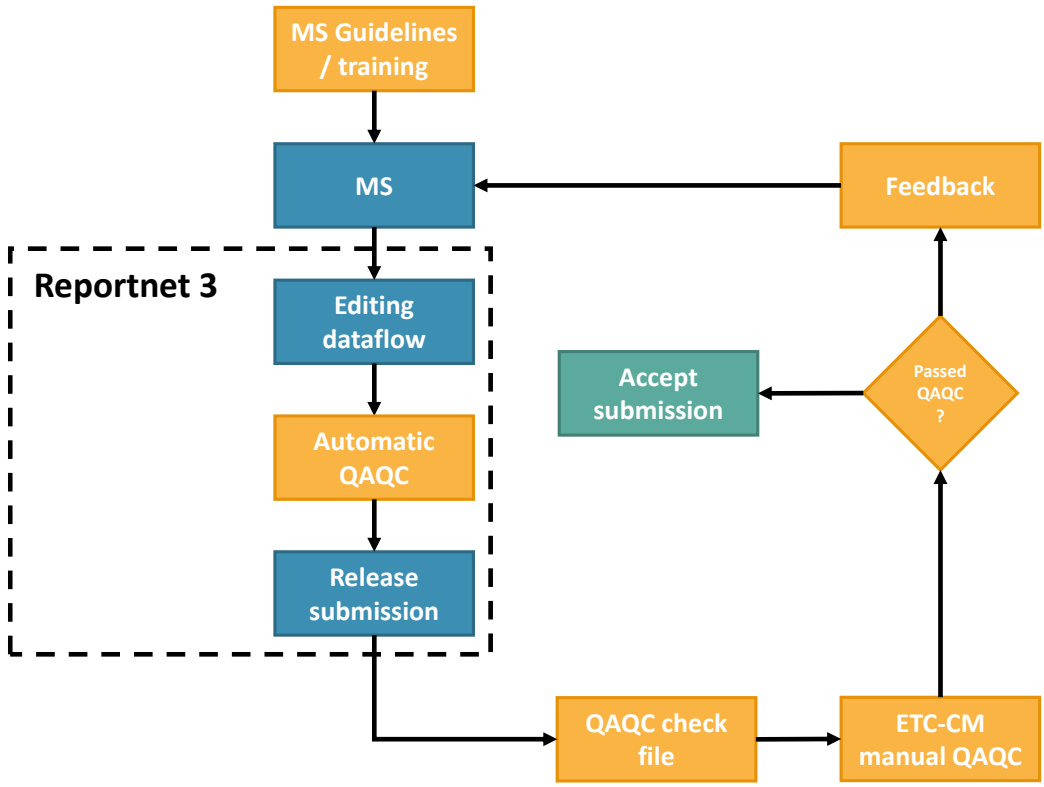
Since 2023, reporting on integrated national PaMs has been part of the NECPR under Article 17 of the Governance Regulation. The 2025 submissions therefore represented the second mandatory reporting cycle under this framework, with the reporting deadline set for 15 March 2025.

This chapter provides an overview of the QAQC procedures, summarises the QAQC findings and corrective actions taken by countries, and sets out recommendations for improving QAQC in future reporting cycles.

7.1 Overview of the quality assurance and quality control procedures

In general, the QAQC process is designed to improve the quality of Member States' submissions and involves direct communication with the reporting entities. The process consists of several steps, illustrated in the schema in Figure 7-1 .

Figure 7-1 Overview of the quality control process.



Notes: Blue represents Member State processes, yellow represents EEA/ETC-CM processes and green represents the final submission following the QAQC procedure.

The first step is capacity building, carried out through the preparation of reporter guidelines and training sessions. During the reporting phase, automated quality checks in the Reportnet 3.0 platform enable

reporters to quality-control their data prior to submission, with submissions blocked if major defects are detected. Once a submission is made, the EEA/ETC-CM reviews the data and prepares a feedback document for the Member State. This document highlights areas of the reported data requiring further attention against specific criteria. The Member State is then requested to resubmit revised data via the reporting platform. This process may involve several iterations until questions are resolved or clarified.

The core of QAQC is built around the so-called TTACCC criteria, which provide the framework for the QAQC procedures:

- **Timeliness**: Has the report been submitted on time (15 March 2025)?
- **Transparency**: Has data been reported transparently, with references and supporting information where necessary?
- **Accuracy**: Are the data accurate and plausible?
- **Completeness**: Has all mandatory information been provided?
- **Comparability**: Is reporting comparable across Member States?
- **Consistency and coherence**: Is reporting consistent with good practices and guidelines, and coherent with other obligations under the Governance Regulation?

The purpose of the QAQC procedure is to ensure that the information provided complies as closely as possible with these criteria. Importantly, it is not the purpose of this procedure to assess the reported information against targets, objectives, or the fulfilment of legal requirements beyond the reporting obligations themselves.

The following sections provide an overview of the quality checks and their findings in the 2025 reporting cycle, split two main parts: (1) the automated in-system checks integrated in the Reportnet 3.0 webform, and (2) the post-submission checks carried out by the ETC-CM.

7.2 Automated in-system QAQC checks in Reportnet 3.0

Automated QAQC in Reportnet 3.0 is carried out through a range of checks on completeness, consistency (i.e. with other reported fields), and data format. These checks are categorised by severity:

- **Warning:** Minor issue or simple notification; data can be submitted, but Member States are advised to verify.
- **Error:** Clear issue; Member States are requested to review and amend where appropriate, but submission is still allowed.
- **Blocker:** Serious issue; the data cannot be submitted until the problem is resolved.

It is worth noting that warning and error checks flag potential issues, but these do not necessarily represent actual errors. As a result, some warnings and errors may remain even after data validation and resubmission.

In the 2024 reporting cycle, most automated QAQC checks were upgraded to blockers, requiring Member States to resolve issues before releasing data. As a result, the quality checks in the dataflow shifted from 101 warnings, 469 errors, and 46 blockers to 5 warnings, 11 errors, and 637 blockers, which also applied in 2025[27].

[27] For a full list of implemented and enabled automated QCs please see files under “download schema/s info” on the dataflow’s public site on Reportnet 3. Available via this link: https://reportnet.europa.eu/public/dataflow/1464

Table 7-1 Number of implemented and enabled QAQC checks in Reportnet 3, in 2025 reporting.

	Warning	Error	Blocker
Annex IX	2	7	394
Annex X	2	3	116
Annex XI	0	0	46
Annex XII	0	0	34
Annex XIII	1	1	28
Annex XIV	0	0	19
Total	**5**	**11**	**637**

7.2.1 Warning checks

A total of five warning checks were included in the webform in the 2025 reporting cycle: two in the Annex IX tables, two in Annex X, and one in Annex XIII.

7.2.2 Error checks

In the 2025 reporting cycle, a total of 11 error checks were integrated and enabled in the webform: 7 in the Annex IX tables, 3 in Annex X, and 1 in Annex XIII.

7.2.3 Blocker checks

In 2025 cycle, most automated checks were blockers, preventing the release of the dataflow until the issue was resolved. These blocker checks were introduced due to the complexity of the reporting template to avoid mistakes and ensure quality of submissions.

Inn total, 637 blockers were integrated and enabled in the webform in the 2025 reporting. The majority of these (394) related to Annex IX, followed by 116 in Annex X, with the remainder distributed across the other Annexes (see Table 7-1). Most of these blockers were converted from warnings and errors first introduced and enabled in the 2023 reporting cycle. This change was intended to establish a baseline level of data quality by ensuring correct data formats, consistency and the completeness of mandatory fields.

The introduction of blockers has reduced the number of post-submission quality checks (refer to the findings presented in Section 7.3), and has improved the completeness of certain parts of the reporting.

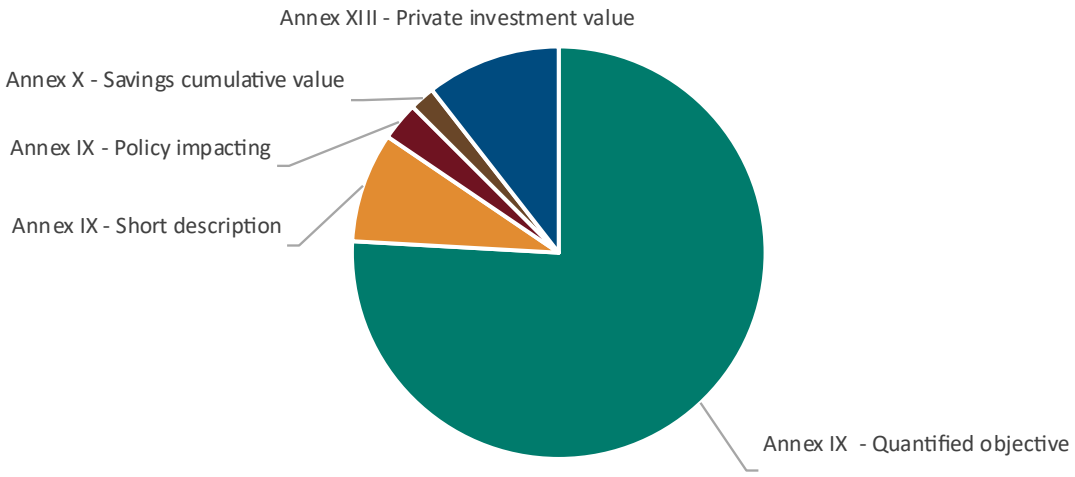
7.2.4 Validation errors

The automated in-system validation of Annex IX to XIV of the 2025 submissions resulted in several thousands of blockers, warnings, and errors for all EU Member States. Blockers are required to be resolved prior to submission; however, a remaining 1 265 validations (errors and warnings) were in the system post submission. Most of the remaining validations were in Annex IX, which related to the quantified objective field being empty. Annexes X and XIII additionally had remaining validations post submission. However, the number of checks is much smaller.

With the new method of increased blockers in the system, the remaining validations provided less insights into issues of data quality. For Annexes X and XIII a higher number of validations in a country's dataset indicated higher completeness of reporting, as countries that did not report any PaMs did not trigger errors or warnings.

Only Annexes XI, XII, and XIV had blockers, meaning no outstanding validations remain in the countries' datasets.

Figure 7-2 **Overview of the share of warning and error validations identified by the automated checks in the webform, grouped by reporting item, in 2025 reporting.**



Sources: Authors' calculations/analysis.

Table 7-2 **Number of validations in Reportnet 3 post final submissions, in 2025 reporting.**

	Warning	Error	Blocker
Annex IX	960	147	-
Annex X	25	0	-
Annex XI	-	-	-
Annex XII	-	-	-
Annex XIII	0	133	-
Annex XIV	-	-	-
Total	**985**	**280**	**-**

Sources: Authors' calculations/analysis.

7.3 Post-submission QAQC

The post-submission QAQC process was scheduled to take place from the reporting deadline (15 March 2025) until 30 June 2025, allowing for multiple rounds of quality checking. However, as noted in this section, many countries submitted after the 15 March deadline. By the time of preparing this report, 26 EU Member States and three non-EU Member States had submitted their integrated national PaMs reports, while the QAQC process was still ongoing for one Member State (Poland). **This section is based on data reported by countries up to 1 September 2025**. The QAQC results for Poland, which had not reported by this cut-off date, and Belgium, which had not submitted a report by the time of publishing this report, are therefore not included in the analysis.

The EEA/ETC-CM, on behalf of the European Commission, is responsible for quality-checking PaMs through a post-submission QAQC procedure. Checks are applied both at the level of the full submission (horizontal checks) and at the level of individual PaMs. All Annexes and tables are covered, supported by a guidance document for reviewers and dedicated reviewer tools.

The QAQC process begins once a country's submission is released. The reviewer tool is an Excel QAQC check file, which serves two main functions: (i) a check tool for reviewers, and (ii) a communication log

(Comlog) with the reporting country. The tool helps ensure consistency and harmonisation in both the review process and the format of feedback across Member States.

The QAQC file includes a dashboard summarising the entire submission, such as the number of PaMs, reported dimensions and sectors, and graphical representations of ex-ante GHG emission impacts. Where relevant, indicators are compared with previous submissions to assess changes across years, as well with EU-27 average to assess comparability. Feedback on the submission as a whole is provided using a template covering 29 horizontal checks.

For individual PaMs, automated checks in the QAQC file identify potential errors, including missing inputs for mandatory fields, incomplete "mandatory if applicable" fields, and inconsistencies between implementation status and implementation period, among others. Reviewers assess these automated findings and provide feedback where needed. Automated findings do not always result in questions, for example, when an end year is not reported for planned/adopted PaMs, the field may appropriately remain blank. In such cases, no follow-up is necessary unless the end year is mentioned in the PaM name or description but missing from the field.

In addition to automated checks, reviewers apply expert judgement guided by the review manual. Given the extensive volume of reporting, a prioritisation approach is used: checks that are fully or partially automated are prioritised over those relying solely on expert assessment. Similarly, criteria of completeness, accuracy, and consistency take precedence over coherence, comparability, and transparency (where related to provision of references). Feedback on individual PaMs is provided via templates with separate tables for each Annex.

The feedback highlights areas requiring clarification or improvement according to the TTACCC criteria. Countries are then requested to resubmit revised data via the reporting platform, which may trigger multiple iterations until all questions are resolved, subject to time and resource constraints.

This section presents the findings of the QAQC process grouped by the TTACCC criteria. Results are further distinguished between horizontal checks and checks on individual PaMs. Findings are presented at two levels: the number of questions raised and the number of individual errors to which those questions relate. **Unless otherwise stated, the analysis in the following sections refers to the QAQC findings of the 25 EU Member States that submitted data by 1 September 2025.**

7.3.1 Overview of the manual QAQC findings

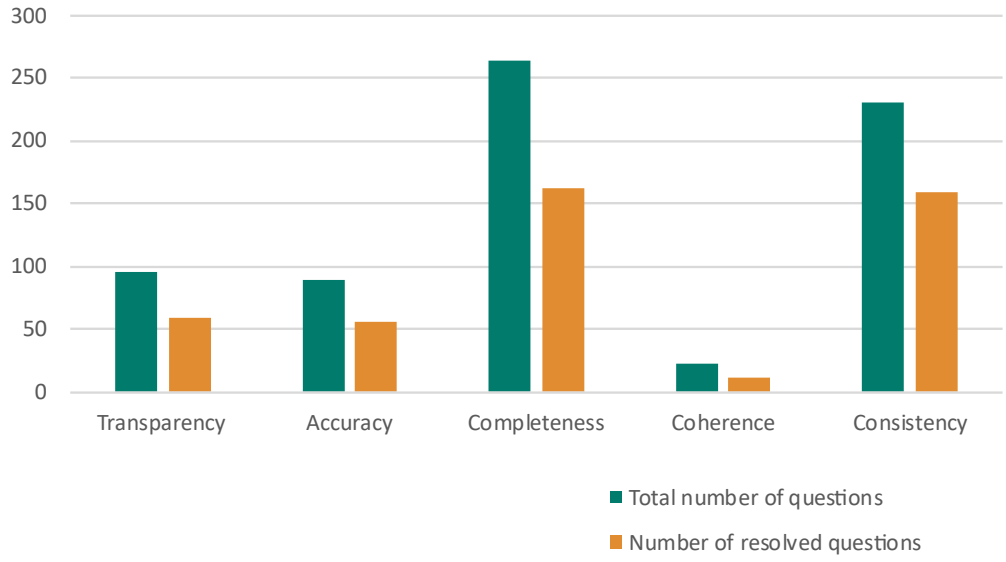
At the level of individual PaMs, a total of 704 questions were raised to Member States' reporters in 2025[28], broken down by criteria as shown in Figure 7-3. These questions referred to 10 700 reporting errors, representing the number of PaMs concerned, which are categorised by criteria in Figure 7-5. On average, each question covered around 15 PaMs, with completeness checks linked to the highest number of PaMs per question, at an average of 20 PaMs.

Overall, about two-thirds of the questions were addressed by reporting countries, either through corrections or by providing clarification. As shown in Figure 7-4, consistency-related questions were the most frequently resolved, often concerning inconsistencies between implementation status and period and/or the projection scenario. Based on the number of errors, only around half were resolved.

The difference between the patterns shown in Figure 7-3 and Figure 7-5 largely reflects questions which applied to many PaMs at once, for example, incomplete reporting of the GHG dimension for renewable energy or energy efficiency PaMs, or missing Union Policies or provisions.

[28] Based on the QAQC reviews of 25 Member States (i.e. excluding Belgium and Poland).

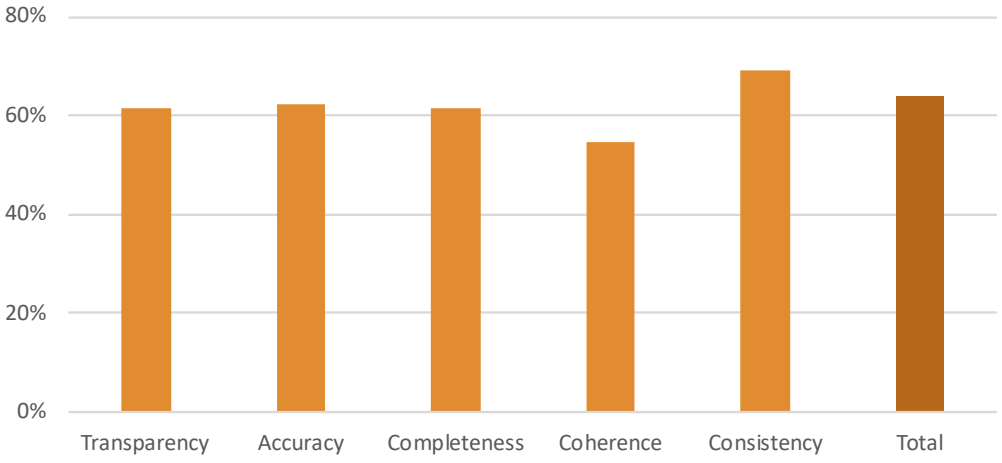
Figure 7-3 Total number of QAQC questions raised and resolved, grouped by criterion, in 2025 reporting.



Notes: These findings refer to QAQC checks on individual PaMs only, excluding findings of the horizontal checks.

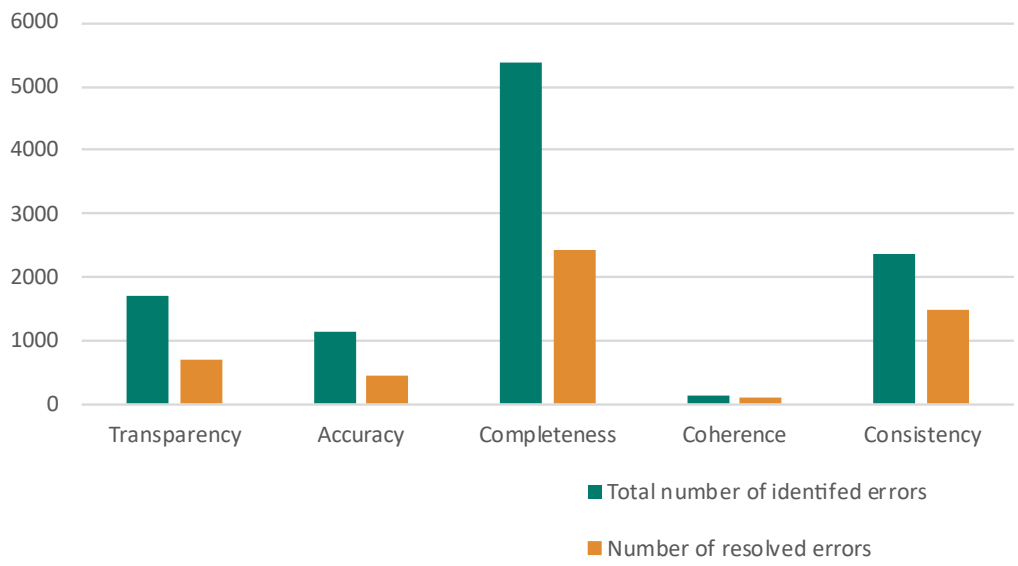
Sources: Authors' calculations/analysis.

Figure 7-4 Share of resolved questions by Member States, grouped by criterion, in 2025 reporting.



Sources: Authors' calculations/analysis.

Figure 7-5 Total number of potential errors identified and resolved, grouped by criterion, in 2025 reporting.

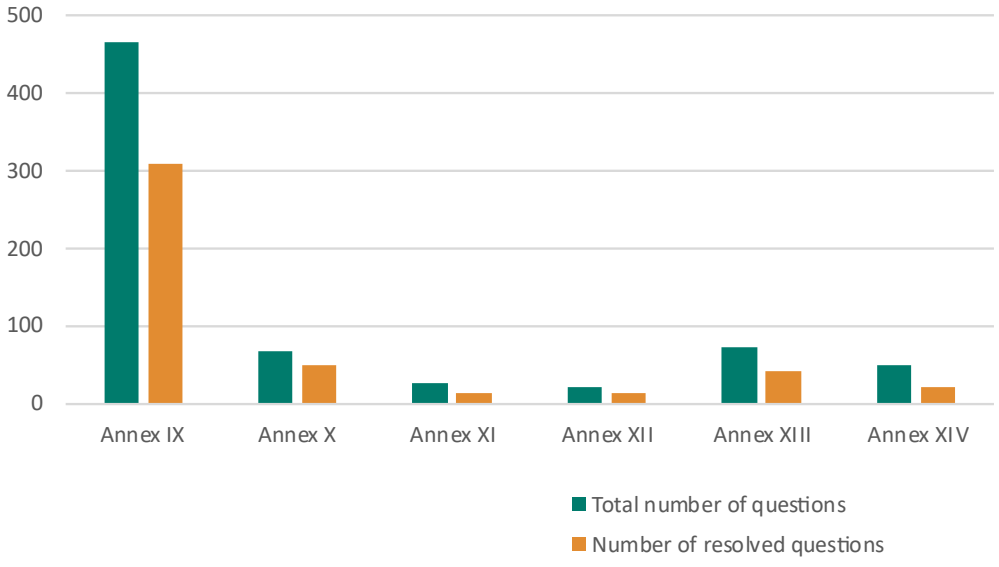


Notes: These findings refer to QAQC checks on individual PaMs only, excluding findings of the horizontal checks.

Sources: Authors' calculations/analysis.

A further overview of the findings is provided in Figure 7-6, which shows the number of questions by Annex. As expected, the largest relates to Annex IX, accounting for 66% of all questions (466). The remaining questions are distributed across the other five Annexes.

Figure 7-6 Total number of QAQC questions raised and resolved, grouped by Annex, in 2025 reporting.



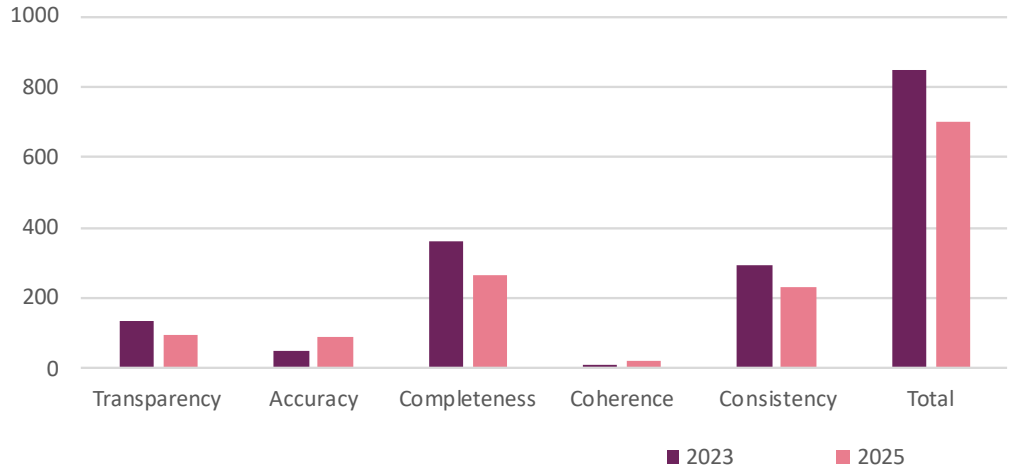
Sources: Authors' calculations/analysis.

In the 2025 reporting cycle, overall improvements were observed in the number of questions and errors identified through post-submission QAQC. Compared with 2023, the total number of questions decreased by 20% (Figure 7-7), while the number of errors declined by 8% (Figure 7-8). On average, the number of

questions per Member State fell from 34 to 28, and the number of errors per Member State dropped from 467 to 429.

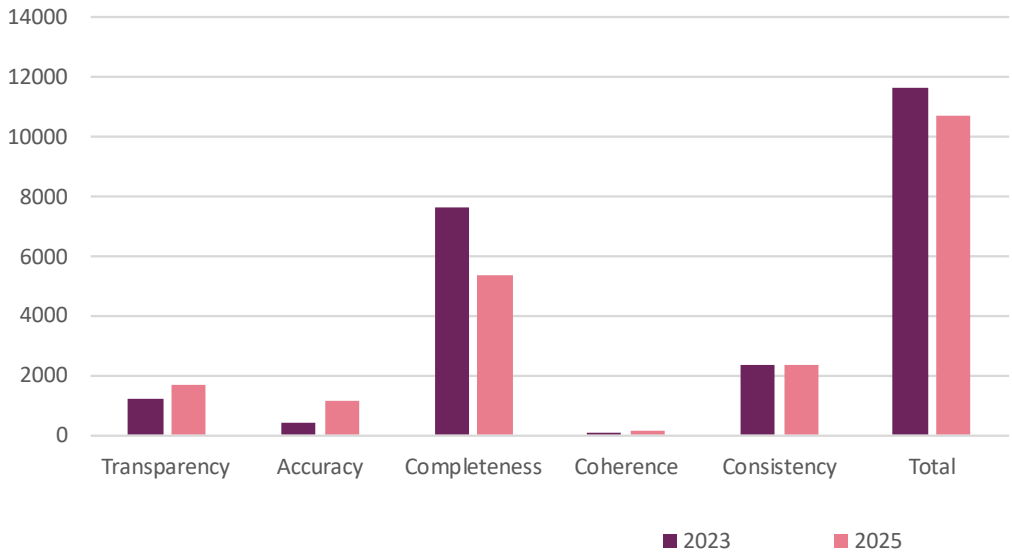
These improvements are partly explained by reporters' increased familiarity with the reporting templates, as 2025 marked the second mandatory reporting cycle, and in large part by the introduction of additional blockers in the Reportnet 3 portal. For example, the number of completeness errors decreased from an average of 306 per Member State in 2023 to 216 in 2025. Nevertheless, completeness errors remain the most common issue, accounting for 65% of all errors in 2025. Conversely, the number of accuracy and coherence questions (and related errors) increased in 2025 compared with 2023. The introduction of blockers in the webform significantly reduced completeness errors, freeing up more time during the post-submission QAQC process to focus on fields requiring expert judgment. In addition, the expansion of checks on quantitative data likely contributed to the higher number of identified accuracy-related errors.

Figure 7-7 A comparison of the number of QAQC questions, grouped by criterion, in 2025 and 2023 reporting years.



Sources: Authors' calculations/analysis.

Figure 7-8 A comparison of the number of identified errors grouped by criterion, in 2025 and 2023 reporting years.



Sources: Authors' calculations/analysis.

7.3.2 Timeliness

The Governance Regulation requires countries to report their integrated national PaMs by 15 March. In 2025, only three Member States submitted by this deadline. As shown in Table 7-3, 11 countries (8 EU Member States) released their reports in March. By the end of June, 25 countries had made their first submission. The final report was submitted by Poland on 19 September; however, as this was after the cut-off date for data collection, QAQC findings for Poland were not included in this report. Belgium had not submitted by the time of publication of this report.

A decline in timeliness has been observed across reporting cycles. By the end of March, 20 reports were submitted in 2021, 15 in 2023, but only 11 in 2025. Figure 7-9 shows the submission dates for 2025 and 2023 reporting.

Although 2025 was the second mandatory reporting year for integrated reporting, meaning reporters already had experience with the webform and its requirements, delays may have been partly due to technical issues and the higher number of blockers, which required additional effort to correct data inputs. To support timely submissions, the European Commission, together with the EEA and ETC-CM, provided Member States assistance ahead of the deadline, including a webinar, updated guidelines, and tutorials.

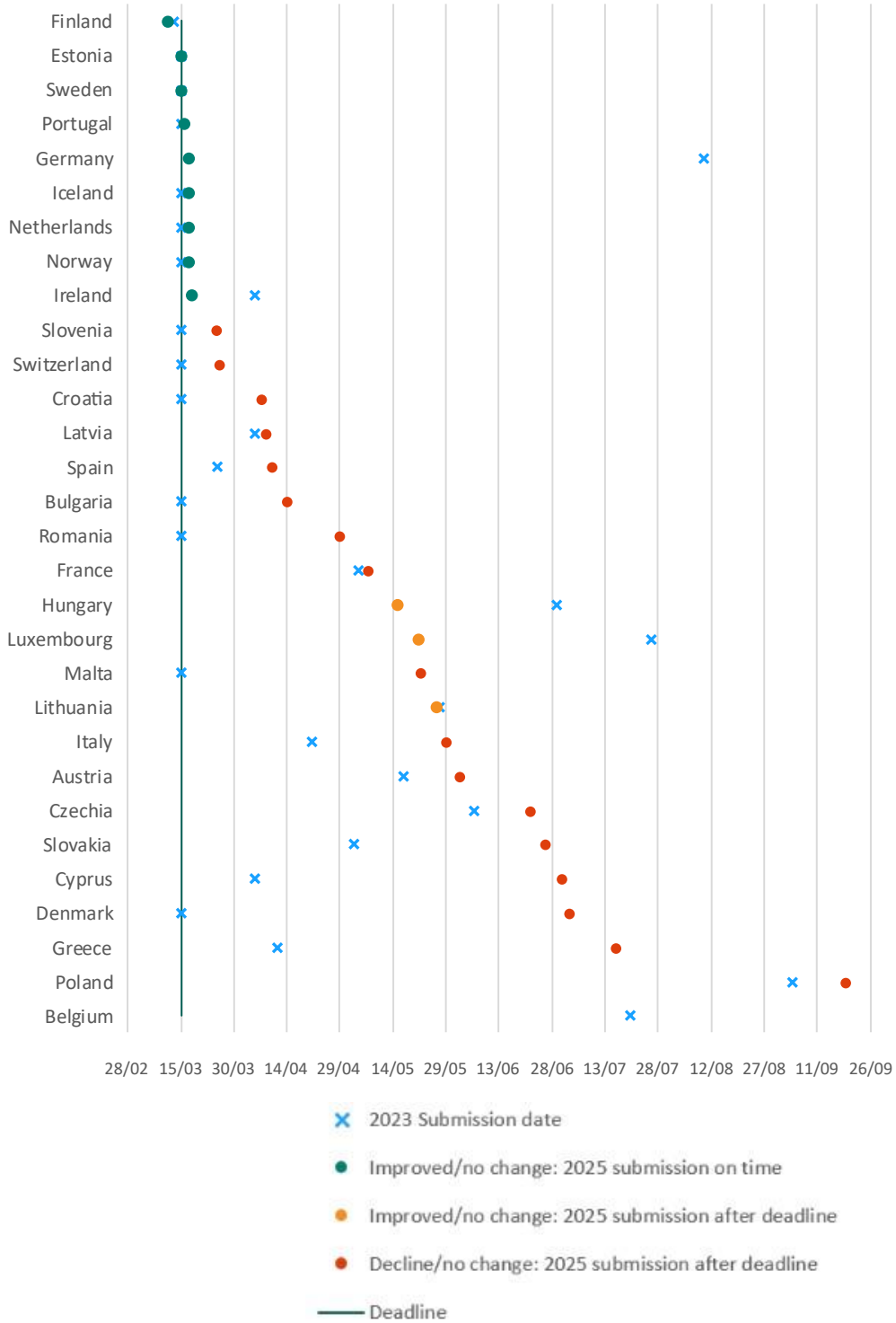
Table 7-3 Number of submissions per month from 1st March to 31st August 2025.

	March	April	May	June	July	August	September
Number of submissions	11	5	6	3	3	0	1
Cumulative number	11	16	22	25	28	28	29
Cumulative share	37%	53%	73%	83%	93%	93%	97%

Notes: Reporting in this table covers all EU Member States, except Belgium, which did not submit a report in 2025, and includes Iceland, Norway and Switzerland. If all EU Member States had reported, the anticipated cumulative number would be 30.

Sources: Authors' calculations/analysis, based on 2025 PaMs dataset.

Figure 7-9 A comparison of the first release date of Member States' reports in 2025 and 2023.



Notes: Belgium did not submit a report by the cut-off data for data collection in 2025.

Sources: Authors' calculations/analysis, based on 2023 and 2025 PaMs dataset.

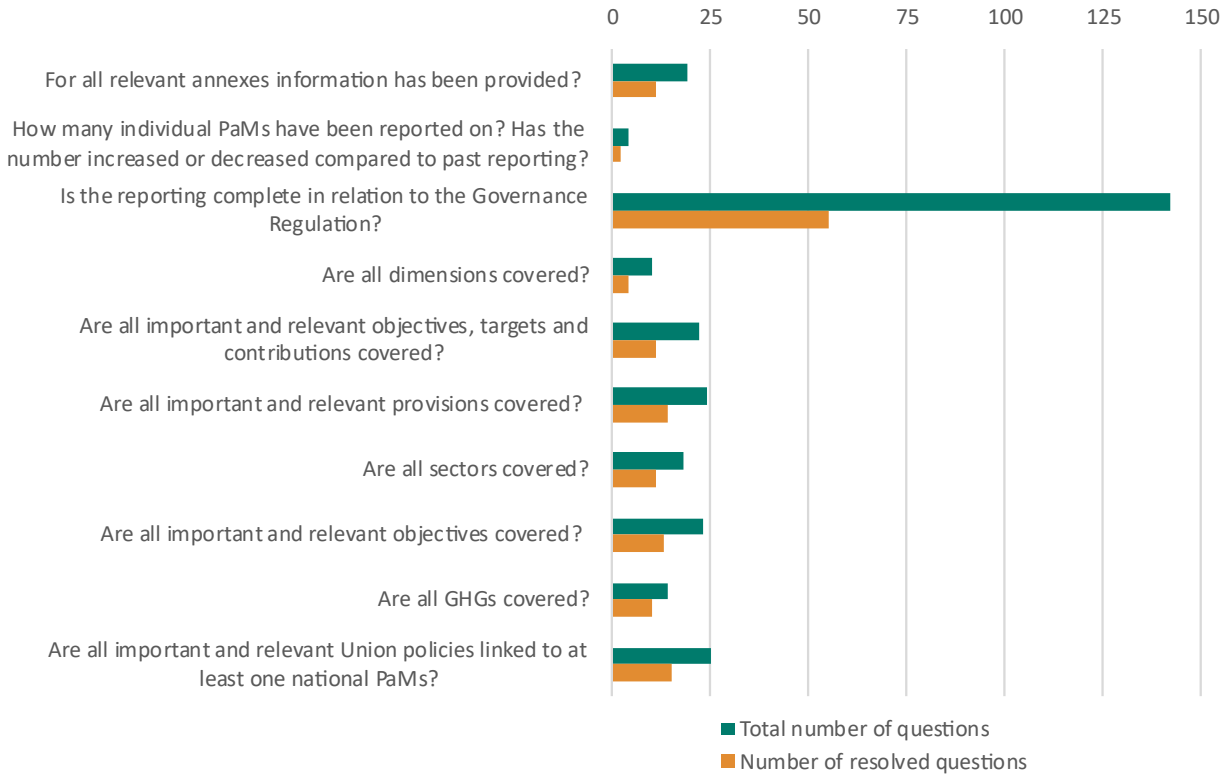
7.3.3 Completeness

The QAQC review team checks the completeness of Member States' submissions against a range of horizontal indicators. These checks cover completeness across all annexes, the consistency of PaMs reporting compared with previous submissions, and completeness regarding dimensions, objectives, targets and contributions, provisions, sectors and objectives, GHG emissions affected, and links to key Union policies.

Since 2023, submissions have also been reviewed for completeness with respect to mandatory types of measures required under the Governance Regulation. This includes checks on whether PaMs cover the relevant Union dimensions as well as measures addressing energy poverty.

Reporting against the requirements of the Governance Regulation generated the highest number of questions, 142 in total, of which 55 were resolved. Most of these questions concerned completeness in relation to measures on renewable energy, energy efficiency, and the internal energy market.

Figure 7-10 Number of completeness questions on horizontal aspects, raised and resolved, in 2025 reporting.



Sources: Authors' calculations/analysis.

Seventeen Member States reported on all dimensions in their first submission, while four others updated their reporting to cover additional dimensions. For objectives, targets, and contributions, only five Member States reported on nearly all, or the most important ones, in their initial submission. Following reviewer questions, 11 countries updated this part of their reporting.

Reporting on provisions was particularly weak; only three Member States provided sufficient coverage. Of the remaining 24, 7 updated their reporting after receiving questions. Similarly, reporting on target sectors was often incomplete, with 18 Member States failing to cover all sectors in their first submission. Eleven of these corrected their reporting following reviewer feedback. Incompleteness in sector reporting arose either from not linking reported PaMs to the appropriate sectors, or from not reporting PaMs within the

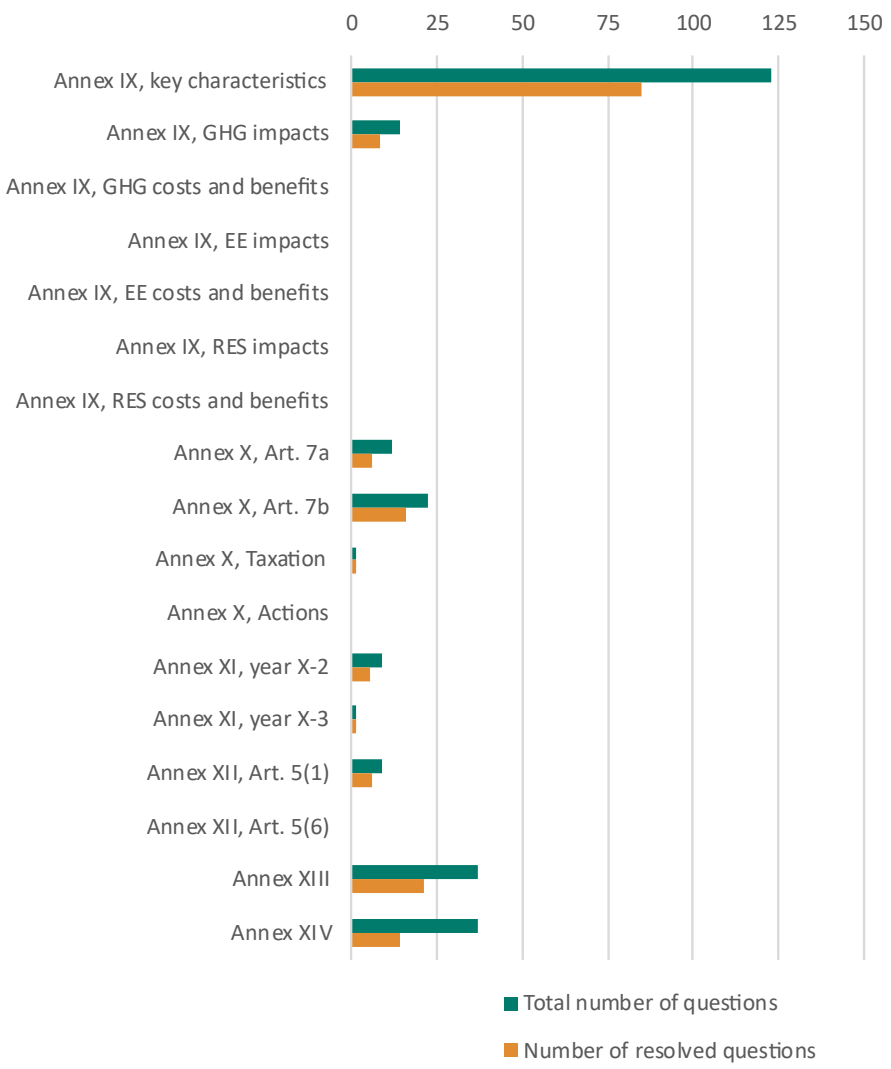
sector concerned. For sector objectives, only four Member States reported sufficiently at first. Among the 23 with incomplete reporting, 13 later adjusted their submissions. Incomplete reporting also extended to GHG emissions affected; 14 Member States were flagged by reviewers, of which 10 either corrected their reporting or confirmed that no additional gases were relevant.

At the individual PaM level, 265 questions were raised to reporters, of which 137 related to Annex IX fields, 123 specifically to the key characteristics table. The most common issue was missing mandatory information on dimensions (25 questions covering 343 PaMs), caused by incomplete reporting of dimensions rather than empty fields. The most frequent error was not reporting the dimension *decarbonisation: GHG emissions and removals* when *decarbonisation: renewable energy* or *energy efficiency* were selected. Other recurring completeness errors concerned incomplete reporting of sectors (12 questions, 16 PaMs), sector objectives (11 questions, 191 PaMs), and type of policy instrument (8 questions, 8 PaMs), among others. These mentioned errors were identified through cross-checks with other fields, such as name and description, which indicated potentially missing information. Furthermore, 8 questions linked to 72 errors related to missing *implementation status* and *period*. These errors resulted from either empty fields, or reporting of zero in the *start year* field, or in *end year* field (when the status is not *planned)*. Although blockers were in place to avoid empty *start year* field or zero input, in a few cases the blocker did not effectively stop the submission. Roughly 70% of completeness questions were resolved by reporters.

In some cases, fields were left entirely blank; in others, the reporting was incomplete. For example, missing references to key Union policies or GHG emissions likely to be relevant. The webform also includes several “other” options (e.g. for sector, objective, or type of policy instrument), which require additional clarification in a separate box; omissions here often triggered completeness questions.

For other tables in Annex IX, where many fields are marked *mandatory if available* or *voluntary*, questions mainly concerned cases where missing inputs were more obvious, or where clarification was needed to confirm that data were not available.

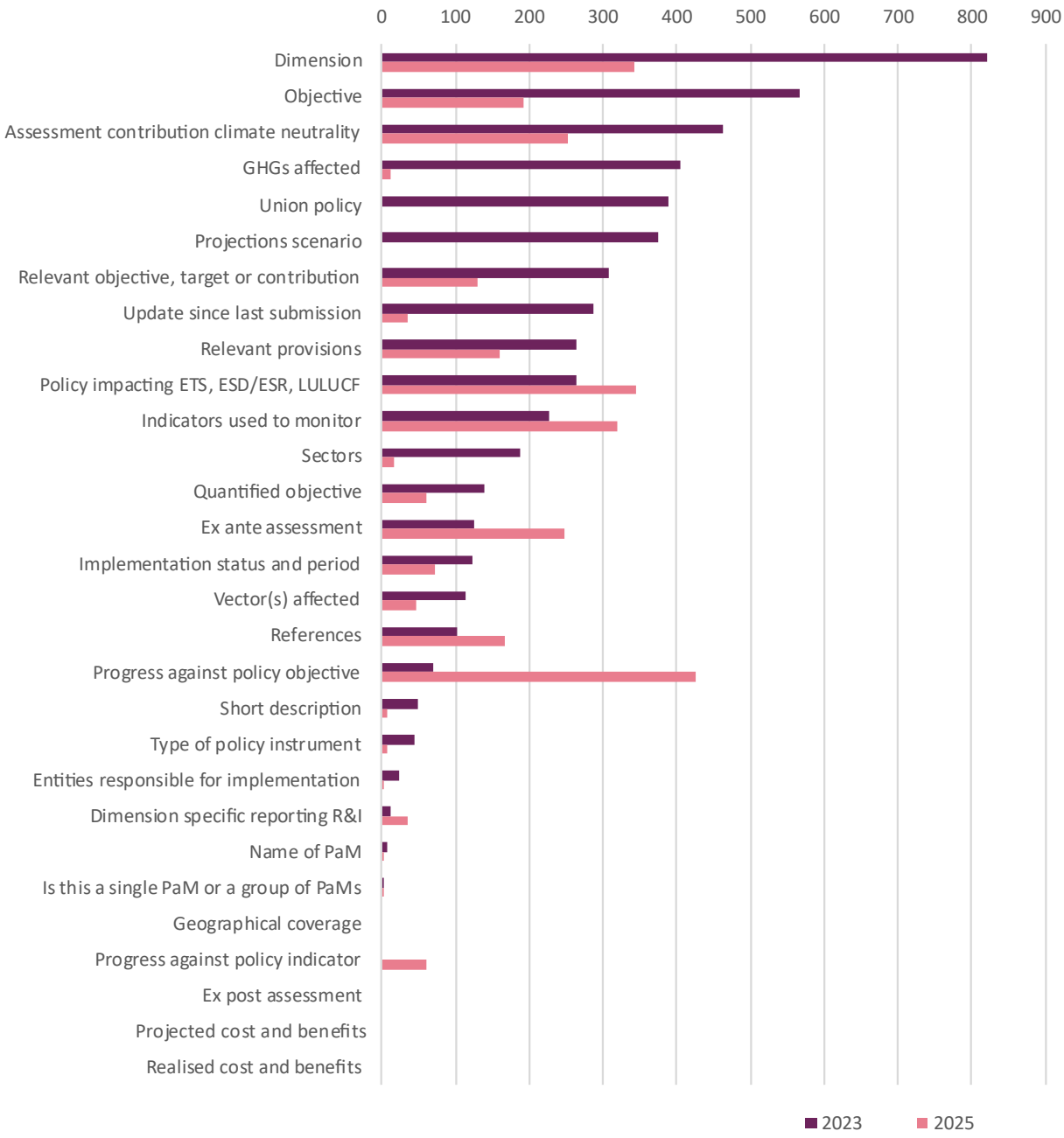
Figure 7-11 Number of completeness questions on individual PaMs, raised and resolved, by Annex table, in 2025 reporting.



Sources: Authors' calculations/analysis.

Compared with 2023 reporting, completeness under Annex IX improved significantly, particularly in fields where new blockers were introduced. As shown in Figure 7-12, the greatest improvements are observed in fields related to the key characteristics of PaMs, most notably dimensions, sectors and sector objectives, GHGs affected, Union policy, projection scenario, and updates since the last submission.

Figure 7-12 A comparison of the number of completeness questions on individual PaMs, by Annex IX field, in 2025 and 2023 reporting.



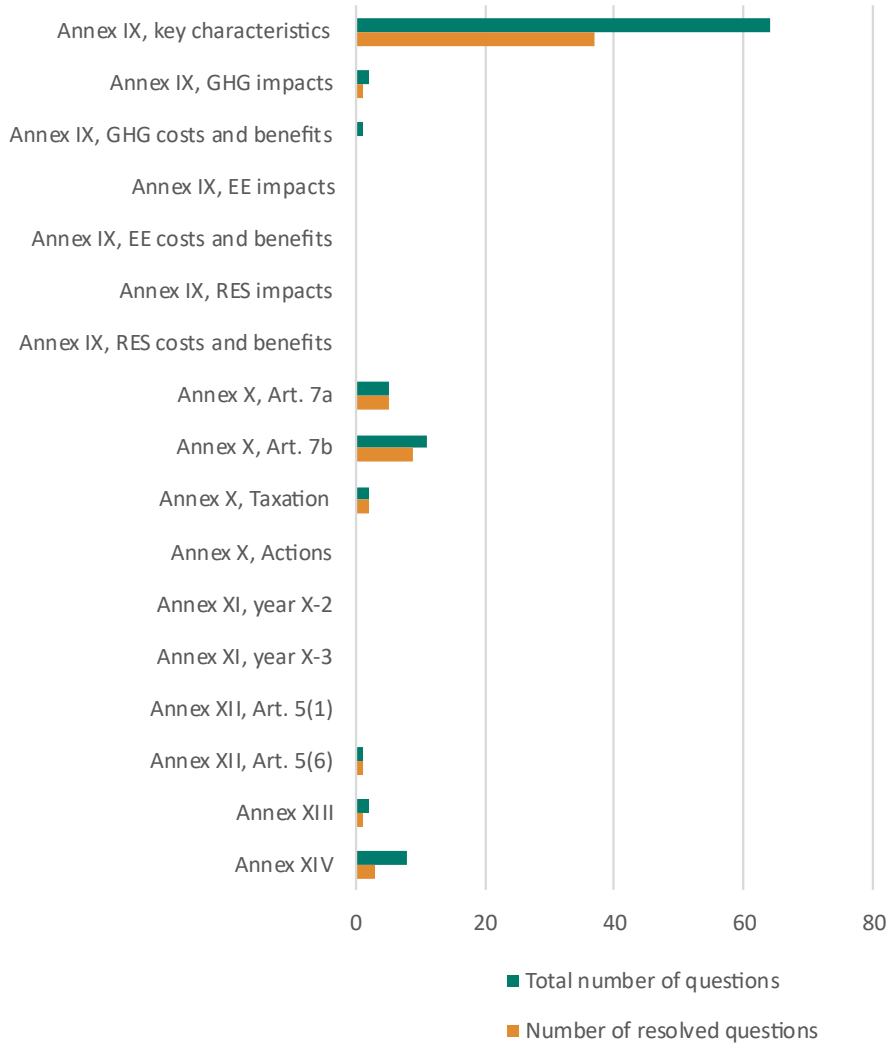
Sources: Authors' calculations/analysis.

Where tables for Annexes X to XIV were left completely empty, completeness questions were generic, asking reporters either to fill in the tables or to confirm that no information was available. Where more specific information was missing or incomplete, the fields that triggered the most questions were: sources of information in Annex X (5 questions); eligible technologies in Annex XIII (14 questions); initial investment assumptions in Annex XIII (6 questions); actual investment for year X-2 in Annex XIII (5 questions); and description of uncertainty (9 questions) and qualitative assessment (7 questions) in Annex XIV. Approximately half of these questions were resolved by reporters.

7.3.4 Transparency

As shown in Figure 7-13, and similar to other checks on individual PaMs, out of the 85 transparency questions raised, 67 originated from the Annex IX *key characteristics* table. Around two-thirds of these questions concerned a lack of transparency in the PaM name or description. Key issues with PaM names included the use of unexplained abbreviations and names that were too similar to one another. The most common errors in descriptions were that they were too short or lacked sufficient detail to explain what the PaM entails. Across all PaMs, such issues were noted around 1 100 times, of which 44% were resolved.

Figure 7-13 Number of transparency questions on individual PaMs, raised and resolved, by Annex table, in 2025 reporting.



Sources: Authors' calculations/analysis.

A small number of transparency questions (two) originated from the Annex IX *GHG impacts* table. Eighteen questions came from Annex X, mostly related to monitoring and verification, sources of information, and target sector and segment, covering a total of 47 errors in PaMs, almost all of which were resolved. Eight transparency questions were raised in relation to the Annex XIV tables, linked to 452 errors in fields such as details of the methodology, description of uncertainty, documentation source, and qualitative assessment. Of these, just under 30% were resolved.

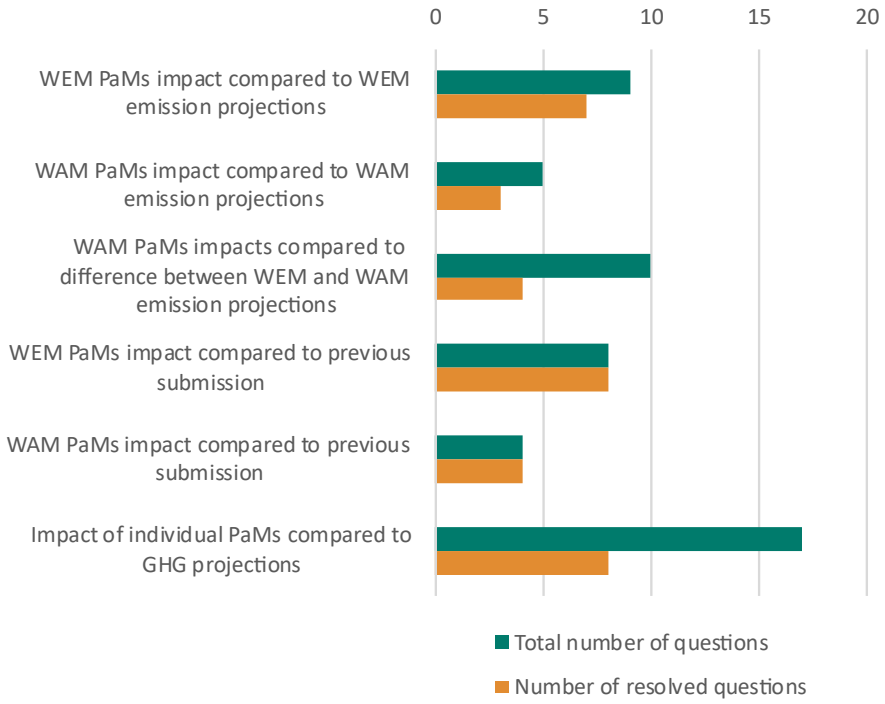
7.3.5 Accuracy

The accuracy of reported quantitative information was assessed through horizontal checks based on expert judgment, assisted by automated checks. For GHG impacts of PaMs, these checks included: comparing the aggregated country impacts against national projections for WEM and WAM scenarios separately; comparing aggregated WEM and WAM impacts reported in 2025 with those from 2023 (where available); and comparing aggregated WAM impacts with the difference between WEM and WAM projections. Aggregated country-level values were also compared with EU averages. Significantly large reported emission savings relative to projected GHG emissions could indicate potential errors or double counting.

In 2025, an additional check was introduced to identify potential errors in the individual reported impacts. Each reported impact was compared with the minimum, maximum and median values within the report, to flag outliers and possible errors, including incorrect sign of reported values, particularly negative values, which would imply increase in emissions. Although both PaMs and GHG emission projection reports are due by 15 March, not all Member States had submitted projections by the time the QAQC checks were carried out. This meant that in some cases, projections submitted in 2024 had to be used for comparative checks.

In total, 53 horizontal accuracy-questions on GHG impacts were raised with 24 Member States. These included questions to Member States that had not reported GHG emission savings, to confirm that such data was unavailable. Fifteen (64%) of these questions were resolved, mainly through clarifications that confirmed the correctness of reported data, or explained that data is unavailable. Only four questions led to actual corrections in reported data, relating to three countries (Germany, Romania, and Spain). The number of horizontal accuracy questions raised and resolved are presented in Figure 7-14.

Figure 7-14 Number of accuracy questions on horizontal aspects, raised and resolved, in 2025 reporting.



Sources: Authors' calculations/analysis.

Reporting in 2025 shows several recurring issues that affect the accuracy and comparability of PaMs emission savings estimates. Assessing the impacts of PaMs is inherently complex due to the interactions between multiple policies and measures operating at different governance levels, national, regional, local, and supranational, which makes isolating individual effects challenging. These observed challenges, based on 2025 reporting and communication with reporters, can be categorised into the following four groups:

- **Different approaches to estimating impacts:** Countries apply different methodologies, either linking PaMs directly to projections (top-down) or estimating impacts separately through bottom-up evaluations. This leads to inconsistencies in how reported savings can be compared or aggregated.
- **Misalignment between PaMs and projections reporting:** Estimates of PaMs are not always aligned with the modelling work of projection scenarios. This creates inconsistencies, where the sum of reported PaMs impacts does not equal the differences between projection scenarios (e.g. Czechia, Denmark, and Germany).
- **Reference year used:** In some cases, impacts are defined as the difference between emissions in a past baseline year and emissions in a future year, rather than relative to a counterfactual scenario (e.g. Croatia). This makes comparisons across countries and scenarios less robust.
- **Different styles of reporting**: Some Member States report one PaM as impacting both WEM and WAM scenarios, or reporting impacts of a group of single PaMs from WEM and WAM scenarios, or also splitting the same measure into two separate PaMs for WEM and WAM reflecting the intensification of a PaM (e.g. Croatia and Ireland). For the latter, WAM impacts represent only the incremental difference, which complicates comparability and summation at EU level.

Because of the methodological and definitional differences noted above, summing PaMs impacts at EU level does not yield very meaningful results and should be interpreted with these in mind. Reported impacts cannot always be added together due to double counting, differences in the reference years or counterfactual scenario, or because WAM impacts are defined only as the net effect relative to WEM.

It should also be noted that the reasons mentioned above may not be complete. Countries usually provide only a short explanation for deviations, and only a few have given explicit reasons for potential mismatches between reported PaMs savings and projections. In addition, the check is very basic and potential mismatches between reported PaM savings and projections could be missed, for example by incomplete reporting.

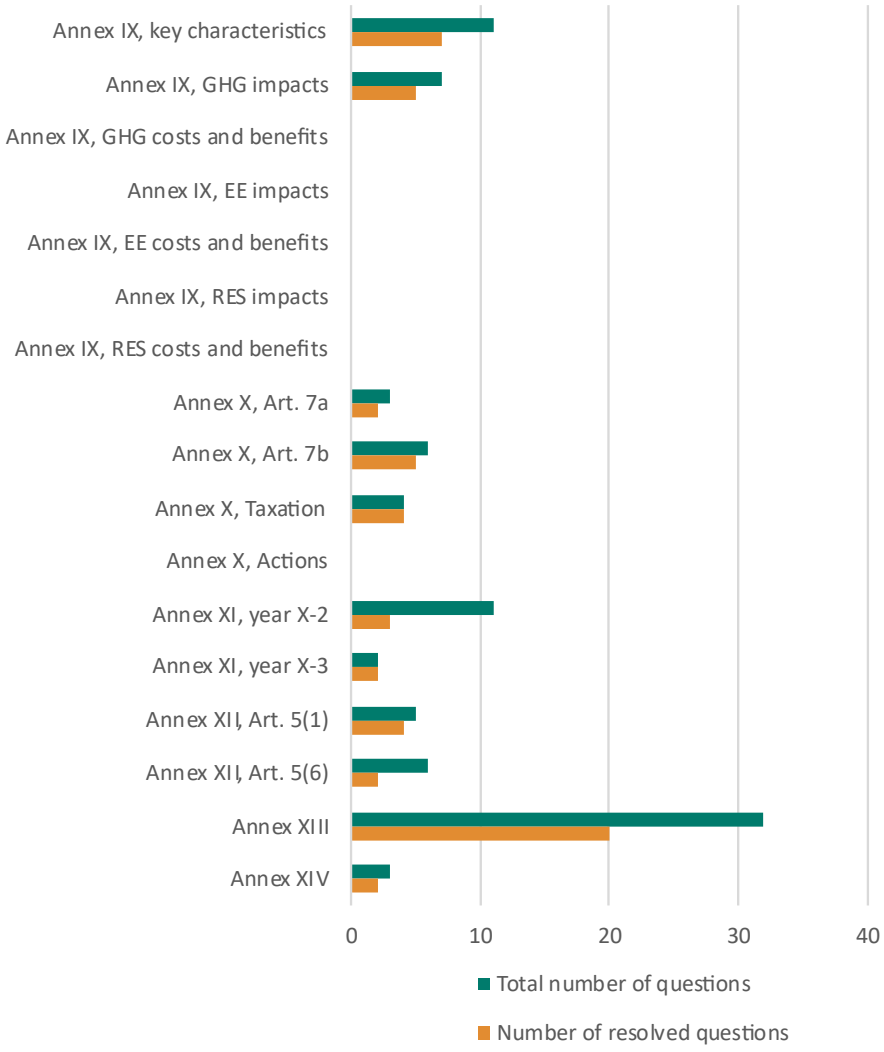
From a methodological point of view, several improvements are needed to ensure that reporting on PaMs delivers accurate, comparable, transparent, and usable information on their quantitative impacts. To enhance the usability of reported information for EU-wide assessments and policy evaluation, methodological improvements are needed to reduce ambiguity in reporting rules, strengthen the link between PaMs impacts and counterfactual scenarios, and ensure comparability across Member States. The following areas are particularly important:

1. **Clarity on what constitutes a single PaM**: Countries often face uncertainty on whether to report one measure with different scenarios (e.g. WEM/WAM), or to split these into multiple PaMs. Clearer guidance is needed on how to define and report a single PaM, particularly in cases where the measure may have overlapping effects under different scenarios or grouped PaMs. When quantitative data is not available at the individual PaM level, the reporting guidelines recommend grouping PaMs to increase completeness. They also advise that grouping PaMs that are linked to the same scenario (WEM or WAM), which helps to reduce overlaps. These issues should be addressed more explicitly in the guidelines to ensure clarity and consistency in reporting.
2. **Consistency in WEM/WAM reporting and counterfactuals**: Theoretically, difference between WAM and WEM projections should equal the sum of all PaMs impacts linked to a WAM scenario, while difference between WOM and WEM projections should equal the sum of PaMs linked to WEM scenario. In practice, this balance is often not achieved. More fundamentally, there is a need

for guidance on how to define the appropriate counterfactual scenario. Clearer methodological rules are needed on how PaMs impacts are quantified against a "what-if" counterfactual scenario without the measure.

3. **Alignment of bottom-up and top-down approaches**: Countries use different approaches to quantify impacts, either linking PaMs directly to projections (top-down) or through separate bottom-up evaluations. More guidance is required on how these approaches can be reconciled, including how bottom-up PaMs estimates can be meaningfully integrated into national projections and compared with counterfactual scenarios.
4. **Integration with projections**: To make full use of reported data, methodological improvements are needed in how PaMs reporting is integrated with national projections. This would allow more systematic cross-checks between reported impacts and scenario outcomes, thereby increasing confidence in the consistency and plausibility of reported projections and PaMs information.
5. **Alignment of sectoral definitions between PaMs and projections reporting**: Differences in the way sectors are defined and reported across PaMs and projections make it difficult to directly compare or integrate the two datasets. Harmonisation of these definitions would ensure that sectoral classifications used for PaMs reporting are consistent with those used for projections.

Figure 7-15 Number of accuracy questions on individual PaMs, raised and resolved, by Annex table, in 2025 reporting.



Sources: Authors' calculations/analysis.

In terms of checks on individual PaMs, accuracy errors were mostly related to quantitative information. As shown in Figure 7-15, a total of 90 questions were raised with reporters, linked to around 1 100 errors across PaMs. About 60% of these questions were addressed through corrections or clarifications. For Annex IX *GHG impacts* table and Annex XIV, most questions concerned values potentially reported with the wrong sign. In Annexes X and XI, a common issue was that reported cumulative energy savings over the period did not correspond to the annual new savings. In Annex XII, questions mainly focused on the plausibility of reported cumulative energy savings or renovated floor area. In Annex XIII, accuracy checks largely concerned inconsistencies between initial investment assumptions, implemented investment, and investment still to be implemented.

7.3.6 Coherence

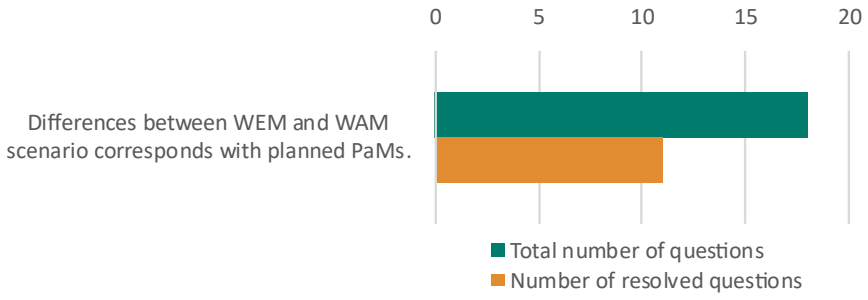
From a horizontal perspective, coherence checks were carried out to assess whether differences between sectoral WEM and WAM projections corresponded with the reported sectoral planned PaMs. For some countries, this assessment could not be performed due to missing data, most notably the absence of WAM projections, or because planned PaMs were reported in groups, making it difficult to identify which individual PaMs contributed to the sectoral WAM scenario.

In total, 18 questions were raised to Member States on this element. These mainly related to two situations: (i) a difference between WEM and WAM projections was reported, but no planned PaMs were submitted; or (ii) planned PaMs were reported, but their impact was not reflected in the difference between WEM and WAM projections.

Of the 18 Member States questioned, 11 provided explanations for the observed differences, and two countries resolved the issue by revising the scenario and implementation status of the planned PaMs.

In general, checking coherence between sectoral WEM and WAM projections and planned PaMs remains challenging. While possible issues were identified, it is often difficult to determine with certainty whether they reflect actual errors. This is due to interactions between multiple PaMs, both within the same sector and across sectors. For instance, PaMs that promote electrification of transport can increase electricity production (and associated emissions), complicating the link to sectoral projections. Similarly, reporting of planned PaMs in groups, sometimes spanning different sectors, further reduces the transparency of the link between PaMs and projection differences.

Figure 7-16 Number of coherence questions on horizontal aspects, raised and resolved, in 2025 reporting.



Sources: Authors' calculations/analysis.

7.3.7 Consistency

No consistency checks were carried out at the horizontal level of reporting. At the level of individual PaMs, however, a total of 231 consistency questions were raised to reporters in 2025, relating to almost 2 400 errors across PaMs.

As shown in Figure 7-17, nearly all these questions were linked to fields in Annex IX *key characteristics* table. The most common issue identified was inconsistency between the implementation status and the implementation period (62 questions covering 945 errors in PaMs). Examples included PaMs reported as *implemented* even though the end year had already passed, or PaMs reported as *adopted* or *planned* even though the start year preceded the reporting year. Inconsistencies between implementation status and projection scenario were also frequent, resulting in 29 questions covering 347 errors. The latter inconsistency is mostly noticed in PaMs which have a start year close to the reporting year. Other common errors in this table were related to inconsistencies between PaM name and/or description and key characteristics, namely, policy instrument (29 questions on 119 errors), dimension (21 questions on 230 errors), and GHGs affected (15 questions on 149 errors).

Figure 7-17 Number of consistency questions on individual PaMs, raised and resolved, by Annex table, in 2025 reporting.

Sources: Authors' calculations/analysis.

The definition of a single PaM was another source of inconsistency, raising 6 questions covering 28 errors in PaMs. This partly explains differences across countries in the number of reported PaMs. In such cases, Member States were often reluctant to adjust their reporting, preferring instead to retain their original approach to remain consistent with the rationale followed under their NECPs.

7.4 Recommendations for improvements of the quality control procedures

As part of a continuous improvement of the quality process, this section provides recommendations for possible improvements that can be made to various parts of the reporting process. These recommendations are based on the experience of the ETC-CM as well as feedback received from the reporters. This section covers the online reporting tool (Reportnet 3), the guidelines for Member States reporters, the tools for the internal use by the ETC-CM reviewers, and communication between ETC-CM and Members States during the quality assurance and quality control process.

7.4.1 Online reporting tool

For inputting data, some countries chose to use the webform directly, while others relied on the import/export functionality of Reportnet 3. While the import/export file structure remained the same as in 2023 and 2024, some technical issues continued to occur. Common issues with the use of the file included entering data in fields which were not required, sometimes leading to duplication of inputs under a PaM. Correcting such errors was often challenging, as mismatches were not always visible in the webform and could only be corrected in the Excel file, requiring support from the EEA technical team.

Changes in the dataflow design in 2025 allowed for more automated in-system quality checks (e.g., implementation start/end year changed from text to integer, and costs and benefits tables split between start and end years). Projection scenarios in 2025 reporting were required for all PaMs, including those linked to dimensions beyond decarbonisation: GHG emissions and removals. Multi-selection of PaMs in Annexes X–XIV, was not allowed in the 2025 reporting, preventing countries from selecting all PaMs, thus improving clarity on which PaMs the information relates to. Additional reporting years for PaMs' impacts in Annex IX were also included up to year 2055, aligning with projections reporting.

Many new in-system validation checks were added in the webform in the 2025 cycle. For example, in parts of the dataflow where new records can be created, additional checks ensured that critical data was entered to avoid blanks. Many new blockers and error messages were also introduced, mainly relating to the completeness and consistency of reported information.

Table 7-4 Problems experienced and recommendations for improvement of the online reporting tool.

Tools	Problem experienced in 2025	Recommendation for improvement
Schema design	Technical issues in Reportnet 3 may have impacted on the release of the dataflow by several countries which delayed reporting.	More testing and increased robustness of Reportnet 3 is needed.
	The webform was made for the MMR reporting, which was less exhaustive with respect to the fields and number of PaMs. Now reporting has become more complex and the design of the webform makes it more complicated to complete.	Reconsider the design of the webform to make it easier to complete, example by reducing open spaces so there is less need for scrolling.
	When quantitative data is unavailable, reporters sometimes input zeros in data fields (e.g., start year, end year, and impacts) to	Provide options in the webform, where needed, to indicate when data is unavailable,

Tools	Problem experienced in 2025	Recommendation for improvement
	avoid blockers. This has potential implications on the quality of the final dataset.	replacing zero inputs, particularly for the end year, and GHG impacts data.
Import design	The file's structure and reporting inputs make the use of the file challenging.	Further targeted support to Member States is needed on how to input information in the workbook.
	There remains a misalignment between the inputs in the excel file and the webform. The importing of data through the excel file may result in reporting errors, such as duplicated PaMs which cannot be identified in the webform.	Integrate QC checks in the import file to avoid prevailing errors in the submitted data.
Export design	Annex IX flat view file did not work in the 2025 reporting cycle, limiting a complete view of reported information across Annex IX tables.	Ensure that this export option is functioning in the next cycle. Furthermore, it would be helpful to have all annexes in a single flat view, especially for reviewing purposes. For example, this would be useful to conduct checks on horizontal aspects across annexes (e.g. dimensions reported for financing data).
Automated QC design	The blockers did not always result in effectively avoiding Member States releasing the information, e.g. zero values for start year.	More testing and increased robustness of Reportnet 3 is needed to avoid the occurrence of these instances.
	An observed common error is incomplete reporting on relevant dimensions, particularly for PaMs which contribute to the dimensions *energy efficiency* or *renewable energy* dimensions, but *decarbonisation: GHG emissions and removals* is not reported.	Consider redesigning the webform such that the GHG dimension is automatically selected when either dimension *energy efficiency* or *renewable energy* is selected. This automatic selection would clearly show the additional dimension-specific fields that need to be reported.
		Automatic checks could be made more stringent to ensure that corrective actions are taken before information is released. Examples where additional errors or increase in error severity may be considered include the following: - inconsistency between implementation status and period; - missing inputs for policy impacting ETS, ESD/ESR, LULUCF; and - unrealistic investment values.
	Completeness, transparency and consistency errors in reporting remain high despite the technical support and increased in-system checks.	Integrate more checks in the webform that are currently done post-submission, where possible and feasible. Examples include the following: - Error when the length of the PaM description is less than 20 characters, - Cross-annex checks to verify if dimension *energy efficiency* is selected when the PaM is reported in Annexes X-XII.
		In the longer term, it is recommended to move all post-submission automated checks to the portal, potentially by integrating machine learning. This would allow more resources to be focused on post-submission QAQC checks that require expert judgement.

Tools	Problem experienced in 2025	Recommendation for improvement
	Due to the large number of automated checks, the dataflow validation process may generate many blocker, error and warning messages. These are presented in a validation table, which are sometimes difficult to link back to errors in fields.	The design of the validation results table could be improved such that it is directly linked to the fields that contain errors.
		In addition to the above, it is recommended to have the QAQC process aligned for all dataflows.

7.4.2 Reporting guidance document

In 2025, the reporting guidance document was updated to incorporate the recent modifications to the Reportnet 3 dataflow webform, ensuring consistency with current reporting requirements. The guidelines are an important element to the quality of reporting, but it might not be frequently consulted during reporting process.

Table 7-5 Problems experienced and recommendations for improvement of the reporting guidance.

Tools	Problem experienced in 2025	Recommendation for improvement
Reporting guidance document	There remain many instances where reporting does not follow recommendations of the guideline document. Examples include inconsistencies between sector/instrument type and PaM name/description, inconsistencies between implementation status, period, and projection scenario.	Incorporate guidance from the reporting guidelines in the webform for each field.
		EEA to conduct an online survey or discussion with reporters prioritise areas which require targeted support and guidance.
		EEA, with the support of ETC-CM, to provide short guides (e.g. through tutorials) on specific reporting topics.
	There are specific cases where the design of the webform or reporting guidance is not aligned with specific PaM circumstances. One example is when a PaM was abolished before coming into implementation, and country would like to report on the PaM for consistency between reporting years. Another example is when a PaM is related to more than one projection scenario.	Provide more concrete reporting guidance for these identified cases.
	Reporting includes generic references to other reports or online material.	Include recommendations in the guidance document to provide specific reference to sections and/or page number.

7.4.3 Reviewer tools

The ETC-CM has updated and improved the QAQC check tools over the course of several reporting cycles. With respect to the QAQC procedure, some issues have already improved compared with previous reporting. One notable advancement is the further automation of QAQC checks in the post-submission process, which supports reviewers by speeding up the process and freeing time for checks requiring expert judgment. However, further improvements are still possible, as reviewers must continue to manually record findings in the Comlog file.

In 2023, various data inputs were reported for the first time. As a result, by 2025 the review team had reference data available for several quantitative fields, enabling comparisons with current reporting. In

2025, numerous checks were introduced, mostly automated within the QAQC tool, to compare newly reported data with data from previous years.

This was the second full reporting cycle in which QAQC checks were divided among teams not only by Member State (Annex IX) but also by Annex (X-XIV). Under this approach, one organisation was responsible for the QAQC of one or more Annexes across all Member States. Overall, this worked well and helped ensure consistency of the checks. Looking ahead, this approach could be maintained in future reporting, although greater alignment of feedback between reviewers remains necessary.

Furthermore, in 2025 the European Commission requested that QAQC findings from checks conducted by external consultants on bio-PaMs be included in the PaMs Comlog. However, due to late communication of this request and misalignment between the timing of the bio-PaMs checks and those carried out by the ETC-CM, several timing issues arose.

Table 7-6 Problems experienced and recommendations for improvement of the reviewer tools.

Tools	Problem experienced in 2025	Recommendation for improvement
Annex IX Flat view	In previous reporting cycles, a *flat view file* exported from the PaMs dataflow, combining all Annex IX tables in a single sheet, was used in the post-submission QAQC process. Since this file was not available in 2025, an alternative solution had to be developed, which delayed the start of the QAQC reviews.	Ensure that all systems are tested and are in order before the reporting deadline, to ensure a smooth start to the reporting process.
EEA internal database for data harvesting	Due to changes in dataflow fields and the transfer of data harvesting to a new EEA database, the QAQC checking tools could only be linked to the database after the reporting deadline, which delayed the start of the QAQC process.	Earlier timelines for the preparation of the QAQC check file for next reporting cycle and ensuring the testing of the tool before use.
	The database does not grant open access rights to the ETC-CM, preventing QAQC queries from being written directly in the database. As a result, additional steps are required, creating limitations for the post-submission automated checks.	Move the QAQC check queries directly in the database, to increase efficiency and improve continuation of the QAQC process between reporting years.
	Various issues were experienced with post-processing production of released dataflows throughout the reporting period, which impacted on ETC-CM QAQC process.	Improve efficiency of automation processes, including full testing of the system before the reporting deadline, to ensure a smooth start to the reporting process.
Horizontal checks	The indicators used to assess the completeness of reporting in relation to mandatory types of measures required under the Governance Regulation, are not exhaustive enough to capture fulfilment of reporting obligations.	Link the Governance Regulation completeness checks to other/more indicators: 1. "Regional cooperation in this area" under GHG dimension, check does not link to "regional" geographical coverage, which could serve as an indicator 2. Currently the checks for completeness on dimension *energy security* are linked to *energy supply* sector objectives. Consider linking the checks to the *energy security* dimension's *objectives, targets, and contributions*. 3. For dimension *internal energy market,* link the requirement *"measures to protect consumers, especially vulnerable and, where applicable, energy poor consumers"* to the dimension objective *National objectives with*

Tools	Problem experienced in 2025	Recommendation for improvement
		regard to energy poverty. 4. For dimension *internal energy market* link the requirement *measures to improve the competitiveness and contestability of the retail energy market* to the corresponding dimension objective/contribution. 5. For dimension *research, innovation and competitiveness*, the requirement for *public and, where available, private spending in research and innovation relating to clean energy technologies as well as for technology cost and performance development,* can be linked to dimension objective *National objectives and funding targets for public and, where available, private research and innovation relating to the Energy Union*.
	Various checks remain open for interpretation by the reviewers, e.g. *Are all important and relevant objectives, targets and contributions covered?*, *Are all important and relevant provisions covered?*	Seek concrete guidance from the European Commission on ambiguous areas of reporting. Example, when should it be recommended to reporters to provide data at group-level, and what minimum coverage is needed for a check to be fulfilled?
	There remain inconsistencies in feedback provided between reviewers, especially on completeness of mandatory types of measures required under the Governance Regulation .	Automate comments, where possible, for further harmonisation.
Individual PaM checks	The process remains heavily reliant on manual checks, e.g. for consistency checks between name and description and fields such sector, dimension, and instrument type.	Move automated checks on individual PaMs to Reportnet 3, and incorporate machine learning to check for consistency between fields, where possible and feasible.
		Where feasible, add automated checks, for example for consistency and completeness of reporting, through cross-checks between: 1. sector *energy supply* and dimensions *security of supply*, and *internal energy market*; and 2. Union Policies and dimensions.
	There remain some automated checks that identify potential errors but rarely yield in actual errors.	Increase refinement of automated checks. This includes the following: 1. For energy and transport sectors, a potential inconsistency arises when GHG emission is not CO_2. This check is performed on all PaMs linked to these sectors, including those that are not linked to the dimension *decarbonisation: GHG emissions and removals*, making the finding irrelevant when this dimension is not selected. 2. When the end year is not reported, a potential completeness error arises, irrespective of the PaM status. When the implementation status is *planned* the check should not an issue.
Annex X - XII	The process remains heavily reliant on manual checks, especially for quantitative data.	Where feasible, include automated cross-checks with Annex IX to check for completeness of reporting on: 1. energy poverty; and 2. dimension *energy efficiency*.

Tools	Problem experienced in 2025	Recommendation for improvement
Annex XIII	The process remains heavily reliant on manual checks, especially for quantitative data.	Where feasible, add automated checks, including: 1. Checking correctness of price year through a cross-check with PaM implementation start year; 2. Checking whether financing data should be reported through a cross-check with Annex IX to identify PaMs with relevant instrument type for which financing data is expected, e.g. economic, research, etc.; 3. Check for disproportionally high financing values through cross-checks between reported values.
Annex XIV	The process remains heavily reliant on manual checks, especially for quantitative data.	Where feasible, add automated checks, including: 1. Cross-checking with Annex IX for objectives, targets, and contributions, provisions, sector objectives, among others. This could be further automated with machine learning where feasible. 2. Checking for positive values to identify reporting in wrong sign.
Bioenergy checks	There are some overlaps between the horizontal checks done by the ETC-CM and the bioenergy checks, which may have created confusion for Member States' reporters. The reviewing process of the bioenergy checks was not aligned with the ETC-CM process, sometimes contributing to delays in the communication with reporters and requiring increased effort on EEA and ETC-CM's side.	Where possible, integrate the set of bioenergy checks in the horizontal checks. Otherwise, better align the processes of the two teams, including understanding what are the expected steps to avoid delays or inefficient processes.
Reviewers guidance	There remain inconsistencies in feedback provided between reviewers, especially on completeness of reporting in relation to the Governance Regulation for *mandatory if available* types of measures, and when it is recommended to group PaMs.	Provide model answers to increase alignment and transparency of the reviewing process. Provide training sessions for reviewers to specifically target efficient and effective ways of conducting the review, prioritisation of checks, and alignment of feedback provided.

7.4.4 Communication with reporters

Table 7-7 Problems experienced and recommendations for improvement of communication with reporters.

Tools	Problem experienced in 2025	Recommendation for improvement
Comlog file	Communication works fine with the Excel tool, especially because reporters are already familiar with the tool and its structure.	N/A
Email communication	All communication between ETC-CM and Member States is stored on EEA's Microsoft Teams environment for record, but it is not transparent to Member States, and the process for both reporters and ETC-CM team becomes difficult to manage.	Include the dataflow number in the email subject of the exchange with reporters for increased transparency.
		It is recommended that in the medium term, all communication is moved through a single portal, ideally integrated in Reportnet dataflow, to avoid too many points of contacts, and increase streamlining of communication.

8 Conclusions and recommendations

8.1 Key conclusions

The 2025 reporting cycle provides the most comprehensive overview to date of Member States' integrated national PaMs. Building on the first full NECPR cycle in 2023, the 2025 submissions reflect both the implementation of the final updated NECPs and the influence of recent EU policy developments, such as the revised climate and energy legislation under the Fit for 55 package and the launch of ETS2. While the number of reported PaMs has continued to grow and the overall reporting structure has stabilised, important challenges remain regarding the completeness, consistency and comparability of quantitative information, and the alignment between PaMs and projections.

The conclusions below summarise the main insights from the 2025 reporting round.

- **Evolving policy context:** Major EU policy developments shaped reporting, including the creation of ETS2 for buildings and transport, the revised Energy Performance of Buildings Directive, the Clean Industrial Deal, and the Commission proposal for a 90% net GHG reduction target for 2040.
- **Continued increase in reported PaMs:** The number of single PaMs grew from 3 039 in 2023 to 3 519 in 2025 (a 16% increase). Growth was particularly strong in Austria, Bulgaria, Germany, Hungary, Lithuania, and Portugal.
- **Significant share of new measures:** Many PaMs (32%) were initiated in 2023 or after, reflecting the influence of updated NECPs and recent EU climate legislation (e.g. revised ETS, Effort Sharing, Renewable Energy and Energy Efficiency Directives).
- **Dimension *decarbonisation: GHG emissions and removals* remains dominant:** 82% of reported PaMs fall under this dimension, followed by *energy efficiency* (31%), and *renewable energy* (24%). Other Energy Union dimensions (*energy security*, *internal energy market*, *research, innovation and competitiveness*) remain sparsely populated.
- **Policy instruments:** Economic instruments and regulations are the most common instrument types used in PaMs, targeted to the energy consumption, energy supply or transport sector and are implemented in response to a Union policy such as Energy Efficiency Directive, Renewable Energy Directive, or Effort Sharing Decision/Regulation.
- **Quantitative reporting still limited:** While some improvements were achieved (e.g. increased reporting on quantified objectives and indicators), the number of PaMs with reported ex-ante GHG emissions savings remain low, like 2023. Ex-ante data on renewable energy production and energy savings, all ex-post data, as well as costs and benefits remain weak. Misalignments between PaMs impacts and projections persist, due to methodological differences and limited explanations for deviations.
- **Financing reporting remains incomplete:** Reporting under Annex XIII only covers 20% of reported PaMs. Most PaMs funding up to 2023 has come from national governments and private sources (EUR 284 out of EUR 306 billion). Furthermore, funding mobilised up to 2023 and still to be implemented (EUR 965 billion) currently exceed initial investment assumptions (EUR 823 billion). Discrepancies between initial investment assumption, realised, and planned investments were flagged in QAQC checks, but issues remain.
- **National systems and their capacity:** 17 Member States updated their national system reports. Based on a recent ETC study, national systems have reported to have institutional arrangements in place, but limited resources, weak legal frameworks in some cases, and underdeveloped monitoring and evaluation practices remain challenges.
- **QAQC improvements but challenges remain:** Increase in the automation of QAQC checks in the Reportnet 3 webform for PaMs reporting has increased completeness of reporting and efficiency of the QAQC process. However, there remains key challenges with completeness, especially for

mandatory if available fields, accuracy of quantitative data, consistency between reported fields, and coherence.

- **Timeliness of reporting remains a challenge:** only around a third of Member States submitted their reports by the end of March, while 12 Member States submitted with a delay of more than 2 months. These delays continue to affect the overall timeliness of reporting and limit the availability of fully validated information for analysis.

8.2 Recommendations

The 2025 reporting cycle confirmed progress in the QAQC system automation and guidance, but also revealed recurring challenges in completeness, comparability, and the functionality of tools. To improve the reliability and usability of reported information, the following priorities are identified:

- **Build capacity and provide more targeted guidance to Member States:**
  - The European Commission and the EEA, with support from the ETC-CM, should continue assisting Member States through targeted training, expert networks, and EU-level support for setting up systems to report and evaluate PaMs.
  - Integrate practical guidance directly into the webform for each field, rather than relying on the reporting guidance document.
  - Expand references in guidance with concrete examples, supported by short, topic-specific guides.
- **Strengthen methodological clarity and consistency for quantitative reporting:**
  - To ensure that reported PaMs deliver accurate, comparable, and usable information for EU-wide assessments, several methodological improvements are needed.
  - Clearer methodological rules are needed on what constitutes a single PaM, how PaMs should be linked to projection scenarios, and how counterfactual scenarios should be defined. This would reduce ambiguity and improve consistency between reported PaMs impacts and projections.
  - Stronger integration is required to reconcile bottom-up and top-down approaches, systematically cross-check PaMs impacts with national projections, and harmonise sectoral definitions. This would enhance comparability across Member States and improve the credibility of the PaMs dataset.
  - The guidelines should push for greater methodological consistency within each Member State, encouraging the use of coherent approaches and assumptions across all reported PaMs and reporting cycles.
- **Enhance QAQC processes:**
  - It is recommended that EEA collects structured feedback from reporters on barriers and difficulties to guide future reporting refinements.
  - Based on lessons from the 2025 QAQC process, the ETC-CM, with the support of the EEA, should improve post-submission checks to better reflect reporting requirements and ensure more consistent feedback across QAQC reviewers.
- **Strengthen the reporting system and internal tools:**
  - Ensure that critical functionalities on internal tools are tested and fully operational during the full reporting season.
  - Move QAQC queries directly into the central database to streamline checks, improve efficiency, and ensure continuity of work across years.
- **Improve communication with Member States**
  - Centralise and simplify communication channels (e.g. within Reportnet 3) to avoid fragmentation and ensure transparent records of reviewer–reporter exchanges.

Abbreviations

Abbreviation	Name
CCUS	Carbon Capture, Utilisation and Storage
CF	Cohesion Fund
CH_4	Methane
CO_2	Carbon Dioxide
CO_2-eq	CO_2-equivalent
Comlog	Communication logfile
EEA	European Environment Agency
EED	Energy Efficiency Directive
EEOS	Energy Efficiency Obligation Scheme
EFTA	European Free Trade Association
EPBD	Energy Performance of Buildings Directive
ERDF	European Regional Development Fund
ESR	Effort Sharing Regulation
ETC-CM	European Topic Centre on Climate change mitigation
ETS	Emissions Trading System
ETS2	EU Emissions Trading System 2 (buildings, road transport, small industries)
EU	European Union
EUR	Euro
EV	Electric Vehicle
FEC	Final Energy Consumption
GHG	Greenhouse Gas
GW	Gigawatt
GWP	Global Warming Potential
HFC	Hydrofluorocarbons
ID	Identifier (PaMs ID in PaMs database)
IPPU	Industrial Processes and Product Use
kt	Kilo Tonnes
ktoe	Kilo Tonnes of Oil Equivalent
LNG	Liquefied Natural Gas
LULUCF	Land Use, Land-Use Change and Forestry
MMR	Monitoring Mechanism Regulation
Mtoe	Million Tonnes of Oil Equivalent
MW	Megawatt
N_2O	Nitrous Oxide
NECP	National Energy and Climate Plan
NECPR	National Energy and Climate Progress Reporting
NF_3	Nitrogen Trifluoride
NH_3	Ammonia

NIP	Not Included in a Projection (scenario)
NMVOC	Non-Methane Volatile Organic Compounds
NO_X	Nitrogen Oxides
PEC	Primary Energy Consumption
PFC	Perfluorocarbons
$PM_{2.5}$	Particulate Matter <2.5 micrometres
QAQC	Quality Assurance and Quality Control
RES	Renewable Energy Sources
RRF	Recovery and Resilience Facility
SF_6	Sulphur Hexafluoride
SO_2	Sulphur Dioxide
TTACCC	Timeliness, Transparency, Accuracy, Completeness, Comparability, and Consistency (criteria)
TW	Terawatt
UNFCCC	United Nations Framework Convention on Climate Change
WAM	With Additional Measures (scenario)
WEM	With Existing Measures (scenario)
WOM	Without Measures (scenario)

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Annex 1 Reporting on sector objectives

Sector	Objective	Share of single PaMs
Energy supply	Carbon capture and storage or carbon capture and utilization	1%
	Control of fugitive emissions from energy production	0%
	Efficiency improvement in the energy and transformation sector	4%
	Enhanced non-renewable low carbon generation (nuclear)	0%
	Improve the resilience of energy supply infrastructure, including ensuring energy supply in case of major disruptions to the network	3%
	Increase consumer participation in energy markets	1%
	Increase electricity interconnectivity	1%
	Increase electricity system flexibility and adequacy	3%
	Increase in renewable energy in the heating and cooling sector	8%
	Increase in renewable energy sources in the electricity sector	15%
	Increase price convergence of electricity markets	1%
	Increase the ability of the power network to absorb increased share of renewable generation	2%
	Increase the number of sources used in primary energy generation	2%
	Other energy supply	3%
	Reduce energy dependency from third countries	4%
	Reduction of losses	2%
	Research and innovation in energy supply	1%
	Switch to less carbon-intensive fuels	7%
Energy consumption	Demand management/reduction	8%
	Efficiency improvement in industrial end-use sectors	7%
	Efficiency improvement in services/tertiary sector	8%
	Efficiency improvement of appliances	5%
	Efficiency improvements of buildings	18%
	Other energy consumption	5%
	Research and innovation in technologies, processes and materials, which will contribute to reduction in energy consumption	1%
Transport	Demand management/reduction	0%
	Efficiency improvements of vehicles	6%
	Electric road transport	6%
	Improved behaviour	3%
	Improved transport infrastructure	4%
	Innovation in digitalisation of transport	1%
	Low carbon fuels	8%
	Modal shift to public transport or non-motorized transport	6%
	Other transport	1%
	Reduce emissions from international air or maritime transport	1%
	Research and innovation to reduce emissions from the transport sector	1%
Industrial processes	Improved control of fugitive emissions from industrial processes	1%
	Improved control of manufacturing, fugitive and disposal emissions of fluorinated gases	1%
	Installation of abatement technologies	2%
	Other industrial processes	2%
	Replacement of fluorinated gases by gases with a lower GWP value	2%

Sector	Objective	Share of single PaMs
	Research and innovation in making EU industry less energy intensive	1%
Waste management/ waste	Demand management/reduction	3%
	Enhanced CH4 collection and use	1%
	Enhanced recycling	3%
	Improved landfill management	1%
	Improved treatment technologies	1%
	Improved wastewater management systems	1%
	Increase energy recovered from the sludge acquired through the treatment of wastewater	0%
	Other waste	0%
	Reduced landfilling	2%
	Waste incineration with energy use	1%
Agriculture	Activities improving grazing land or grassland management	2%
	Improved animal waste management systems	3%
	Improved livestock management	3%
	Improved management of organic soils	2%
	Other activities improving cropland management	2%
	Other agriculture	3%
	Reduction of fertilizer/manure use on cropland	4%
LULUCF	Afforestation and reforestation	2%
	Conservation of carbon in existing forests	2%
	Enhanced forest management	2%
	Enhancing production in existing forests	1%
	Increasing the harvested wood products pool	1%
	Other land use, land-use change and forestry	2%
	Prevention of deforestation	1%
	Prevention of drainage or rewetting of wetlands	1%
	Restoration of degraded lands	1%
	Strengthening protection against natural disturbances	1%
	Substitution of GHG intensive feedstocks and materials with harvested wood products	1%
Energy markets	Enable and develop demand response, including those addressing tariffs to support dynamic pricing	0%
	Increase consumer participation in energy markets	0%
	Increase deployment of smart grids	0%
	Increase market integration and coupling	0%
	Increase price convergence of electricity markets	0%
	Increase the flexibility of the national energy system, in particular by means of deploying domestic energy sources, demand response and energy storages	1%
	Key electricity and gas transmission infrastructure projects, and, where relevant, modernisation projects	0%
	Mechanisms for dispatching, re-dispatching and curtailment, and real-time price signals	0%
	Objectives related to the non-discriminatory participation of renewable energy, demand response and storage, including via aggregation, in all energy markets	0%
	Objectives to protect energy consumers and improve the competitiveness of the retail energy sector	0%
	Objectives with regard to energy poverty	0%
Other	Other objective(s)	3%

Annex 2 Objectives, contributions and targets

Dimension	Objective, contribution and target
Decarbonisation: GHG emissions and removals	Member State's binding national target for greenhouse gas emissions and the annual binding national limits pursuant to Regulation (EU) 2018/842
	Member State's commitments pursuant to Regulation (EU) 2018/841
	Other objectives and targets, including sector targets and adaptation goals
Decarbonisation: Renewable energy	A contribution to the Union's binding target of at least 32% renewable energy in 2030 as referred to in Article 3 of Directive (EU) 2018/2001
	Estimated trajectories for the sectoral share of renewable energy in final energy consumption from 2021 to 2030 in the electricity, heating and cooling and transport sector
	Estimated trajectories per renewable energy technology
	Estimated trajectories on bioenergy demand, disaggregated between heat, electricity and transport, and on biomass supply, by feedstock and origin
	Other national trajectories and objectives, including those that are long-term or sectoral (e.g. share of renewable energy in district heating, renewable energy use in buildings, renewable energy produced by cities, renewable energy communities and renewables self-consumers, energy recovered from the sludge acquired through the treatment of wastewater)
Energy efficiency	The indicative national energy efficiency contribution to achieving the Union's energy efficiency targets of at least 32,5 % in 2030 as referred to in Article 1(1) and Article 3(5) of Directive 2012/27/EU
	The cumulative amount of end-use energy savings to be achieved over the period 2021-2030 under point (b) of Article 7(1) on the energy saving obligations pursuant to Directive 2012/27/EU
	The indicative milestones of the long-term strategy for the renovation of the national stock of residential and non-residential buildings
	The total floor area to be renovated or equivalent annual energy savings to be achieved from 2021 to 2030 under Article 5 of Directive 2012/27/EU on the exemplary role of public bodies' buildings
	Other national objectives, including long-term targets or strategies and sectoral targets, and national objectives in areas such as energy efficiency in the transport sector and with regard to heating and cooling
Energy security	National objectives with regard to increasing the diversification of energy sources and supply from third countries, the purpose of which may be to reduce energy import dependency
	National objectives with regard to reducing energy import dependency from third countries, for the purpose of increasing the resilience of regional and national energy systems
	National objectives with regard to increasing the flexibility of the national energy system, in particular by means of deploying domestic energy sources, demand response and energy storage
	National objectives with regard to addressing constrained or interrupted supply of an energy source, for the purpose of improving the resilience of regional and national energy systems
Internal energy market	The level of electricity interconnectivity that the Member State aims for in 2030 in consideration of the electricity interconnection target for 2030 of at least 15%
	Key electricity and gas transmission infrastructure projects, and, where relevant, modernisation projects, that are necessary for the achievement of objectives and targets under the five dimensions of the Energy Union
	Main infrastructure projects envisaged other than Projects of Common Interest (PCIs)
	National objectives related to other aspects of the internal energy market such as increasing system flexibility, in particular related to the promotion of competitively determined electricity prices in line with relevant sectoral law, market integration and coupling, aimed

	at increasing the tradeable capacity of existing interconnectors, smart grids, aggregation, demand response, storage, distributed generation, mechanisms for dispatching, re-dispatching and curtailment, and real-time price signals
	National objectives related to the non-discriminatory participation of renewable energy, demand response and storage, including via aggregation, in all energy markets
	National objectives with regard to ensuring that consumers participate in the energy system and benefit from self-generation and new technologies, including smart meters
	National objectives with regard to ensuring electricity system adequacy, as well as for the flexibility of the energy system with regard to renewable energy production
	National objectives to protect energy consumers and improve the competitiveness of the retail energy sector
	National objectives with regard to energy poverty
Research, innovation and competitiveness	National objectives and funding targets for public and, where available, private research and innovation relating to the Energy Union
	National 2050 objectives related to the promotion of clean energy technologies and, where appropriate, national objectives, including long-term targets (2050) for deployment of low-carbon technologies, including for decarbonising energy and carbon-intensive industrial sectors and, where applicable, for related carbon transport and storage infrastructure
	National objectives with regard to competitiveness

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