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**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL
COMMITTEE AND THE COMMITTEE OF THE REGIONS**

**EU-wide assessment of the final updated national energy and climate plans
Delivering the Union's 2030 energy and climate objectives**

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INTRODUCTION: DELIVERING ON THE 2030 POLICY FRAMEWORK

The European Union (EU)’s objective to become climate-neutral by 2050 is also the path towards achieving energy autonomy and boosting our competitiveness. With only five years until the 2030 milestone to reach the EU’s energy and climate objectives, the need to reduce our reliance on fossil fuels has never been more pressing, as they drive up energy costs, increase our dependence on third countries, and accelerate the climate change impacts already so strongly felt across Europe today. In 2023 alone, the EU imported over EUR 430 billion worth of fossil fuels. That is EUR 430 billion that could be redirected to invest in the clean transition towards a more autonomous and secure EU.

The EU must become a hub of innovation, where tomorrow’s technologies, services and clean products are developed, manufactured, and marketed¹. With the Competitiveness Compass² and the Clean Industrial Deal³ the Commission has set the course to reignite economic dynamism in the EU with a growth and prosperity strategy bringing together climate and competitiveness. The Clean Industrial Deal has outlined a plan to turn decarbonisation into a driver for growth for European industries by offering clear business incentives to energy-intensive sectors and clean tech manufacturing, including through the recommended intermediate 2040 target of 90% net greenhouse gas (GHG) emissions reduction⁴. The Affordable Energy Action Plan⁵, as the energy arm of these strategies, focuses on decreasing energy costs for citizens, businesses, industries and communities across the EU.

The EU has set out an ambitious framework to enable it to become a decarbonised economy by 2050. Stability and full implementation of the legislative framework in place for meeting the 2030 climate and energy targets is a precondition for the EU to stay on course to reach the 2040 ambition and climate neutrality by 2050, while reaping the full potential of the transition.

Implementing the existing legal framework for 2030 – in the simplest, fairest and most cost-efficient way – is one of the political priorities of the Commission. The National Energy and Climate Plans (NECPs)⁶ are the strategic delivery vehicles by which the EU and its Member States can collectively reach the 2030 energy and climate policy goals and pave the

¹ Draghi report – The Future of European Competitiveness, September 2024.

² COM (2025) 30 final.

³ COM (2025) 85 final.

⁴ The Commission recommended the target in its communication “Securing our future Europe's 2040 climate target and path to climate neutrality by 2050 building a sustainable, just and prosperous society,” COM/2024/63 final.

⁵ COM (2025) 79 final.

⁶ Required under Regulation (EU)2018/1999 of 18 December 2018 on the Governance of the Energy Union and Climate Action.

way towards a genuine Energy Union. Member States, public administrations and stakeholders at all levels are the pillars of delivery. By setting out priorities and ambitions, identifying energy- and climate-related challenges, and planning the necessary policies and investments, the NECPs contribute to creating a credible and predictable environment favourable to a competitive European industry, and to lower energy costs, while integrating the imperative of climate risks and preparedness. They ensure improved policy coordination across Member States and across policy areas to foster growth, boost resilience, and secure a just transition.

The EU has already shown that competitiveness, the energy transition and climate action can go hand in hand. In 2023, net greenhouse gas emissions were 37% below 1990 levels while the EU's GDP grew by 68% over the same period. This has been driven by steady improvements in energy efficiency, the roll-out of renewable energy, new technologies and innovative industrial processes. In 2023, renewable energy was the leading source of electricity in the EU, accounting for 24% of all energy production, and final energy consumption amounted to 894 million tonnes of oil equivalent (Mtoe) compared to the target of 763 Mtoe for final energy consumption by 2030. In 2023, the EU consumed 2% less final energy compared to 2014, while its GDP increased by 38% in the same period⁷. The rapid deployment of clean energy in the EU will shield European households and businesses from volatile fossil fuels, strengthen competitiveness and leadership in clean technologies, and contribute to strengthening energy autonomy. An ambitious 2030 framework driven by clear targets and strategic planning have already been instrumental to bringing the EU closer to our climate and energy objectives.

The assessment of the final updated NECPs shows that their full implementation would bring the EU close to reaching its objectives. The analysis summarised in this Communication reveals significant improvements compared to the draft plans and indicates that the EU is well on track to reach the 2030 targets of reducing net GHG emissions by at least 55% compared to 1990 and increasing the renewable energy share to at least 42.5% with the aspiration to achieve 45%, though further efforts are needed to reduce energy consumption by 11.7%. Despite these improvements, some gaps remain. The intermediate climate goal for 2040 can provide increased predictability and strengthen the business case for the clean transition presented in the plans, thereby helping us to achieve the 2030 targets.

The final updated NECPs were drawn up following an extensive consultation process at national and regional levels and included an iterative process with the Commission, assessing the draft versions and issuing recommendations to Member States to deliver ambitious and credible final plans⁸. As of end-April, 24 Member States had submitted their final updated NECPs⁹. Member States who have not yet done so - Belgium, Estonia and Poland - are urged to finalise their plans as soon as possible¹⁰.

⁷ Based on Eurostat data [Gross domestic product \(GDP\) and main components \(output, expenditure and income\)](#)

⁸ COM (2023) 796 final and individual Recommendations to Member States.

⁹ The Governance Regulation sets out in Article 14 that by 30 June 2024 each Member State shall submit to the Commission an update of its latest notified integrated national energy and climate plan.

¹⁰ Without prejudice to further steps from the Commission regarding the non-submission of a final NECP.

This EU-wide assessment takes stock of Member States' collective ambition¹¹, identifies ambition shortfalls that must be promptly addressed and describes shared challenges and opportunities going forward. It is accompanied by a Staff Working Document with the assessments of the individual Member States' final NECPs¹² and targeted guidance to facilitate implementation.

Main findings of the EU wide assessment

Based on Member States' projections, the Commission estimates a decrease in total **net GHG emissions**¹³ of around 54% in 2030 compared to 1990, hence showing that the EU is well on track to reach the 2030 target. This relies on full implementation of the Member States' existing and additional policies and measures as well as of EU policies.

GHG emissions from the sectors covered by the **Effort Sharing Regulation**¹⁴ (ESR) are expected to decrease by around 38% in 2030 compared to 2005, about 2 percentage points short of the EU's 40% target.

Though several Member States have stepped up efforts in the **land sector** compared to the draft plans, there is still a gap of about 45-60 MtCO₂eq. (equivalent to about 100% to 140% of the target of additional removals) compared to the 2030 target under the Land Use Land Use Change and Forestry (LULUCF) Regulation¹⁵.

On **climate adaptation**, only some final NECPs sufficiently integrate preparedness and resilience to climate impacts. A limited number of plans consider measures in terms of water resilience.

Most Member States present national contributions that are in line with the EU's 2030 binding target for **renewable energy** share of at least 42.5%. However, a limited ambition gap of 1.5 percentage points remains.

Despite improvements in Member States contributions to the EU's target for **energy efficiency** of 11.7% by 2030, an ambition gap of 31.1 Mtoe remains for final energy consumption and 47.3 Mtoe for primary energy consumption. For final energy consumption this translates to an EU ambition level of 8.1%.

Across the plans, **energy security** is bolstered by lower gas consumption and more diversified energy sources, including an increased role for nuclear energy, in power generation as well as heat production, in several Member States. However, we need to further adapt infrastructure to

¹¹ Article 13 of the Governance Regulation determines that the Commission shall assess, in particular, whether the objectives, targets and contributions are sufficient for the collective achievement of the Energy Union objectives and the targets of the EU's 2030 Climate and Energy Framework; and if the plans comply with requirements of Articles 3 to 12 and Member States have taken due account of the Commission recommendations issued pursuant to Article 34.

¹² The final updated NECP of Slovakia, submitted only on 15 April 2025, has been taken into account only partly in this Communication. Belgium, Estonia and Poland have not yet submitted their final updated NECP. The Commission plans to publish the individual assessments for the plans of these Member States soon after their submission.

¹³ Total net GHG emissions (including the LULUCF sink) including Commission estimates of emissions from international transport regulated by EU law. The estimate takes into account preliminary information shared by Estonia and Poland, which have not submitted a final NECP yet. See annex for details.

¹⁴ Regulation (EU) 2023/857 amending Regulation (EU) 2018/842.

¹⁵ Regulation (EU) 2023/839 amending Regulation (EU) 2018/841.

a decarbonised energy system, increased electrification based on variable renewables and fast-changing threats such as climate change and cybersecurity.

On the **internal energy market**, Member States have introduced new measures to promote flexibility, stabilise markets and facilitate the penetration of renewables in their final plans. However, additional measures are needed to develop cross-border interconnections and further integrate markets.

The final plans show an increased focus on the **competitiveness of industry, resilience of supply chains, innovation and skills development**. However, with some exceptions sufficiently specific and actionable objectives in these areas are often not included in the plans.

About half of the plans recognise the importance of **phasing out fossil fuels subsidies**. Nevertheless, a list of existing fossil fuel subsidies, concrete timelines, and measures to phase them out are largely missing.

On **just transition**, the plans largely describe the impacts of the energy transition on skills and training needs but lack detailed analysis of the social and employment impacts, particularly for vulnerable households, workers, and regions. More concrete measures and a clear indication of funds to mitigate these impacts would have been an asset. Moreover, Member States do not provide a sufficient analytical basis for the preparation of their Social Climate Plans.

Most Member States address **energy poverty** and outline structural or income support measures with an emphasis on energy efficiency, renovation of buildings and decarbonisation. At the same time, only a few Member States provide clear definitions of energy poverty or set specific reduction targets.

Member States' investment estimates have improved considerably compared to the draft plans, but further efforts are needed to refine them and develop a comprehensive strategy for mobilising public and private finance to improve investor certainty, enabling the NECPs to become effective investment plans.

A clearer overview of the **public consultation process** for preparing the final NECPs is provided in most plans. The participation processes could have been more inclusive and effective, providing more information and longer consultation timeframes.

A DECARBONISED ECONOMY WITH A CLEAN AND COMPETITIVE ENERGY SECTOR

Decarbonisation

The final updated NECPs mark a significant improvement compared to the draft plans, bringing the EU significantly closer to reaching the 2030 GHG emission reduction target of at least 55%. Based on an analysis of Member States' projections in the submitted plans, the Commission estimates that total net GHG emissions in 2030 will decrease by around 54% compared to 1990¹⁶, showing that the EU is well on track to reach its 2030 target. Though

¹⁶ Total net GHG emissions (including the LULUCF sink) and including Commission estimates of emissions from international aviation and maritime transport regulated by EU law. The estimates take into account preliminary information shared by Estonia and Poland, which have not submitted a final NECP yet. See annex for details.

sustained by existing and new national measures, this result would not be achievable without the contribution of EU policies and measures under the Fit for 55 package such as the EU Emissions Trading System and the CO₂ standards for vehicles.

For the sectors covered by the Effort Sharing Regulation (ESR), while the final plans are significantly more ambitious than the draft versions, there is still a gap compared to the 2030 target. Under the ESR, emissions from domestic transport, buildings, agriculture, small industry and waste must be reduced by 40% by 2030 compared to 2005. Based on the available projections, emissions are expected to decrease by around 38% in 2030 compared to 2005 levels, which is about 2 percentage points short of the EU target¹⁷. Thanks to additional or strengthened measures, this marks a substantial improvement compared to the gap of more than 6 percentage points on the basis of the EU-wide assessment of the draft NECPs. 12 Member States¹⁸ expect to reach their 2030 ESR targets with existing and additional policies and measures (up from 8 in the draft plans), while 6¹⁹ more expect to reach their targets by using available domestic flexibilities. 5 Member States²⁰ expect to have a gap to their 2030 targets²¹.

For the land sector, the projections provided by Member States show that the EU is not on track to meet its 2030 target of generating an additional 42 Mt CO₂eq. of net removals by 2030²². The land sector has stored less and less carbon from the atmosphere in recent years. The aggregate analysis shows that the carbon sink is not expected to improve compared to current levels. In fact, the EU is still falling short of the 2030 target by about 45 to 60 MtCO₂eq. Nevertheless, several Member States have stepped up their ambition and have provided more concrete pathways to meet their 2030 target with additional policies in the land sector. 9 Member States²³ (up from 5 in the draft plans) now project to reach their LULUCF targets. Among them, Denmark has recently introduced significant reforms, including pricing emissions from agriculture and using the revenues generated to finance the transition of the land sector. Several final plans also recognise the need to invest in better land monitoring, reporting and verification to ensure higher quality of data for effective and efficient policy making in the sector. However, most of the plans lack sufficient details on the actions needed to reach the targets, and a quantification of their impacts. A more efficient overall use of biomass (for energy, food-feed and bio-based products) moving towards higher added value bio-based products would be crucial for the land sector.

The final NECPs place more emphasis on policies for decarbonising transport and buildings compared to the drafts, but more efforts are needed. The EU Emission Trading System for fuel combustion in buildings, road transport and additional sectors (ETS2) and the accompanying Social Climate Fund have a key role to play in reducing emissions in road

¹⁷ The estimate takes into account preliminary information shared by Estonia and Poland, which have not submitted a final NECP yet. See annex for details.

¹⁸ BG, CZ, EL, ES, HR, LV, LT, LU, HU, RO, SI, PT.

¹⁹ DK, FR, NL, AT, FI, SE.

²⁰ DE, IE, IT, CY, MT. These Member States do not expect to reach their 2030 ESR target even when using available domestic flexibilities.

²¹ The ESR provides Member States with a set of flexibilities to offset part of the emissions by reducing emissions in other non-ESR sectors or in earlier years. The analysis of flexibilities for this assessment does not consider the possible trade of annual emission allocations between Member States.

²² As compared to the yearly average of emissions and removals in LULUCF in the 2016-2018 reference period.

²³ DK, EE, EL, LT, LU, NL, AT, PL, SI.

transport and buildings but complementary national efforts are indispensable. Most Member States have planned measures to support the sustainable transition of the transport sector, building on EU policies such as CO₂ standards for vehicles and the Alternative Fuel Infrastructure Regulation. The plans include measures to support electrification and the introduction of zero-emission infrastructure for roads, rail, ports and airports, as well as measures to promote modal shifts towards public transport and active/non-motorised mobility. Member States expect these measures to reduce greatly transport emissions in the coming years, which will require swift implementation of EU and national policies and measures, alongside continuous monitoring. Some Member States²⁴ still have support schemes for fossil-fuelled vehicles that are at odds with decarbonisation objectives and should be phased out. Regarding the **buildings** sector, as outlined in Sections 2.2 and 2.3, Member States are taking steps to promote renewables for heating and cooling, and to support building renovations, but more needs to be done to plan and implement the relevant policies.

In terms of Carbon Capture Usage and Storage (CCUS), the final updated plans include additional information and more ambitious projects. More than half of the Member States have at least partially taken into account the related Commission recommendations²⁵. In contrast to the draft versions, the final plans reduce the gap compared to the target of 50 million tonnes of CO₂ per annum by 2030 set under the Net-Zero Industry Act. Based on the information available, Member States plan to capture 42.4 Mt CO₂ annually in 2030, of which 14.9 MtCO₂ from biogenic sources. Member States estimate an injection capacity ranging from 27.1 to 45.1 Mt CO₂ per year in 2030. Some Member States have not reported injection capacity planned on their territory. However, since June 2024, the Regulation on strengthening Europe's net-zero technology manufacturing ecosystem²⁶ requires that Member States report annually future project developments related to CO₂ capture and injection capacity demands on their territory. Several updated plans reflect the need to develop a CO₂ pipeline network, and some Member States have also made progress as regards putting in place the necessary regulatory and enabling framework for industrial carbon management.

On adaptation, Member States have addressed the Commission recommendations only partially. This is a significant concern given the findings of the March 2024 European Climate Risk Assessment (EUCRA)²⁷ report by the European Environment Agency, which found that the EU and Member States are not keeping up with the accelerating climate risks. The October 2024 report by President Niinistö²⁸ states that climate change is a risk multiplier and emphasises the need to embed the “preparedness by design” principle to address all threats holistically.

Despite this, only a handful of final plans²⁹ properly embed adaptation policies and measures in the different Energy Union dimensions. In many cases, the plans include cross-

²⁴ For instance, DE, FR, IT.

²⁵ BG, DK, EL, FR, HR, IT, LT, NL, AT, PT, RO, SE, have outlined some plans or projects for CCUS before 2030.

²⁶ See Article 21(2) of Regulation (EU) 2024/1735.

²⁷ [European Climate Risk Assessment \(EUCRA\)](#).

²⁸ Safer Together Strengthening Europe's Civilian and Military Preparedness and Readiness, October 2024 Report by Sauli Niinistö, former President of the Republic of Finland, in his capacity as Special Adviser to the President of the European Commission.

²⁹ IE, EL, ES, HR, AT, SI, FI.

references to national adaptation strategies and plans. Other plans consider adaptation aspects and links only partially, and lack quantitative measurements of adaptation needs, and of the impacts and benefits of adaptation policies. Information is often lacking on climate vulnerabilities and risks for the Energy Union. Some plans address the consequences of climate change on future water availability and its risks for the energy sector³⁰ (for example, risks of insufficient or disrupted water supply for hydropower generation and green hydrogen and for cooling energy plants, including nuclear power plants). Only a limited number of Member States set out significant additional adaptation policies and measures³¹. While the role of nature-based solutions is recognised in some cases, there is untapped potential to promote their use in support of the Energy Union objectives.

Way forward

Despite a marked improvement compared to the draft plans, a gap still remains to the 2030 ESR and LULUCF objectives. Additional action to meet the targets and scale up climate adaptation efforts are necessary.

The Commission will remain engaged in constructive dialogue with, and continue to support, Member States to facilitate implementation and bolster ambitions where needed.

The Commission will monitor progress towards the ESR and LULUCF targets annually, making use of tools such as requesting corrective action plans, where needed.

Member States that are not on track to meet their ESR targets are encouraged to develop a sound strategy to combine additional measures with using available flexibilities. All Member States should swiftly implement ETS2 to ensure cost effective emission reductions from **road transport and buildings** and accelerate complementary national measures to decarbonise these sectors. For the transport sector, crucial elements include electrification and infrastructure deployment, demand management, an increase in the use of public and shared transport and active/non-motorised mobility.

Member States should also continue reducing aviation and maritime emissions. To this aim, they should support the production of renewable and low-carbon maritime fuels, and of sustainable aviation fuels³², and invest in infrastructure for future zero emission aircraft and electrification of ports and airports operations.

Member States should urgently complement their land, bioeconomy and energy policies to achieve a more sustainable level of harvests and increased net removals in agriculture and forestry, while taking into account circularity. A more targeted use of public funds, such as the Common Agricultural Policy or State aid, could support the uptake of better monitoring technologies and land management practices that achieve the highest climate benefits, promote nature-based solutions, boost climate resilience, and thereby protect food security and biodiversity.

³⁰ EL, ES, FR, HR, IT, PT.

³¹ SI, CZ, DK, ES, HR, CY, LV, LT, HU, NL, RO, and SE.

³² In line with Directive 2009/28/EC and with Regulations (EU) 2023/1805 and (EU) 2023/2405.

Member States could also consider market-based approaches building on the EU Regulation on a Union certification framework for permanent carbon removals, carbon farming and carbon storage in products³³. In 2025, the Commission will adopt the **carbon farming methodologies** under this regulation to further incentivise sustainable land policies with biodiversity benefits.

A more sustainable production and a more efficient use of biomass is a key building block of the upcoming new **EU Bioeconomy Strategy** (due for adoption by the end of 2025). An improved, more streamlined monitoring of biomass would be an enabling tool for this ambition.

Member States are encouraged to improve the assessment of climate vulnerabilities and risks, including by identifying risk owners across related sectoral policies, and considering cascading and compound risks, in line with the EUCRA report. Climate scenarios and risk assessments need to inform the programming of energy- and water-related investments and measures.

Member States are encouraged to step up their efforts to identify synergies with climate mitigation and adaptation measures when preparing their upcoming **nature restoration plans** and prioritise the implementation of measures accordingly.

The Commission will present a **European Climate Adaptation Plan** in 2026, to support Member States, notably on preparedness and planning and to ensure regular science-based risk assessments.

By implementing the Clean Industrial Deal and the Industrial Carbon Management Strategy³⁴, the Commission will continue to support **the development of a market for captured CO₂**. Member States are encouraged to promote the development of CO₂ storage and transport infrastructure to meet the objectives of the Net-Zero Industry Act.

The **Industrial Decarbonisation Bank**, which is aiming for EUR 100 billion in funding, will also be instrumental to the EU's investments in innovation and clean technologies, supporting the decarbonisation of key industrial processes across various sectors.

In implementing the NECPs, Member States are encouraged to further consider the synergies and trade-offs of the planned measures with environment priorities such as air pollution and circularity.

Renewable energy

As outlined in the Competitiveness Compass, the EU is strategically positioned to maintain its leadership as a global renewable energy frontrunner, but it needs to ensure that ambitious demand for decarbonisation is matched by leadership on the technologies that will supply it³⁵.

The EU is committed to its renewable energy target of at least 42.5% with the aspiration to achieve 45% by 2030. This target is not only a pillar of the European Green Deal but also central to the implementation of the Commission's Affordable Energy Action Plan. By

³³ Regulation (EU) 2024/3012.

³⁴ COM (2024) 62 final.

³⁵ Draghi report – The Future of European Competitiveness

accelerating the deployment of renewables, the EU aims to shield consumers from volatile fossil fuel prices, reduce energy bills in the long term, and strengthen its energy sovereignty.

Between 2022 and 2024, Member States installed about 205 GW³⁶ in renewable electricity capacity, which is more than the increase between 2014 and 2022, which demonstrates the political will to transform the energy system, reduce strategic dependencies, and drive both sustainable economic growth and innovation. Renewables are not just a climate imperative. They are a key lever to deliver affordable, secure, and home-grown energy for all Europeans. EU electricity consumers are expected to have saved an estimated EUR 100 billion over the 2021-2023 period thanks to additional electricity generation from newly installed photovoltaic and wind capacity. Contributions put forward by Member States signal a strong commitment to renewables deployment but **indicate a 41%³⁷ renewable energy share³⁸** in gross final energy consumption by 2030. **At the same time**, a more optimistic assessment based on Member State projections suggest that the EU could reach a figure of 42.6%, demonstrating the potential to go further.

This represents **significant progress compared to the 33.1–33.7% renewable share projected in the original 2019 final NECPs** and is also higher than the overall share resulting from the draft updated NECPs that were due to be submitted in June 2023. Yet, the reality remains that **although more than two thirds of Member States³⁹ have significantly raised their ambition levels there is still a limited gap of 1.5 percentage points** to the 42.5% target, and urgent action is needed to close it. However, if Member States fully deliver on their projections, there would be no ambition gap in reaching the binding 42.5% target. However, even in the best-case scenario, the collective contributions will still fall short of the EU's aspirational 45% renewables target under the Renewable Energy Directive (RED)⁴⁰ as amended. The challenge now is to turn these projections into reality through concrete action and, thus ensuring that the EU and Member States deliver on their commitments.

Many Member States have outlined steps to accelerate permit-granting and to increase power purchase agreements and self-consumption, with some countries describing plans to map out renewables acceleration areas. **22 Member States⁴¹ set a 2030 target for renewables in heating and cooling that is in line with the revised RED⁴²**. Furthermore, 11 Member States⁴³ include a specific target for Renewable Fuels of Non-Biological Origin (RFNBO) for industry.

³⁶ Data from Eurostat, WindEurope and Solar Power Europe.

³⁷ Compared to a share of 38.6% to 39.3% in the EU wide assessment of the draft updated NECPs, COM (2023) 796 final.

³⁸ See annex II on methodology.

³⁹ IE, IT, LV, LT, LU, HU, AT, PL, PT, RO, SI, FI, SE.

⁴⁰ Directive (EU) 2023/2413 of the European Parliament and of the Council of 18 October 2023 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 and Directive 98/70/EC as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652.

IE, IT, LV, LT, LU, HU, AT, PL, PT, RO, SI, FI, SE.

⁴² In line with the annual average increase pursuant Article 23 of Directive (EU) 2023/2413 of the European Parliament and of the Council of 18 October 2023 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 and Directive 98/70/EC as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652

⁴³ BG, CZ, DK, ES, IT, LV, LU, NL, SI, FI, SE.

Additionally, some Member States have indicated their planned electrolyser capacities by 2030, while others are still assessing the feasibility of RFNBO targets in industry.

In terms of innovative renewable energy technologies, 10 Member States⁴⁴ set ambitious targets for newly installed capacity by 2030, aiming to meet the indicative 5% target set in the revised RED⁴⁵. Yet, while most Member States addressed the Commission's recommendations on renewable transport and bioenergy, the plans still lack information concerning the domestic supply of forest biomass for energy purposes, on how forest biomass will be used for energy production and whether the Member States meet the relevant obligations under the LULUCF Regulation.

Finally, nearly all Member States⁴⁶ have addressed the Commission's recommendations on biomethane, putting forward measures for biomethane and biogas which are estimated to result in a combined annual production of 25.85 billion cubic meters (bcm) by 2030. However, only 7 Member States set specific, separate targets for biomethane. Sweden proposes financial aid for biomethane but without setting a specific target.

Way forward

*Despite significantly increased national ambitions when compared to the draft updated NECPs, there is still a **gap of 1.5 percentage points compared to the EU's 2030 renewable target of at least 42.5% if Member States do not deliver on their more ambitious projections.** Thus, while the 42.5% target is within reach, it is crucial to continue to support Member States in closing this gap and in their common goal of aiming to achieve 45% by 2030, and stronger action is needed to accelerate renewables deployment.*

There is no time for complacency. The Commission will support and closely monitor the implementation of the final plans with the Member States and will explore alternatives for further action in view of delivering on the most ambitious projections of Member States for closing the ambition gap. **The Commission will assess if further measures to ensure the collective achievement of the renewable energy target, including the aspirational target of 45%, are necessary.**

As a starting point, the measures outlined in the **Affordable Energy Action Plan** and in the **Clean Industrial Deal**, will significantly support the Member States in achieving their objectives while lowering energy costs for European consumers.

As part of a **European Grid Package in the last quarter of 2025**, the Commission will work to further streamline and simplify EU legislation and reduce permitting times including with targeted updates to environmental legislation, which will be crucial for removing barriers to renewable projects, infrastructure development and energy storage. This will be particularly relevant for the buildings and industry sectors. The focus will be on increasing energy storage capacity to create a favourable framework for investments in renewables-based electrification.

⁴⁴ BG, DK, DE, FR, IT, LV, NL, PT, SI, FI.

⁴⁵ ES and CY do not set a specific target but state that they aim to put in place the necessary measures to achieve the indicative innovative renewable energy technologies target by 2030.

⁴⁶ The final NECP of BG does not contain quantitative plans for biomethane production.

The Commission will continue to support Member States in their implementation efforts under the “*Accele-RES*” initiative; this will include working one-to-one with Member States, the expert group on permitting, dedicated workshops and the concerted action on the Renewable Energy Directive (CA-RES).

Regarding the medium to longer term actions set out in the Affordable Energy Action Plan, the **Electrification Action Plan** will drive system-wide transformation to accelerate the electrification necessary to achieve the targets and support the uptake of renewable energy. This includes scaling up Power Purchase Agreements (PPAs), supporting flexibility solutions like storage and demand response, and launching awareness-raising initiatives such as one-stop-shops for consumers and businesses. In addition, measures to modernise and expand electricity grids, and to channel cross-border investments into clean energy infrastructure, amongst others, will play a key role in filling the gap. The Commission will propose further policies to support these efforts, and national governments should integrate them into their energy strategies without delay.

In the short term, **Member States should step up their efforts to ensure the swift and effective implementation and enforcement of permitting rules**, such as those outlined in the revised RED, to accelerate project deployment.

Member States are encouraged to design specific measures to facilitate the uptake of PPAs in creating a supportive legal and regulatory environment and to provide stable investment signals to mobilize renewable energy investments.

Member States are also encouraged to use renewable-based cooperation mechanisms to meet their national contributions on renewables, such as the EU Renewable Energy Financing Mechanism ⁴⁷. The advantages for contributing countries include financing renewable energy projects where local conditions make them more cost-effective than at home, as well as accessing renewable energy production that may be scarce in their own territory, for instance land-locked countries benefiting from offshore wind projects. For host countries, the advantages consist of investment in local renewable energy projects with no burden on the national budget, as well as local employment, lower greenhouse gas emissions, improved air quality, modernisation of the energy system, and reduced dependency on imports.

Member States are invited to further promote the development of renewable district heating and cooling systems and the retrofitting of existing systems to increase energy efficiency and to integrate renewable energy solutions such as heat pumps into the heating and cooling networks. The **Heating and Cooling Strategy** will thus further boost the uptake of renewables in those sectors.

⁴⁷ For the second call that closed in March 2025, Luxembourg participates as a contributing country, voluntarily contributing EUR 52.4 million to the mechanism. Finland and Estonia are the hosting countries. The awarded projects will add a total capacity of 445.65 MW of renewable energy installations, and are expected to be commissioned between 2027 and 2028.

Energy Efficiency

Achieving the EU's binding target of reducing energy consumption by 11.7%⁴⁸ by 2030⁴⁹ is key to Europe's competitiveness, security, and climate ambitions. Energy efficiency reduces energy costs, enhances energy security by diminishing the EU's dependence on imported fossil fuels and increases competitiveness. In particular, the decarbonisation of buildings will boost the EU's construction and clean-tech industries.

The EU's overall energy consumption has been falling since 2021, bringing it closer to the EU's 2030 energy efficiency targets. In total, 15 Member States⁵⁰ have raised their energy efficiency ambitions for final energy consumption compared to the draft plans.⁵¹

Notably, 9 Member States⁵² have aligned their national contributions with the EU's energy efficiency target for 2030⁵³. Moreover, several Member States, such as Ireland and Austria, have set national targets that are more ambitious than their own projections⁵⁴ demonstrating a commitment to further reducing final energy consumption.

Despite progress towards more efficient energy use, a gap remains to reaching the EU's 2030 energy efficiency targets. The aggregated contributions result in a projected final energy consumption of 794.1 Mtoe by 2030. Although the ambition gap was reduced by 20 Mtoe from the draft updated NECPs, the final contributions remain 47.3 Mtoe above in primary energy consumption target of 992.5 Mtoe and **31.1 Mtoe** above the final energy consumption target of 763 Mtoe, which translates to an EU target of 8.1 %. This is a **significant gap**, which equals the annual final energy consumption of Belgium. Despite this, the gap must be seen in context and the current figures reflect significant progress compared to previous energy efficiency objectives.

As regards targeted policies and measures, many Member States have at least partially addressed most of the Commission's recommendations. While Member States detail financing programmes, support measures and planned policies, several Member States do not provide information on the implementation of the **Energy Efficiency First Principle**, nor quantify the energy savings expected from the energy efficiency measures outlined in their plans. In addition, several plans contain limited information on the energy efficiency obligations for the public sector.

Full decarbonisation of buildings by 2050 requires tripling the current energy renovation rate. Nevertheless, most Member States have maintained the ambition set out in their 2020 National Long-Term Renovation Strategies (LTRS⁵⁵), sometimes referring to their upcoming National Building Renovation Plans (NBRPs) whose draft versions are due by December 2025. Only a few Member States have increased the ambition of their **long-term renovation**

⁴⁸ Compared to the projections of the EU reference scenario 2020.

⁴⁹ In accordance with the target set in Directive (EU) 2023/1791 (EED recast).

⁵⁰ BG, DK, DE, IE, EL, HR, CY, HU, NL, AT, PT, RO, SI, SK, FI.

⁵¹ The assessment is based on the ambition level of the 24 Member States.

⁵² CZ, DK, DE, IE, FR, CY, NL, PT, RO. The assessment is based on the ambition level of the 24 Member States.

⁵³ See Annex II to this Communication.

⁵⁴ In some cases, "with additional measures" (WAM) scenario projections are 10% higher than Member States' notified contribution.

⁵⁵ Analysis of the national long-term renovation strategies, SWD (2022) 375 final.

strategies⁵⁶ or introduced more ambitious building policies and measures⁵⁷. ETS2 and the Social Climate Fund will contribute to supporting national efforts to decarbonise buildings.

Way forward

*Despite a significant improvement compared to the draft updated NECPs, **an ambition gap of 31.1 Mtoe** remains towards the Union's energy efficiency target of 763 Mtoe⁵⁸ in 2030, which translates to a reduction of 8.1 %.*

With 2030 only a few years away, **further action is needed**. Member States should step-up both their ambition and implementation efforts urgently. **The Commission is launching a set of operational actions to support Member States in closing the ambition gap** and to also monitor the implementation of the final plans. **The Commission will assess if further measures to ensure the collective achievement of the energy efficiency targets are necessary.**

The Commission's **Affordable Energy Action Plan** concretely helps to address the energy efficiency gap by exploring how to set up an EU-wide market for energy efficiency, including for energy savings certificates. The plan also strengthens **enforcement against products that are not compliant** with energy efficiency requirements and commits the Commission to **updating EU energy labelling and eco-design rules**.

Through the **European Energy Efficiency Financing Coalition**, the Commission will improve access to capital and facilitate the availability of financial tools and incentives to support market actors who provide energy efficiency solutions for businesses. The Commission will, in cooperation with the European Investment Bank (EIB) Group, explore ways to set up an EU guarantee scheme with the objective being to double the energy efficiency services market.

To ensure that the ambition gap does not translate into a delivery gap, **Member States are encouraged to implement policies and measures, including providing additional financing options to support energy efficiency projects and solutions, improve access to capital and provide financial incentives for the private sector**. The Commission will support Member States in these efforts by exploring additional technical assistance, for example through the LIFE Clean Energy Transition funding programme or the Technical Support Instrument.

Member States are called upon to speed up the pace of renovation and to put forward comprehensive investment plans in their National Building Renovation Plans in order to decarbonise the **building stock** by 2050. Member States are invited to use the submission of their National Building Renovation Plans to indicate their aspirational targets regarding the creation of affordable and sustainable housing.

Member States are encouraged to implement measures that promote electrification of transport and increase the appeal of public transportation systems.

⁵⁶ CZ, EL, ES, CY, LV, LU, NL.

⁵⁷ BG, DE, LV, HU, MT, NL, PT, SI, FI.

⁵⁸ Reduced final energy consumption compared to the projected energy use for 2030 based on the 2020 reference scenario.

Member States are also urged to implement ETS2 and put forward robust Social Climate Plans that, in conjunction with additional national policies, will help to decarbonise and increase energy efficiency in the buildings and road transport sectors.

Member States are asked to incentivise industries to adopt energy efficiency recommendations identified through energy audits and energy management systems.

ATTRACTING INVESTMENT FOR A COMPETITIVE CLEAN ECONOMY

Financing the green, digital and social transition requires maximising public investment and leveraging private capital. As outlined in the communication *‘On the road to the next multiannual financial framework’*⁵⁹, the Commission will present a proposal for a simpler, more focused, and more impactful long-term budget in 2025 that delivers on EU clean transition priorities while facilitating and simplifying beneficiaries access to EU funding, helping bridge the gap in investment needs.

Financing and investments

To meet the EU’s 2030 climate and energy targets, total energy system investments should reach approximately EUR 570 billion per year over the period 2021-2030⁶⁰. In addition, while making energy projects climate resilient by design⁶¹ is an absolute necessity to build a resilient, long lasting and cost-efficient energy system, this may increase the upfront investment needs in the coming years. Considering public resources are limited, private capital must be strategically leveraged, including by using de-risking instruments to mitigate project risks, lower borrowing costs for upfront capital expenditure and consequently lowering overall system costs.

Many Member States have improved the robustness of their investment estimates in their final plans, but policies and objectives are not always aligned with estimates of investment needs. Moreover, **several plans lack comprehensive strategies for mobilising public and private finance**. The majority of Member States have at least partially addressed the Commission recommendations, providing estimates of the investment needs per sector. Yet, few of them have specified the sources of financing, assessed the level of public support needed and discussed how private investment can be mobilised. The remaining plans do not contain robust estimates of total investment needs and/or investment needs per sector. This is a missed opportunity to provide long-term visibility on planned investments, which is key to attracting private funding. Moreover, more than half of the assessed final NECPs, have not addressed the

⁵⁹ [EUR-Lex - 52025DC0046 - EN - EUR-Lex](#)

⁶⁰ Climate Action Progress Report 2024, COM(2024) 498 final. The figure does not include transport spending.

⁶¹ In line with the European Climate Law’s requirement for continuous progress in enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with the call in the Commission’s Competitiveness Compass (COM (2025) 30 final) and with the recommendation of the European Court of Auditors (Climate adaptation in the EU – Action not keeping up with ambition, Special Report 2024/15.).

recommendation to make measures fully consistent with the national Recovery and Resilience Plans⁶².

Furthermore, only a few Member States have provided a robust assessment of the macroeconomic impact of the plan. As macro-economic assessment is important for effectively aligning economic policy to support the implementation of the NECPs, further efforts are needed.

Phasing out fossil fuel subsidies is essential to redirect investments towards the clean transition and align market incentives with climate goals. By gradually removing fossil fuel subsidies and redirecting investments to alternative industries, governments can promote cleaner energy and drive innovation. This will foster economic resilience and reallocate financial resources to support communities and workers, thereby contributing to a fair and just transition that prioritises both environmental and social well-being (see Section 5 below).

About half of the Member States have partially addressed the Commission recommendation on phasing out fossil fuel subsidies. The focus is mostly on the process and institutions, including activities in international fora, to further this objective by reviewing, identifying, and cataloguing financial, tax and other incentives⁶³. Some Member States⁶⁴ indicate the need for some subsidies or advocate a cautious approach to phasing them out, in particular for special cases such as vulnerable households, heating and islands, to minimise costs and ensure well-being.

Therefore, **Member States have not taken full advantage of the NECP process to outline and prioritise the gradual phase-out of fossil fuel subsidies.** In fact, only a few Member States include a description of their fossil fuel subsidies but without providing a socio-economic analysis of their impact nor mentioning policies, measures, or timelines for phasing them out⁶⁵. Others point to the absence of direct fossil fuel subsidies⁶⁶ or voice doubts on whether their tax measures would qualify as such⁶⁷.

Way forward

Many Member States have improved the robustness of their investment estimates, yet few specified the sources of financing and assessed how private investment can be mobilised. Only few Member States take full advantage of the NECP process to outline and prioritise the gradual phase-out of fossil fuel subsidies.

To address the financing and investment challenges of the climate and energy transition, the **Clean Industrial Deal** puts forward a series of measures to support investments and innovation, mobilising over EUR 100 billion to support EU-made clean manufacturing and enhancing synergies between existing funding instruments. The increase of InvestEU's risk

⁶² Member States submitted dedicated new Recovery and Resilience Plans (RRP) chapters outlining reforms and investments to increase the resilience, security, and sustainability of the EU energy system (26 REPowerEU chapters submitted and approved by the end of 2024). To date Member States have assigned a total of EUR 184.7 billion to energy-related measures under their national RRP and REPowerEU chapters.

⁶³ DE, DK, IE, EL, ES, IT, LU, MT, NL, AT, PT, SI.

⁶⁴ EL, LT, HU, MT, NL.

⁶⁵ CZ, RO.

⁶⁶ BG, DK, CY, NL.

⁶⁷ FI, SE.

bearing capacity will mobilise around EUR 50 billion additional financing until the end of the current Multiannual Financial Framework.

Building on experience of the EU budget, which contributes to climate-relevant measures supporting the European Green Deal, the Commission will put forward the **next Multi-annual Financial Framework** as a key enabler for the clean transition. The planned Competitiveness Fund will offer strong support to innovative industry for sustainable investment in the next MFF and a one-stop-shop simplified access to EU fundings. It will focus on projects with European added value, such as clean tech, while also supporting industrial decarbonisation. EU funding will provide significant further investments in the infrastructure and connectivity required to complete the Energy Union. The Commission will propose a dedicated **Clean Energy Investment Strategy** for Europe, including a de-risking initiative to unlock private capital in 2025.

Member States are encouraged to act and set a clear and credible timeline for the phase out of fossil fuel subsidies. The Commission will develop a roadmap to further scale down and phase out fossil fuel subsidies as part of our work to reduce Europe's dependencies, e.g. in the context of the European Semester 2025. It is recommended that freed-up resources are used to support a fair and just climate and energy transition, in line with the energy and climate objectives and with a view to building a competitive clean industrial base while strengthening our strategic autonomy.

Member States are invited to consider how to use available public funds (at national and EU level) to support the implementation of the NECPs. This includes the Innovation and Modernisation Funds, and the substantial revenues that will be generated through the auctioning of EU ETS allowances. The Innovation Fund has proven to be a reliable tool for EU industries to finance industrial decarbonisation and clean tech manufacturing projects. Member States are notably encouraged to use the auctions-as-a-service provided by the Commission to scale up support for the Innovation Fund selected projects. Member States should consider how to use best **cohesion policy funds** to support the energy and climate transition and a genuine Energy Union. The recent proposal of the Commission to modernise cohesion policy in the context of the mid-term review⁶⁸ provides for increased pre-financing in 2026 and co-financing (30% and up to 100% respectively) to incentivise investments in energy interconnectors and related transmission systems. The proposal also enlarges the scope of support from the European Regional Development Fund (ERDF) and the Just Transition Fund (JTF) to all decarbonisation projects that have been awarded the Sovereignty Seal under the Innovation Fund.

Member States are encouraged to better identify investment needs and to develop more comprehensive strategies to attract the public and private investments needed to support the NECP implementation, including by making use of, for example, the national hubs of the European Energy Efficiency Financing Coalition. This should also help improve the performance of national and EU spending in the context of the next MFF.

The Commission will recommend to Member States to adopt **tax systems** in support of the clean business case that can help mobilise finance.

To implement the NECPs, Member States can make use of the **Technical Support Instrument**, which can provide tailor-made expertise to implement policies and measures and to identify and mobilise the main sources of financing.

⁶⁸ Proposal for a Regulation of the European Parliament and of the Council amending Regulations (EU) 2021/1058 and (EU) 2021/1056 as regards specific measures to address strategic challenges in the context of the mid-term review (COM(2025) 123).

Competitiveness, research, and innovation

Europe has a proven history of success in clean energy technology and innovation. However, it must improve the framework conditions for effectively bringing innovative products to market and enabling companies to scale up, with a long-term vision that takes into account issues like dependencies. This is essential for EU companies to reap the opportunities of the global market for essential mass-produced clean technologies, projected to triple by 2035, reaching an annual value of approximately EUR 1.9 trillion⁶⁹.

The final plans show that Member States are focussing more on supporting the competitiveness of industry throughout the clean transition. They list national strategies and measures to support research and innovation, but most plans⁶⁹ still lack funding targets setting out specific pathways to 2030, for example regarding public spending on research and development dedicated to energy and climate programmes. They also fail to look towards 2050 to accelerate the development and production of clean energy technologies and promote the transition to a net-zero economy.

Most of the plans address the Commission's recommendations outlining **clear measures to promote the development of net-zero projects and clean technologies**, some with a particular focus on energy intensive industries⁷⁰. The measures outlined include support for investments and actions to accelerate permitting⁷¹ for the construction of infrastructure or clean technology projects.

As regards competitive and resilient supply chains for clean energy technologies, with some exceptions⁷², the plans do not truly reflect specific measures to help scale up the manufacturing of clean energy technologies, equipment, and components, and ensure the resilience of Member States' supply chains. However, most Member States include in their plans circular economy strategies and actions, necessary to reduce dependencies and ensure access to raw materials. The level of detail about these measures is uneven, and their actual impacts (economic, in terms of emissions reduction) are rarely quantified.

The digitalisation of the energy system plays a key role in many plans, with **several Member States planning clear measures to strengthen the digitalization of grid infrastructure**⁷³, and others⁷⁴ prioritising the digitalisation of solar technology deployment in the building sector.

Most plans also focus on collaboration on innovation⁷⁵. Member States participate in EU-wide initiatives such as the recently revamped European Strategic Energy Technology Plan (SET Plan) to foster innovation, align their research agendas and share best practices. Despite challenges such as high innovation costs and regulatory barriers, and in effort to drive progress, Member States are leveraging EU funding mechanisms like Horizon Europe, the Innovation

⁶⁹ CZ, HU, MT, AT.

⁷⁰ BG, DK, EL, ES, CY, LT, AT, SE.

⁷¹ BG, DK, FR, CY, LU, NL.

⁷² EL, ES, FR, CY, LU, HU, AT, SE.

⁷³ EL, ES, FR, IT, LT, LU, HU, FI.

⁷⁴ LV, NL.

⁷⁵ CZ, IT, CY.

Fund, and the Recovery and Resilience Facility, as well as fostering public-private partnerships. EU programmes complement national and regional funding.

Finally, workforce development is a rising priority, as the transition to a net-zero economy requires new skills. However, **only some Member States⁷⁶ have effectively put forward objectives with dedicated funding to tackle the skills' gaps** identified in strategic sectors such as clean energy technology.

Way forward

The final plans show an increased focus on innovation and competitiveness, on the development of supply chains, and skills for the transition. However, with some exceptions, sufficiently specific and actionable objectives in these areas are often missing from the plans.

The Commission, by implementing the Clean Industrial Deal, will take further action to boost the competitiveness of the European clean tech and energy-intensive industries. The **Industrial Decarbonisation Accelerator Act** will introduce resilience and sustainability criteria to foster clean European energy supply for energy-intensive sectors and will develop a voluntary label on the carbon intensity of industrial products. They could also be used by Member States to design tax incentives and other support schemes in line with State aid rules. The **Commission** will assess how to boost the competitiveness of the **energy efficiency industry**, which is mainly based in Europe, meaning the EU has a clear competitive edge.

The Commission will also work closely with the Member States to speed-up the design of new Important Projects of Common European Interests (IPCEIs), to strengthen the efficiency of the tool to support industrial decarbonisation and clean tech manufacturing in the EU.

Member States are encouraged to boost national demand for clean products and to diversify supply of critical raw materials, combined with circular economy measures. This will foster innovation and commercialisation of net-zero technology energy generation, help decarbonise industry, transport and buildings and reduce our dependency, and encourage the substitution of fossil feedstock with sustainable carbon.

EU Member States should use EU's new digital resources, and data products from the EU Space Programme, to boost renewable energy, improve grid efficiency, and support advanced decarbonisation strategies.

Member States should continue to simplify the permitting process for both manufacturing capacities and the construction of projects and maintain a reliable and granular timeline for auctions for clean energy projects, thereby ensuring resilience, security, and environmental sustainability.

Member States should consider how to best use relevant funding such as the European Social Fund Plus (ESF+) and the JTF in the context of the mid-term review of the Cohesion Policy funds to tackle skills gaps for the climate and energy transition.

The Commission will implement the **Union of skills⁷⁷** to equip people with the skills needed to seize the opportunities presented by the clean transition.

⁷⁶ DE, IT, LV, LT, NL, PT.

⁷⁷ COM(2025) 90.

Internal Energy Market and interconnectivity

A well-integrated market is the EU's strongest tool to deliver secure, competitive, and affordable energy to consumers and industry in the long run. Further market integration is a key prerequisite to build a robust Energy Union and will help us to meet the objective of the Affordable Energy Action Plan as regards lowering energy costs. It enables the clean energy produced to be seamlessly transported to where it is most needed and provides the right price signals to guide investment in green energy and technologies. The recent energy crises demonstrated where further strengthening of our infrastructure and deeper market integration of the EU energy market are necessary and the NECPs help Member States to work towards this more integrated and functional energy market.

Several NECPs underscore the need to **eliminate persistent market barriers and promote equal opportunities for new entrants and diverse flexibility solutions** in energy markets. Most plans highlight the **importance of flexibility and demand response** for rapid renewable energy penetration, while several Member States⁷⁸ promote demand-response, energy storage and grids capacity development, yet only a few set clear targets, plans, or timelines for their implementation.

Investing in electricity grid infrastructure and optimising a well-integrated European energy system is key for a cost-efficient clean energy transition from transmission to distribution level. While Member States like Luxembourg, Slovenia, Latvia and Hungary already well exceed the EU's 2030 interconnectivity target of 15 percent, some countries such as Spain, Greece, Italy and France fall significantly short, highlighting a persistent gap in Member States developing their cross-border connections. Enhanced efforts are needed to ensure sufficient infrastructure investments at all voltage levels to meet both national and cross-border needs. The European Union Agency for the Cooperation of Energy Regulators (ACER) finds that 32 GW of cross-border capacity needed by 2030 remains unaddressed⁷⁹.

Consumers are often at the heart of energy and climate ambitions, and **most Member States are taking steps to develop more competitive retail markets** and creating further opportunities for consumers to actively participate in energy markets as active customers, through aggregation or energy communities. **Most Member States also incorporate dynamic pricing and the roll-out of smart meters** to promote consumer involvement in the energy transition.

While most Member States address energy poverty in their final updated NECP, they do so to varying extents. Many describe structural or income support measures with an emphasis on energy efficiency, building renovation, and decarbonisation. Some Member States tailor measures to assist the most vulnerable groups. However, only a few Member States⁸⁰ provide

⁷⁸ AT, ES, IT, HU, PT, FI, SE.

⁷⁹ Electricity infrastructure development to support a competitive and sustainable energy system; ACER, Dec. 2024

⁸⁰ Example of LT and RO.

clear definitions of energy poverty or set specific reduction targets. The transposition of the provisions relating to energy poverty⁸¹ is currently only partly underway. Ensuring consistency with the preparation of Social Climate Plans under the Social Climate Fund, established in conjunction with the EU ETS2 is crucial for effective progress.

Way forward

*Member States have introduced measures to promote flexibility, stabilise markets and facilitate the penetration of renewables in their final plans, although with varying levels of detail. The plans generally include measures to empower consumers and address energy poverty to different extents. **Additional measures are needed to develop cross-border connections and further integrate markets.***

The **Commission's Affordable Energy Action Plan** includes short-term measures to lower energy costs, complete the Energy Union, attract investment and prepare for potential energy crises. A fully integrated energy market building on robust integrated energy network is of utmost importance to increase the benefits for all European consumers.

As announced in this plan, to strengthen the energy system and deepen the EU's market integration, the Commission plans to issue a **White Paper on further electricity market integration**, set up an **Energy Union Task Force** and launch a **dialogue on the future of the market**.

The **European Grid Package** will include relevant legislative and non-legislative measures, to simplify the policy framework on Trans-European Networks for Energy, to ensure integrated cross-border planning especially on interconnectors and streamline permitting processes. It will also focus on improving distribution grid planning, boosting digitalisation and innovation prioritising manufacturing supply needs, while building on actions from the Grid Action Plan. The second Union list of Project of Common Interest (PCIs) and Projects of Mutual Interest (PMIs) will be adopted in Q4 2025 and is expected to enter into force in Q1 2026.

Member States are encouraged to address existing market barriers that prevent demand response, storage, congestion management and ancillary service providers from participating in wholesale markets by implementing the EU rules on market access in these areas. They are also welcomed to promote flexibility on the retail market and provide consumers with the possibility of participating in the market.

Member States are equally invited to continue to develop their cross-border connections⁸² and reinforce their internal networks and to ensure sufficient infrastructure investments at all voltage levels for a full integration of renewables into the electricity system.

Finally, the implementation of the Affordable Energy Action Plan by lowering the energy prices will help households and consumers in energy poverty who are facing high energy bills,

⁸¹ Directive (EU) 2023/1791 on energy efficiency (recast) and Directive (EU) 2024/1275 on the energy performance of buildings (recast) include provisions on energy poverty.

⁸² The Affordable Energy Action Plan (Action 2) highlights the role of grids and interconnectors as enablers of the energy transition and industrial decarbonisation and provides four examples of missing flagship projects at regional to EU level including an offshore network in the Northern Seas, reinforcement of the Baltic States to Central Europe, increased interconnections between Iberian peninsula and Central Europe and the need to increase interconnectivity between Southeast and Central Europe.

as well as industries that struggle with high production costs. The Commission will also continue to address **energy poverty** through the **Citizens Energy Package** that will ensure a fair and inclusive energy transition and also by its support for Member States to transpose and implement the legal provisions and measures related to energy poverty.

Regional Cooperation

Regional cooperation contributes to more efficient cross-border infrastructure and more competitive use of the EU's common natural resources, leading to a more secure and integrated European energy system. It is therefore positive that several Member States provide more information in their final plans on the use of regional cooperation in achieving their energy and climate objectives, including through their involvement in political high-level groups⁸³.

At the same time, only a few Member States⁸⁴ explain how they intend to establish a framework for cooperation on joint projects with one or more Member States in line with Article 9 of Directive (EU) 2018/2001⁸⁵ as amended.

The assessment is more mixed on gas solidarity agreements. Some Member States⁸⁶ provided at least some new information compared to their draft plans on the progress, intentions, or signature of gas solidarity agreements with their neighbour countries, while several others did not.

Way forward

Member States generally take advantage of the established fora for regional cooperation, although to varying degrees. Few Member States provide information on specific agreements with neighbour countries such as joint projects or gas solidarity agreements.

The **new Energy Union Task Force** put forward by the Commission Affordable Energy Action Plan, will inter alia help improve transparency, coordination and system integration, thereby strengthening policy and grid planning across the EU.

Member States are encouraged to further utilise existing fora for regional cooperation, particularly high-level groups, to the fullest.

⁸³ Four high level groups have been set up by the European Commission to provide strategic steering and policy guidance on regulatory and infrastructure development and to monitor progress of projects of common interest in priority regions. They include: The North Seas Energy Cooperation (NSEC); Interconnections for South-West Europe; the Baltic Energy Market Interconnection Plan (BEMIP); Central and South Eastern Europe energy connectivity (CESEC).

⁸⁴ DE, FR, SI.

⁸⁵ Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources.

⁸⁶ DK, IT, LU, NL, PT, SI.

MAKING THE EU MORE AUTONOMOUS AND SECURE

Europe's decarbonisation, competitiveness and growth is intrinsically linked to its security and autonomy, with the energy crisis returning the spotlight to the objectives of reducing consumption, diversifying our supply of fossil gas and being ready for potential energy crises. The EU already reduced gas demand by 18% from August 2022 to November 2024⁸⁷. It also diversified its gas supply, with Russian gas imports down 70% between 2021 and 2023 (from 150 bcm to 43 bcm). This underscores the need for national strategies over the medium-term to complete the phase-out of Russian fossil fuels and reduce our reliance on fossil fuels over the long term.

Having weathered the 2022/2023 energy crisis, **the final NECPs expand on the national strategies to ensure energy security in the EU's fast-changing energy system**. The final plans respond – albeit to varying degrees – to the Commission recommendations covering energy security objectives and measures on gas, electricity, oil, nuclear and climate adaptation. Several Member States provide updated projections for gas demand, with the vast majority projecting a significant decrease in the coming decades. Only Luxembourg provides concrete plans to encourage reduced gas demand by 2030. Similarly, few Member States provide details on their further diversification efforts, and insufficient attention is directed towards whether their gas infrastructure and, where relevant, that of new exploitation projects is compatible with decarbonisation objectives.

Electrification, variable renewables, and efforts to phase out fossil fuel imports from Russia underline the importance of a more resilient electricity system. A notable milestone towards increased electricity resilience was the synchronisation of Estonia, Latvia, and Lithuania with continental Europe in February 2025, resolving a potential vulnerability towards Russia. The revised electricity market design⁸⁸ requires Member States to assess their needs and objective in terms of non-fossil flexibility, including the specific contribution of energy storage and demand response. The Commission also adopted a recommendation on main regulatory barriers to energy storage in 2023⁸⁹.

Despite being a key part of a more resilient energy system, few Member States provide specific objectives for energy storage. Some Member States provide further details⁹⁰ on storage policies and fewer Member States provide information on targets.⁹¹ The data are not sufficient for a coherent and comparable picture on storage deployment across all Member States.

While EU oil imports are more diversified than before, there is limited information in the final NECPs on national strategies to adapt oil infrastructure to a decarbonised energy system. Russian oil represents only 3% of imports today thanks to EU sanctions to ban Russian

⁸⁷ Compared to the reference period, which is defined as the average of the previous 5 years for the period August 2022 to May 2023 (as laid out in the demand reduction regulation). Therefore, for August-December it refers to 2017-2021, but for January-May to 2018-2022.

⁸⁸ Regulation 2024/174.

⁸⁹ Commission Recommendation of 14 March 2023 on Energy Storage – Underpinning a decarbonised and secure EU energy system 2023/C 103/01

⁹⁰ BG, CZ, DK, DE, EL, IT, CY, LV, LU, HU, PT, SI, FI,.

⁹¹ IE, LT, MT, RO

seaborne imports of crude oil since December 2022 and refined petroleum products from February 2023. While several Member States provide more information on their oil outlook, only a few Member States⁹² have effectively assessed the adequacy of fossil fuel infrastructure in the long run (including refineries, pipelines, stocks) considering the expected demand decline and the transition to lower-carbon alternatives in the coming decades, on the way towards EU climate neutrality by 2050.

On **nuclear energy**, several Member States have provided updates on their programmes, announcing extensions of the operating lives of existing reactors and new builds. These programmes consider nuclear energy for the supply of clean and flexible electricity and of heat for residential and industrial use, including hydrogen production.

Looking at the longer term, based on the information provided in the final NECPs, large-scale nuclear reactors could provide up to 110 GWe of net electricity generation capacity in 2050, though this comes with a considerable level of uncertainty as regards the life extension of existing reactors, and on plans for new reactors that have not yet reached the final investment decision. The Commission will present further details on the aggregated results and sensitivity analyses, with the related investment needs, in the upcoming Nuclear Illustrative Programme (PINC) currently in preparation in accordance with Article 40 of the Euratom Treaty.

Resilient nuclear energy supply chains are challenged by low Russian prices and historical legacy. Russia supplies products and services to EU customers across the whole nuclear fuel cycle, but Member States are making inroads as presented in their final plans. The dependency is most significant in the five Member States⁹³ with Russian-designed VVER reactors that have traditionally been reliant on fuel from a Russian supplier. In recent years, operators in these Member States have taken measures to diversify their fuel supplies and significant progress has been made in concluding supply contracts for alternative nuclear fuels. Moreover, European industry is investing to expand its capacities in the nuclear fuel cycle. It is important to maintain these efforts going forward and accelerate the diversification in line with the Roadmap towards ending Russian energy imports⁹⁴.

Threats to the physical security and cyber security of infrastructure are increasing in both frequency and significance, presenting growing risks to Europe's autonomy, security and competitiveness. Hybrid threats, including sabotage and cybers attacks, are an increasing risk to the functioning of Europe's critical infrastructure

The **physical impacts of climate change** also present a major risk of disruptive, chronic impacts on essential systems, and act as a catalyst that makes other risks more dangerous. The 2024 European Climate Risk Assessment and the Niinistö report suggest that these impacts on the energy sector are under-estimated. The effect of droughts on energy supply was evident during the summer 2022, when energy production and distribution were challenged by water scarcity and high temperatures. Member States have started taking steps to implement legislation to ensure the security, both physical and digital, of energy infrastructure in the EU,

⁹² IE, FR, NL, FI.

⁹³ BG, CZ, HU, SK, FI.

⁹⁴ COM (2025) 440 final of 06.05.2025.

even if progress on addressing climate resilience and adaptation within the energy system is uneven between different NECPs.⁹⁵

Way forward

Energy security is bolstered by lower fossil gas consumption and more diversified energy supplies, but the final NECPs insufficiently address the needs for more resilient infrastructure planning, notably to adapt to falling oil consumption, increased electrification based on variable renewables and fast-changing threats such as climate change.

The **Commission's Affordable Energy Action Plan** contains measures that can reduce fossil fuel use more generally, for instance by promoting the production and consumption of competitive renewable electricity. This is also the aim of the upcoming **Electrification Action Plan**, set to be published in Q1 2026.

The **Commission will present a legislative proposal for a revision of the current EU energy security regulatory framework** in early 2026. The revision will integrate lessons from the energy crisis and update the security framework paying attention to emerging risks, including hybrid threats such as cyberattacks and climate risks, while ensuring the security and resilience of the infrastructure as well as opportunities linked to an increasingly decarbonised energy system.

Member States are urged to continue to reduce dependency on fossil fuels, diversify energy supplies and develop home-grown clean energy solutions. With increased reliance on renewable energy sources, Member States are encouraged to invest in an optimised energy system at both transmission and distribution levels. Enhanced security requires investments in flexibility solutions such as storage and demand response to adapt infrastructure to decentralisation and decarbonisation. It also requires promoting more resilient energy infrastructure in order to prepare for accelerating climate and other risks.

JUST TRANSITION AND BRINGING ALL ACTORS ON BOARD

Bringing all actors on board is crucial for a just transition to a climate-neutral economy. This means addressing the social and economic impacts of the transition by focusing on the regions, industries and workers that face the greatest challenges.

Most Member States explain their commitments to the gradual phase-out of solid fossil fuels in the final NECPs. However, in some cases the fossil fuel phase-out timelines provided in the plans are not fully aligned with the Territorial Just Transition Plans (TJTPs)⁹⁶.

Most plans discuss the impacts of the transition to climate neutrality on employment and skills. However, the depth of the analysis of the social and employment impacts of the climate and energy transition varies significantly, particularly regarding vulnerable populations and regions. Moreover, the plans often do not outline measures to mitigate or address these impacts. While the plans generally reflect how the Just Transition Fund (JTF) supports Member States, they provide little additional information on the other resources to support a just transition.

⁹⁵ Directive (EU) 2022/2555 on measures for a high common level of cybersecurity across the Union covering electricity, district heating and cooling, oil, gas and hydrogen, and Directive (EU) 2022/2557 on the resilience of critical entities, covering the energy sector.

⁹⁶ BG, EL, IT, CY, LV, HU, RO.

On the building and road transport sectors, few plans include information that can be used as underlying analysis for preparing the Social Climate Plans⁹⁷. Member States will need further work to estimate the impacts of ETS2, identify vulnerable groups, and assess how the policy framework identified in the NECPs will contribute to developing Social Climate Plans, which are due by 30 June 2025.

Public Consultation

The transition to a low-carbon society with a cleaner and more secure energy system needs the participation of all actors in a timely, transparent, and effective manner. The implementation of energy and climate policies should involve not only Member States, but also regions, local authorities, stakeholders, and citizens.

Most Member States explain in more detail than in their draft NECPs how the consultation processes allowed the public to participate in preparing the final updated NECPs⁹⁸. Many Member States used a combination of online tools and specific fora for public consultation. Some Member States ensured an inclusive approach that involved all the public⁹⁹. However, in several cases, the consultation on the final NECPs started relatively close to¹⁰⁰, or even after the submission date¹⁰¹. A longer timeframe would have allowed for better public consultations considering the length of the plans and the extensive changes between the draft and final NECPs.

In some cases, the consultation processes were not specific to the plans themselves but related rather to the underlying policies and measures¹⁰², or they were based on a shortened version of the plan or on a questionnaire¹⁰³. Some final NECPs¹⁰⁴ do not provide a summary of the views expressed by the different participants and only some Member States¹⁰⁵ include an overview of how the outcome of the consultations was considered and addressed in the final NECP.

Way forward

The final plans placed more emphasis on just transition and on the phase out of solid fossil fuels. Moreover, most plans provide a clearer overview of the public consultation. The participation processes could have been more inclusive and effective, providing more information and offering a longer consultation timeframe.

The Commission will continue to work with Member States to ensure effective and timely public participation supported by sufficient information, in line with the Aarhus Convention. In implementing their plans, Member States are invited to continue carrying out participative public consultation processes.

The Commission will continue working with Member States to ensure that just transition policies are implemented effectively. In this context, **the Commission will assess the**

⁹⁷Regulation (EU) 2023/955 of the European Parliament and of the Council of 10 May 2023 establishing a Social Climate Fund and amending Regulation (EU) 2021/1060.

⁹⁸ MT, AT, RO provided very little information.

⁹⁹ ES, NL, PT.

¹⁰⁰ DK, IT, CY, FI.

¹⁰¹ DE, IE, EL.

¹⁰² FR, DK, DE, IE, MT, FI, SE.

¹⁰³ CZ, EL, HU, MT.

¹⁰⁴ DE, LU, HU, AT, RO.

¹⁰⁵ DK, IE, ES, NL, PT, FI, SE.

implementation by Member States of the Council Recommendation on ensuring a fair transition towards climate neutrality (adopted in 2022) and will publish the results in the second half of 2025.

The Commission will pay close attention to the Member States commitments to phase-out coal, peat, and oil shale, and will support them in analysing and mitigating the social and employment impacts in the affected regions. The Just Transition Fund continues to provide strong support in this respect, helping regions to diversify and reconvert their economic activities. The Commission also encourages Member States to align national and regional just transition strategies, with particular regard to the TJTPs¹⁰⁶.

The Commission encourages Member States to swiftly implement the Recovery and Resilience Plans, which play a key role to reach the 2030 climate and energy objectives.

The **Initiative for Coal Regions in Transition** will continue to provide technical support to the most affected communities across the EU. It will help them understand their decarbonisation, industrial and competitive potential and build on shared knowledge on the transition paths to developing this potential in order to ensure that the communities most impacted are not left behind.

The **Just Transition Platform** will further help all stakeholders involved in the JTF implementation by providing guidance, information and knowledge to support a just transition to a climate-neutral economy.

Member States are encouraged to maintain and improve dialogue processes at all levels of society to ensure effective implementation and maximise the impacts of cost efficient and meaningful policies and measures aimed at achieving our 2030 targets and climate neutrality.

Member States are encouraged to prepare relevant, effective, efficient and coherent Social Climate Plans to ensure a socially fair transition towards climate neutrality by addressing the impacts of ETS2 on vulnerable groups. The Commission will continue to work closely with Member States to support the finalisation and implementation of these plans.

CONCLUSION AND NEXT STEPS

Meeting the EU's 2030 energy and climate policy objectives is essential for the EU's competitiveness, security and decarbonisation. Fully implementing the 2030 policy framework is crucial if we are to deliver a genuine Energy Union, pave the way for the necessary investments for 2030 and 2040 and achieve climate neutrality by 2050. In recent years, Member States have accelerated their energy and climate transition with the support of the EU budget, which is expected to exceed the climate mainstreaming spending target of 30%¹⁰⁷. With the final NECPs, Member States have enhanced their policy and investment agendas for 2030 and now all efforts should turn to robust implementation to ensure Europe fully benefits from the transition.

The NECPs steer the much-needed investments for the climate and energy transition, helping to mobilise private and public spending. They are instrumental in identifying reforms and investments under instruments like the Recovery and Resilience Facility and the Cohesion Policy funds. Complementary to the European Semester, these plans are key instruments in

¹⁰⁶ Regulation (EU) 2021/1056.

¹⁰⁷ https://commission.europa.eu/strategy-and-policy/eu-budget/performance-and-reporting/horizontal-priorities/green-budgeting/climate-mainstreaming_en

setting national priorities to meet the common EU energy and climate objectives under current and future EU budgets. They help identify synergies with other sectoral priorities, such as the environment. Some policies and measures and investments identified in the NECPs also served as input for the medium term fiscal structural plans under the revised EU economic governance framework. In planning how to support the investments required to achieve the ambition of the clean transition, it will be essential to carefully assess the funding and de-risking efforts necessary to mobilise public and private investment.

Member States have demonstrated their continued commitment through substantially improved final plans. Nonetheless, further action is still needed to close remaining gaps and fully deliver the legally binding 2030 framework. In the accompanying Staff Working Document, the Commission individually assessed the final NECPs and identified specific areas for additional action at Member State level to facilitate implementation and, where relevant, scale up the necessary ambition.

Member States have a collective responsibility to achieve the EU's 2030 binding energy and climate objectives. **The Commission is launching a set of operational actions to explore alternatives for closing the ambition gap** and to support and monitor the implementation of the final plans. **The Commission will assess if further measures to ensure collective target achievement, notably on renewable energy and energy efficiency, are necessary.**

The Commission will also continue to support national implementation efforts and improve the level of regional cooperation, including through implementation dialogues with Member States and with the relevant stakeholders. The Commission encourages Member States to regularly discuss progress and policies with all stakeholders, notably to identify and remedy implementation bottlenecks. The biennial NECP progress reports are important stock-taking tools to promote transparency, predictability, and accountability to collectively deliver on the objectives.

The NECPs as a governance tool will be reviewed for the post-2030 period as part of the upcoming revision of the Regulation on the Governance of the Energy Union and Climate Action. Building on the lessons from the evaluation and implementation of the Regulation, the new framework will integrate the priorities of the Clean Industrial Deal and the Competitiveness Compass to achieve the 2040 objective of a prosperous and autonomous economy on track towards climate neutrality, and to promote better resilience and preparedness against climate risks. The Commission will aim to simplify and refocus the NECPs to transform them into real investment plans that provide long-term predictability to investors and offer stakeholders a transparent framework for cooperation.