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COMMISSION STAFF WORKING DOCUMENT

Assessment of the draft updated National Energy and Climate Plan of Belgium

Accompanying the document

COMMISSION RECOMMENDATION

**on the draft updated integrated national energy and climate plan of Belgium covering
the period 2021-2030**

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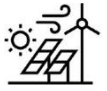

1 SUMMARY

1.1 Overview of key objectives, targets and contributions in the draft updated NECP


The European Green Deal, the fast-evolving geopolitical context and the energy crisis have led the EU and its Member States to accelerate the energy transition, and to set more ambitious energy and climate objectives, with a strong focus on the diversification of energy supplies. These developments are reflected in the legislative framework adopted under the ‘Fit for 55’ package and the REPowerEU Plan.

Belgium’s draft updated national energy and climate plan (‘the draft updated NECP’ or ‘the plan’), submitted on 30 November 2023, partially takes into account this new geopolitical and legislative framework.

Table 1: Summary of key objectives, targets and contributions of Belgium’s draft updated NECP

	National targets and contributions	2020	Latest available data	2030	Assessment of 2030 ambition level
	Binding target for greenhouse gas emissions compared to 2005 under the Effort Sharing Regulation (ESR) (%)	-35%	2021: -14.8% 2022: -18.2%	-47%	NECP: -42.6%
	Binding target for net greenhouse gas removals under the Regulation on Land Use, Land Use Change and Forestry (LULUCF)		Reported net removals of -0.32 Mt CO ₂ eq. in 2021 and reported approximated net removals of -0.32 Mt CO ₂ eq. in 2022	-320 kt CO ₂ eq. (additional removal target) -1,352 kt CO ₂ eq. (total net removals) ¹	The plan reflects the increased level of ambition for 2030
	National target/contribution for renewable energy: Share of energy from renewable sources in gross final consumption of energy (%)	13.0% (SHARE S) 13.0% (target)	2021: 13% 2022: 13.7%	21.7%	Belgium’s target of 21.7% is significantly below the 33% required pursuant the formula set out in Annex II of the Governance Regulation
	National contribution for energy efficiency:				
	Primary energy consumption (Mtoe)	43.7 Mtoe	2021: 48.8 Mtoe	36.5 Mtoe	Belgium’s primary energy

¹ When accounting for the recalculated inventories, Belgium suggests the new target would be 994 kt CO₂-eq total net removals.

					consumption contribution is 36.5 Mtoe. EED recast Annex I formula result: 33.8 Mtoe
	Final energy consumption (Mtoe)	32.5 Mtoe	2021: 35.9 Mtoe	29.9 Mtoe	Belgium's final energy consumption contribution is 29.9 Mtoe. EED recast Annex I formula result: 28.8 Mtoe
	Level of electricity interconnectivity (%)	14.2%	15.4%	15% ²	

Source: Eurostat: Belgium's draft updated national energy and climate plan

1.2 Summary of the main observations³

Belgium submitted its draft updated NECP, five months after the deadline of 30 June 2023⁴. Therefore, the European Commission had limited time to draft its assessment in this Staff Working Document, in order to enable Belgium to submit its final draft updated NECP by the legal deadline of 30 June 2024.

The draft updated plan of Belgium refers to the revised energy and climate targets recently agreed under the **Fit for 55** package and the **REPowerEU Plan**. However, it does not sufficiently elaborate on how these targets will be effectively reached.

Regarding the reduction of greenhouse gas emissions under the **Effort Sharing Regulation (ESR)**, the plan provides emission projections demonstrating that with additional policies and measures, Belgium is not on track to meet its national greenhouse gas target of -47% in 2030 compared to 2005 levels. According to Belgian projections, they would underachieve by 4.4 percentage points. Regional differences prevail, with the Flemish Region projecting a 40% reduction by 2030, and the Walloon and the Brussels Capital Region reductions of 46.5% and 48.7% respectively.

On the regulation on **Land Use, Land Use Change and Forestry (LULUCF)**, the draft updated projections in the plan estimates that Belgium will meet its 2030 target with existing measures. The plan describes several policies and actions to increase sinks, notably through ecosystem protection, restoration and afforestation. However, the plan lacks detailed quantification of the mitigation potential of such individual policies and

² Calculated by the European Commission based on the ETNSO-E data (Winter Outlook 2022-2023). The 2030 level represents the general interconnectivity target of 15%. The level of ambition cannot be assessed, because the actual 2030 interconnectivity levels will depend on the implementation of the planned interconnectors and changes in the generation capacity.

³ In addition to the notified draft NECP, this assessment also considers informal bilateral exchanges, which are part of the iterative process established under the Governance Regulation.

⁴ Article 14 (1) of Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action OJ L 328, 21.12.2018, p. 1–77.

measures, and information on the status and progress in ensuring higher tier levels and geographically explicit datasets needed to ensure the robustness of net removal estimates.

Regarding Carbon Capture, Use and Storage (CCUS), the plan identifies annual emissions that can be captured by 2030 in Flanders and by 2050 in Wallonia. With no internal storage possibilities, Belgium is looking at cross border cooperation to export captured CO₂. The plan mentions that one of the legal conditions for such cross-border cooperation is the conclusion of a bilateral agreement between the exporting and importing States in order to meet the requirements of the London Protocol. In this sense, Belgium has already concluded such an agreement with Denmark and is aiming to further conclude bilateral agreements with Norway, the Netherlands, and the UK. In this context, the Commission reiterates that any operator of CO₂ transport networks and/or CO₂ storage sites enjoys the full benefit of the EU legal framework to import or export captured CO₂ and that the implemented EU legal framework acts as the relevant "arrangement" between the Parties in the meaning of Article 6(2) of the London Protocol. With regards to the transport of CO₂, work on infrastructure development and regulation is currently being conducted in Flanders and in Wallonia.

The draft updated NECP reflects **partial progress towards international commitments under the Paris Agreement**. As a member of the "Powering Past Coal Alliance, for some time now, Belgium has ceased to produce electricity based on coal. The four entities within Belgium are taking measures to phase out fossil fuel subsidies but the draft updated NECP does not explain by when.

Regarding **adaptation to climate change**, the draft updated NECP describes the different plans and strategies that have been adopted, as well as specific measures (notably nature-based solutions, nature restoration and water security-related), but does not contain an adequate analysis of the relevant climate vulnerabilities and risks for the achievement of the national objectives, targets, and contributions and the policies and measures in the individual dimensions of the Energy Union. The link to the specific Energy Union objectives and policies, which adaptation policies and measures should support, is not adequately specified and quantified. Adaptation policies and measures, to support Belgium's achievement of national objectives, targets, and contributions under the Energy Union, are not properly described in terms of their scope, timing and expected impacts. For instance, measures to safeguard the resilience of the energy system in the face of increased risks of droughts, floods, forest fires or heatwaves, are not sufficiently outlined.

For **renewable energy**, the draft updated plan puts forward a contribution of 21.7% of renewables in gross final energy consumption, which is significantly below the share of 33% resulting from the formula in Annex II of Regulation (EU) 2018/1999 on the Governance Regulation of the Energy Union and Climate Action ("Governance Regulation"). The plan includes trajectories for renewables in the electricity, transport and heating and cooling sectors as per Directive (EU) 2018/2001 ("REDII") and as amended by Directive (EU) 2023/2413 ("revised REDII") but does not provide the trajectories for renewable fuels of non -biological origin (RFNBOs). The plan provides, for the most part, a comprehensive list of measures that Belgium has adopted or intends to adopt to support the deployment of renewable energy in line with its planned national contribution.

On **energy efficiency**, the Belgian draft updated NECP is quite informative and detailed. The increased ambition in Directive (EU) 2023/1791 on energy efficiency and amending Regulation (EU) 2023/955 (recast) ('EED recast') has partly been taken into account for

some provisions such as the energy savings obligation. Belgium's draft updated plan includes national contributions to the EU's 2030 energy efficiency targets of 29.9 Mtoe for final energy consumption, and of 36.5 Mtoe for primary energy consumption, neither of which is in line with the ambition of the EED recast.

The **energy efficiency first principle** is not well considered. The plan lacks substantial information regarding the quantification of savings for the planned measures, while also failing to provide comprehensive estimates of financial needs or funding sources. In relation to **buildings**, the draft updated NECP recalls the long-term renovation strategies (LTRSs) of the three regions but does not update any key elements, targets or milestones. The plan is informative and detailed as regards measures in the building sector, but it does not systematically quantify their impact. Also, it lacks an aggregated overview of the existing LTRS targets and milestones.

On **energy security**, Belgium relies significantly on energy imports due to its dependence on fossil fuels and lack of domestic sources, with a share of fossil fuels in the energy mix that is slightly higher (3 percentage points) than the EU27 average. The draft updated NECP does not foresee improvements in this regard, with both the share of fossil fuels and energy import dependency expected to increase further by 2030. As regards **natural gas** the draft plan contains some positive elements such as the enhancement of Zeebrugge LNG terminal capacity and the phasing out of L-gas by 2024. The plan generally presents few concrete measures to increase Belgian security of gas supply, however. This is particularly the case in terms of measures to reduce the consumption of gas. Relevant objectives to improve gas security of supply are also missing, for instance national objectives to develop renewable and low-carbon alternatives to fossil gas.

For security of **electricity** supply, Belgium counts on the 10-year life-time extension of nuclear reactors Doel 4 and Tihange 3, the use of its Capacity Remuneration Mechanism (CRM), accelerated deployment of particularly offshore wind power in the North Sea and further interconnections. In the **oil sector**, Belgium aims to decrease oil imports by 2030 but does not provide projections of oil consumption by 2030, 2040 or 2050. The plan also does not assess the adequacy of the oil infrastructure in the long run (refinery, oil stocks, pipelines) with the expected decline in oil demand.

When it comes to the **internal energy market**, the increasing share of renewable energy and the need to enable consumers to rapidly reap the benefits of it, the plan provides key policies and measures to incentivise consumer empowerment through demand response, energy sharing and energy communities. The plan provides only a partial view of flexibility needs, however. The draft updated NECP describes multiple tracks to modernise the distribution grid and allow it to accommodate an increase in renewable energy sources and electricity demand, such as digitalisation, flexibility measures, grid modernisation and market access for new players, such as energy communities and aggregators. The NECP also mentions the emergency measures to limit the impact of high energy prices that were implemented during the 2022 energy crisis.

On **energy poverty**, the draft updated NECP provides a good overview of the measures currently in place or planned to protect and support both vulnerable consumers and energy poor households. The plan does not include a specific overall target to reduce energy poverty and does not report the number of households affected by energy poverty in the Walloon Region. The main observed development at Federal level compared to the last NECP relates to monitoring of energy poverty and expanding the social tariff to a wider

category of energy consumers. Both the Flemish and Walloon region have adopted plans to address energy poverty.

In the **research, innovation, competitiveness and skills** dimension, the Belgian draft updated NECP presents a broad range of strategic programmes and measures to boost clean energy research, innovation, and competitiveness in line with the Green Deal objectives. However, the Belgian draft plan does not identify the expected share of climate and energy in total R&I spending (except for Wallonia), nor does it provide a breakdown of research and innovation (R&I) funding by public and private investors, except for a rough estimate for Wallonia. The Belgian draft plan elaborates on regional cooperation in R&I with other countries. The plan refers to certain investments for the manufacturing of net zero technologies, such as low carbon hydrogen and infrastructure, as well as carbon capture, transport and use. The plan, however, lacks sufficient information about the investments needed for the manufacturing of key components and equipment for other net-zero and circular technologies, and how Belgium will increase the resilience of its supply chains. The plan includes measures to promote circularity and refers to national and regional strategies related to digitalisation and skills.

Just transition is partially addressed in the draft updated NECP. The plan provides analysis of employment and skills impacts of the climate and energy transition within the Walloon region, but lacks an in-depth analysis of social impacts, including the distributional ones. While the plan includes several policies and measures to support employment and skills in the context of the transition, the draft updated NECP does not detail the resources specifically devoted to supporting a just transition. The plan does not provide sufficient information for the preparation of the Social Climate Plan and on how the consistency of the two plans is ensured.

On its **strategic alignment with other planning tools**, the draft updated NECP covers only partially the measures included in the amended **Recovery and Resilience Plan** ("RRP"), including those in the new REPowerEU chapter approved by the Council on 8 December 2023. Furthermore, the measures in the plan reflect the 2023 **European Semester Country Specific Recommendations**, in particular with regard to energy security and energy efficiency that will allow to reduce Belgium's dependency on fossil fuels.

Finally, the assessment of the **investment needs** is based on a top-down economic and energy modelling tool. The draft updated plan does not provide details on the investment needs and funding sources for the various specific policies and measures proposed. The **analytical base** of the draft updated plan includes both a scenario With Existing Measures ("WEM") and a scenario With Additional Measures ("WAM") covering the relevant sectors of the economy including industry, the energy system and transport until 2040. However, it is not clear which specific policies and measures have been considered in the modelling. The draft NECP update does not explain how consistency has been ensured between the modelling exercises of the different regions and the federal level. Furthermore, there is no quantitative macro-economic assessment provided.

2 PREPARATION AND SUBMISSION OF THE DRAFT UPDATED NECP

2.1 Process and structure

The draft updated NECP was submitted on 30 November, five months after the legal deadline. The plan is generally well developed and overall follows the structure provided by the Annex I template, covering all five dimensions, and including objectives, targets or contributions for each, backed by policies and measures and underpinned by an analytical basis, including an impact assessment.

However, the separate planning by four governmental entities (Federal state, Brussels Capital Region, Flemish Region, Walloon Region) does not contribute to the transparency of the plan nor to its assessment at Member State level. Negotiations are still ongoing on reaching a new internal cooperation agreement between regions and the federal state on sharing the effort to reach the 2030 climate and energy targets. Without it there can be no legal certainty on the level of efforts and the level of access to the revenues from the auctioning of ETS allowances for financing the transition.

A complicating factor is that the separate planning by the four governmental entities can differ in level of detail. This is for instance the case for the dimension Research, Innovation and Competitiveness (section 3.5), where planning by the Walloon Region is much more detailed compared to that by the other entities. The same is true for the description of the current policy context (section 1.2), where the plan could benefit from a more synthetic drafting style. As a result, the entire plan, but especially chapter 3 on policies and measures, lacks structured and concise (consolidated) reporting. Transparency and the assessment of the national plan also suffers from the absence of brief summaries of the relevant parts and of the use of references to titles in the initial NECP of 2019 rather than summarising their content in the draft updated plan.

Belgium's draft updated NECP describes at some length the current national context with attention for the high energy prices, compounded by the military aggression of Russia against Ukraine and the energy crisis at European level. It does not, however, elaborate on the effects of these high energy prices. The plan describes how Belgium will meet the objectives set out in the various European emergency regulations and sanction packages, address the high energy prices, and enhance solidarity. Belgium also alludes to the recent extreme weather conditions and its consequences, and a new National Adaptation Plan that to be launched in 2024 to continue the planned synergies between federated entities and to address the impacts of these events.

The plan provides evidence that, in line with the 'whole of government' approach, Belgium reached out and worked together with all relevant authorities to update the draft plan, considering synergies and trade-offs across different portfolios. Given Belgium's federal structure and division of powers, several structures have been created to promote consultation and cooperation between the different levels of government and ensure coherence within the actions of the federal state and its regional entities. Parliaments have shown interest in the preparation of the NECP, including through resolutions (federal), the creation of a specific NECP Commission (Flanders) and involvement in the preparation of Climate Plans and vision documents (all regions).

The role of cities and local authorities is referenced throughout the draft updated NECP. The role of local authorities is particularly prominent for climate mitigation, while their

role is more unclear on energy poverty, as it is presented briefly and with limited depth. The topic of climate adaptation is treated more from a federal and regional point of view, without highlighting the role of local authorities and municipalities. The draft updated NECP refers to how local authorities in Belgium are taking part in the Covenant of Mayors initiative, and setting objectives and building upon related learnings are extensively referenced. The plan presents different options used to consult or engage with local authorities during the draft updated NECP preparation or in related activities. Still, the Flemish and Walloon Region did not consult the local authorities for the preparation of the draft updated NECPs, but they were consulted in for the underlying policy documents. In Flanders a more permanent Local Energy and Climate Pact exists that lays the foundation for structural cooperation between the regional and local authorities. The municipalities in the Brussels Capital Region were consulted during the public enquiry from 20/12/2022 till 17/02/2023. The Environmental Statement explains in detail how their views were considered.

The socio-economic and environmental advisory councils, both at regional and federal levels are asked to issue a joint opinion based on the draft updated NECP. This opinion will be considered in drafting the final updated plan. The advisory councils were and will also be consulted during the drafting of the entity-specific energy and climate plans.

2.2 Public consultation

A national public consultation on the draft NECP is under preparation (initially foreseen for autumn 2023) and will focus on inter-federal and federal measures. In addition to these national consultation processes, each government is also conducting its own participatory processes.

At federal level, a series of climate tables took place in the autumn of 2022 to adapt existing federal policies and measures and identify avenues for strengthening them through additional policy measures. More than 300 stakeholders and experts participated as well as representatives of the regions. The draft updated NECP includes a link to the summary report with the main results of the climate tables. In the Flemish Region, the involvement of civil society, entrepreneurs and knowledge institutions is organised through regular consultations in thematic working groups (on renewable energy, energy efficiency, flexibility, and data). No information is provided in the draft updated NECP on their timing and recommendations. In the Walloon Region, a citizens' panel was organised from April to December 2021 that resulted in 168 prioritized recommendations. Young people were consulted through the youth forum between November 2021 and February 2022. The results were published in a report with 87 recommendations. In the draft updated NECP links to the reports with recommendations are provided. In the Brussels Capital Region, a public enquiry was organised from 20/12/2022 till 17/02/2023. The Environmental Statement explains in detail how these views have been considered.

The public participation procedure is presented in detail in the plan. Public consultation processed at national and regional level ensured early public participation before decisions were taken and throughout the decision-making process. A wide range of interest groups were identified and encouraged to take part (including social partners), as well as ordinary members of the public.

It is unclear if a Strategic Environmental Assessment (SEA) has been conducted or if there are plans to do so.

2.3 Regional national consultations for preparing the draft updated NECP

There have been various consultations and engagement in regional cooperation, including by drafting of common chapters with other partners in the Pentilateral Energy Forum, the intensive collaboration in the North Seas Energy Cooperation (NSEC), which has broadened its scope and discusses long term planning to include early development and upscaling of green offshore hydrogen production and transportation, and by identifying common policies and measures (e.g., in-depth solidarity regarding energy security and renewable energy dimensions). The main outcome has been summarised in the draft updated NECP, explaining its scope and procedural aspects. Regional consultations took place, in all regions, in established fora including under the EU energy platform. The collaboration covered a very large range of topics.

3 ASSESSMENT OF THE AMBITION OF OBJECTIVES, TARGETS AND CONTRIBUTIONS AND ADEQUACY OF SUPPORTING POLICIES AND MEASURES

3.1 Decarbonisation dimension

3.1.1 Greenhouse gas emissions, removals and storage

The plan embeds the increased climate targets included in the Effort Sharing Regulation and LULUCF Regulation, as part of the Fit for 55 legislative package. The Belgian contribution to the European GHG targets consists of the sum of the contributions of the different entities.

The draft updated NECP confirms Belgium's commitment to achieve climate neutrality by 2050 (Coalition Agreement of the Federal Government of 30 September 2020). The draft updated plan includes concrete pathways to 2030 and, for certain variables, to 2050. WEM and WAM projections for the Federal State are performed with a time horizon up to 2030. Projections submitted in March 2023 under Article 18 of the Governance Regulation show net GHG emissions (i.e., including LULUCF and excluding international aviation) of 100 million tonnes of CO₂ equivalent by 2050 considering existing measures and of 62 million tonnes of CO₂ equivalent with additional measures. This is equivalent to projected reductions in 2050, compared to 1990, of 30% and 57%, respectively. Despite the commitment to achieve climate neutrality by 2050, the information provided in the draft updated plan does not allow for a full assessment as to whether Belgium's progress is consistent with the achievement of the EU climate-neutrality objective. However, based on all the available information, progress by Belgium is likely to be consistent with the achievement of the EU climate-neutrality objective.

The draft updated NECP does not reflect the required ambition under the Effort Sharing Regulation (ESR), as the policies and measures in the plan do not collectively suffice to reach the country's obligation for the effort sharing sectors. The ESR sets Belgium's 2030 ESR emissions reduction target to -47% by 2030, compared to 2005 levels. The plan projects emissions from the effort sharing sectors to be above this 2030 target both with existing and with additional planned measures, highlighting the need for more ambitious climate action. In the WEM scenario Belgium falls short of the target by

25.4 percentage points, while in the WAM scenario it still underachieves by 4.4 percentage points.

Member States have flexibilities under the ESR to comply with their targets. To assess whether Member States comply, the use of saved Annual Emission Allocations (AEAs) from previous years and the ETS flexibility if needed are considered. Belgium has notified already in 2019 that it will use 1.89% ETS-ESR flexibility. Based on the assumption that Belgium would use saved AEAs from previous years and/or the existing ETS flexibility to cover excess ESR emissions, it would be able to meet its 2030 target. No impact from LULUCF on ESR is assumed.

Table 2: ESR target and projections in Belgium’s draft updated NECP

ESR target and projections⁵					
	2030 target*	2021 performance (inventory data) *	2022 performance (approximated data) *	2030 WEM projection*	2030 WAM projection*
Belgium	-47%	-14.8%	-18.2%	-21.6%	-42.6%
EU	-40%	-14.5%	-16.9%	-27%	-32%

*Compared with the 2005 emissions as set out in Annex I of Commission Implementing Decision (EU) 2020/2126.

The plan reflects the increased ambition of the LULUCF Regulation for 2030 and in particular the 2030 national target requiring Belgium to deliver an additional –320 kt CO₂ eq. of net removals. The draft updated NECP quantifies the mitigation impact of existing and additional measures in terms of emissions removals from the LULUCF sector by including the relevant projections. Removals from the LULUCF sector are projected to be above their 2030 target both with existing and with additional planned measures. It is worth noting that Belgium has revised its most recent GHG inventory which also impacts the reference period 2016-18 in terms of the removals.⁶ Belgium states in the NECP that it intends to meet the no debit rule in 2021 - 2025. However, it does not provide information on how it intends to do this. In terms of the second compliance period, Belgium projects to meet the 2030 net removal target with existing measures.

The draft updated NECP does not sufficiently explain how policies and measures will ensure that the LULUCF sector reaches the targets and will contribute to the long-term transition to climate neutrality by 2050. The NECP reports existing and planned policies and measures, in particular nature-based solutions and nature restoration, for all key emitting sectors and sectors for the enhancement of removals for the Flemish Region, without a specific quantification of their impacts. However, for the Walloon Region,

⁵ The comparison between the ESR target and emission projections does not consider the flexibilities available for Member States under the ESR to comply with their 2030 targets. The ESR emissions will be comprehensively reviewed in 2027 (for the years 2021-2025) and 2032 (for the years 2026-2030).

⁶ Based on the 2020 inventory included in the LULUCF Regulation, the average storage in the period 2016-2018 for Belgium was 1 032 kt CO₂-eq. However, in Inventory 2023 the figures for 2016-2018 have been corrected, so that the average for 2016-2018 according to the latest inventory is 674 kt CO₂-eq. Belgium’s target 2030 according to the latest inventory is therefore 674 + 320 = 994 kt CO₂ -eq. of storage" (p. 21 of the draft revised Belgian NECP).

existing and planned policies and measures only focus on reforestation and forest management. As such, not all key emitting sectors and sectors for the enhancement of removals are covered. The Brussels Capital Region is considered an urban area. Measures and policies with a likely impact on carbon sinks, notably nature-based solutions, are described, but their impact is not estimated. The NECP does not explain the intended use of LULUCF removals for achieving the effort sharing limits. The use of the different forms of flexibility will be part of the intra-Belgian burden-sharing exercise of the 2030 climate targets. The draft updated NECP does not provide sufficient information on the status and progress to be made in making improvements to higher tier levels and geographically explicit datasets for monitoring, reporting and verification (MRV), in line with the provisions under the Governance Regulation.

Belgium's draft updated NECP recognises the role of circular economy in climate-change mitigation and highlights with detail different national policies and measures to help achieve climate targets in different sectors. Belgium integrated circular economy approaches and the need to reduce dependency, and effectively diversifying the sourcing of imported raw materials, components required to manufacture clean energy technologies. The plan includes references to more sustainable consumption as a lever to achieve climate objectives. Even if the role of the circular economy for climate policies is clearly acknowledged, the impact of the measures described is not quantified.

The draft updated NECP includes - in the four respective sections for the three regions and the federal level - policies and measures for improved access to zero- and low-emission mobility as well as to promote active mobility (walking and cycling) and modal integration to lower the carbon footprint of transport. It is also broadly aligned with the provisions of the new Alternative Fuels Infrastructure Regulation for road transport, even though the targets in terms of numbers for zero emission vehicles registered and recharging points by 2030 are not very well defined (there are only partial targets for each Region that are difficult to compare). In 2023, according to EAFO about 61,000 recharging points were deployed and 364,000 passenger electric vehicles were registered in Belgium. This shows that the policy is in line with reaching the expected 90,000 recharging points. However, the plan does not address the deployment of hydrogen refuelling stations for transport. The plan is also broadly aligned with the CO₂ Emission standards for Cars and Vans, and with the EU proposal on CO₂ Emission Standards for Heavy-duty Vehicles as regards alternative fuel infrastructure for low- and zero-emission vehicles and mobile assets across transport modes.

Policies and measures include greening of taxation via the reform of the corporate car tax system (phasing-out of the current tax and social regime for company cars for conventional cars and its limitation to zero-emission cars from 2026 onwards); tax relief for charging points and zero emission vehicles; exemption from the kilometric levy for the transport of zero-emission goods in Flanders); free or cheaper access to public transport for certain groups of consumers (young and old people) and enlarging the offer of public transport (by 2035 zero-emission public transport across Flanders); using green bonds for transport purposes, reducing demand for mobility mainly through adequate spatial planning and behavioural and cultural changes; support for the transition to ZEVs (Memorandum of Understanding on Medium and Heavy Zero Vehicles, committing to sell 30 % and 100 % of new zero-emission trucks and buses by 2030 and 2040); introduction of zero-emission urban distribution by local governments in Flanders; support to individuals and component suppliers in a second-hand zero-emission car in Flanders; support schemes for the

deployment of charging infrastructure, including for HDVs; promotion of electrification of captive fleets like taxis; further deployment of MaaS in Belgium for sustainable mobility, in particular modal shift (including further development of the National Access Point (NAP) to provide technical support to MaaS platforms).

The plan also includes measures to promote active mobility (cycling) through a federal action plan for cycling including the implementation of the uniform bicycle registration system, with a view to focusing on the prevention of bicycle theft and the generalisation of the bike allowance for commuting, the combination of cycling by train and extending cycling routes. There is also in plans the change of the parking policy favouring pedestrians and active mobility instead of vehicles and the promotion of schemes for shared cars and bikes thus diminishing the use of private cars. The law has been adopted amending the highway code in favour of active and sustainable modes of transport, including improving the visibility of bicycles, better regulating parking in places equipped with charging points for electric and hybrid vehicles, and organising self-service parking of scooters and bicycles. There is also a strong focus on promoting mobility on demand in rural areas.

The state-of-play and potential solutions for the decarbonisation of air and maritime transports are mentioned, for example deployment of infrastructure for zero-emission aircrafts, shore-power infrastructure at ports, albeit no measures are reported to control transport demand in these modes, which might nullify the small increase of sustainable/low-carbon fuels in these modes, as they represent an important share of total GHG for Belgium.

The plan also includes measures for the electrification and the introduction of zero-emission technologies and related infrastructure in rail, and modal shift towards low-carbon modes (e.g., fiscal measures or environmentally harmful subsidy reforms), albeit a clear plan to phase out fossil fuels subsidies (quantified in the case of transport) is not presented; the share of RES-T for Wallonia is not detailed.

The co-benefits of these measures for air quality are also explained and quantified.

The analytical basis of the draft updated NECP includes an assessment of the impact of policies and measures on the achievement of the GHG mitigation targets, even though their individual impact is not always quantified. The policies and measures are generally described in sufficient details in terms of scope and, less frequently, likely impact. However, their timing is often either not provided or expressed in vague terms. Based on the comparison of WEM and WAM scenarios, the policies and measures proposed in the plan will not allow Belgium to reach the GHG emissions targets set in EU legislation.

The draft updated plan describes the planned efforts to support the deployment of Carbon Capture, Use and Storage (CCUS) at the level of the Federal State, Flanders, Wallonia and the Brussels-Capital Region. Both Flanders and Wallonia are looking at how CCS can be applied for reducing industrial process emissions. In the Flemish region, the concept note "*Visie op CCUS: carbon capture, reuse and storage*" was published in 2021 in support of CCUS. The Brussels-Capital Region is not pursuing CCS projects because of its urban nature and the lack of energy-intensive industry. The plan identifies for 2030 volumes of CO₂ that can be captured annually only in Flanders, amounting to 5 million tonnes. After 2030, it is expected more developments will also occur in the Walloon Region, with estimates of 6 million tonnes of CO₂ to be captured annually in 2050 only in Wallonia.

With regards to storage, the lack of cost-effective storage capacity in the territory of Belgium is referenced, and the reason why both the Federal State and Flanders are seeking for cross border cooperation to export captured CO₂. The plan mentions that one of the legal conditions for such cross-border cooperation is the conclusion of a bilateral agreement between the exporting and importing States in order to meet the requirements of the London Protocol. The Belgian Federal Government and the Flemish Region have concluded such an agreement with Denmark, the first of its kind in the world. For 2023, the aim is to conclude such agreement with Norway (the conclusion of a Memorandum of Understanding in 2022 covering cross-border cooperation on CCS is also referenced in the plan), to be followed by agreements with the Netherlands and the UK. The plan mentions that the Federal State, the Flemish Region, the Walloon Region, and the European Commission will also seek to harmonise, or at least align, bilateral agreements at North Sea level.

With regards to the transport of CO₂, work on infrastructure development and regulation is currently being conducted in Flanders and Wallonia. In Flanders a working group has been established to identify infrastructure needs for CO₂ networks as part of the Industrial Transition Programme. Flanders and Wallonia will also develop a regulatory framework for CO₂ networks, looking also at the possibility to regulate tariffs at a later stage of the market.

The updated draft NECP does not include a national target for agriculture but does provide projections for agricultural emissions. It appears to prioritise action to reduce emissions from the agricultural sector. This is reflected in the projections (WAM scenario) for agricultural emissions, where Belgium shows a decrease of around 24% between 2005 and 2030. It is unclear how individual measures contribute to the projected emission reductions in the given scenarios.

The plan, including all relevant regional contributions, pays attention to mitigating non-CO₂ emissions in different sectors. In agriculture, the plan covers methane emissions from enteric fermentation and manure management as well as N₂O from agricultural soils. In waste management, the plan has measures on different stages of the organic waste stream, including generation, separate collection, and pre-treatment. In energy, the plan tackles fugitive methane emissions. In industry, the plan covers F-gases and N₂O from caprolactam production. Finally, the plan includes measures on biogas and biomethane. The plan provides quantified projections. The WAM scenario shows that non-CO₂ emissions will decrease in proportion to the overall reduction requirements under the ESR. This means that the relative size of non-CO₂ emissions within the Effort Sharing sectors will remain largely the same in 2030 compared to the latest inventory figures from 2021.

The draft updated NECP is partially in line with the targets and international commitments under the Paris Agreement. For some years already, Belgium no longer uses coal for power production. The phasing out of fossil fuel subsidies is discussed in the plan. At Federal level, there is the intention to evaluate current fossil fuel subsidies in view of their phase out, but it is added this is preferably done in the European context. First steps have been taken by phasing out the partial reimbursement of professional diesel and through the progressive reduction and subsequent abolishment by 2026 of the tax benefit for internal combustion company cars. In this context, the intended shift of half of the excise duties on electricity gradually to excise duties on fossil energy sources (natural gas

and propane) is commendable. Overall, however, the plan does not include a precise and credible timeline for the phase-out of fossil fuel subsidies.

On 2 March 2020, Belgium submitted to the Commission its national long-term strategy. The strategy includes different regional goals for climate neutrality by 2050, but not yet the ambition of the federal state, which was stated in the Coalition Agreement of 30 September 2020. In March 2023, Belgium reported on the status of implementation of its initial NECP, including progress towards the Union's climate-neutrality objective. However, Belgium did not indicate a target year to achieve its climate-neutrality objective. The draft updated NECP confirms the regional goals for climate neutrality by 2050.

3.1.2 Adaptation

Belgium's draft updated NECP does not identify relevant climate vulnerabilities and risks that may threaten the achievement of national objectives, targets and contributions in the five Energy Union dimensions. It refers to a federal assessment of socio-economic impacts of climate change in areas like infrastructure and ecosystem services and states that the preparation of climate risk assessment studies has started, including on security of supply and on energy transmission and distribution infrastructure. Additionally, it highlights the need for adaptation measures to reduce vulnerabilities in infrastructure, including transport networks and sensitive installations located in flood hazard zones.

The draft updated NECP does not outline adaptation goals or targets, even if it presents different adaptation strategies and plans and their main measures. The plan also does not outline the contributions from adaptation measures to the various dimensions of the Energy Union. Specific plans, such as risk preparedness plan for the electricity sector, are however under preparation.

Nature-based solutions are described in the draft updated NECP. Federal state mentions nature restoration in the Belgian part of the North Sea. The Region Flanders mentions the planned measures with regard to rebuilding and connecting of green and blue infrastructure, and the restoration and management of nature and forests resilient to climate change. The Brussels Capital refers to the planned acceleration of the implementation of nature-based adaptation solutions in soil, water and nature. However, the draft updated NECP does not describe the actual or expected impacts for these measures. Although actions are presented to reduce overall water consumption and prepare for extended droughts, the resilience of the energy system to the expected structural or seasonal water scarcity due to prolonged droughts is not specifically addressed.

3.1.3 Renewable energy

The renewable energy contribution proposed by Belgium in the draft NECP is a share of 21.7% of the national gross final consumption of energy in 2030. This proposal is based on the WAM scenario. Absolute values in terms of energy in ktoe and GWh were also included. This contribution is significantly below the share of 33% resulting from the formula in Annex II of the Governance Regulation. The scenarios provide yearly overall renewable energy contribution trajectories up to 2030, but not until 2040, while figures for 2040 are provided. Brussels and Flanders regions provide a yearly trajectory per respective technology (in GWh).

The indicative trajectory to reach the 21.7% contribution in 2030 is provided, including specific reference points for 2022 (renewables share of 12.8%), 2025 (14.4%) and 2027 (16.2%). The submitted reference point for 2022 (12.8%) is below the trajectory (of 15.2%) calculated in line with the EU 2030 renewable energy target of 32%, which was in force at that time. The reference points for 2025 and 2027 are also below the trajectory (22% and 26% respectively) calculated in line with the increased EU 2030 binding renewable energy target of 42.5%.

The renewable electricity generation is projected to reach 48.5% in 2030, with wind power becoming the main source of electricity in 2030 (34.8% share and 11.8 GW of installed capacity, of which 5.8 GW offshore), up from its current share of 15.5% in 2022. Solar will roughly double its electricity share by 2030 (16% share and 8.5 GW of installed capacity) compared to 2022. Bioenergy is expected to account for 4.9% of electricity generated in Belgium in 2030 and 0.6 GW of installed capacity, compared with 0.7 GW in 2020. Hydropower (excluding pumped hydro) would increase from 0.1 GW and 306 GWh of generation in 2020 to 0.2 GW and 449 GWh of generation in 2030, coming close to the available potential. In 2040, wind energy is expected to reach 15.6 GW of installed capacity, of which up to 7 GW would be installed offshore, along with 1 GW of floating solar as an innovative renewable energy technology. However, the draft updated plan does not explicitly state the deployment of floating solar mentioned in the plan as being intended to fulfil the **innovative target** for renewable energy deployment. Belgium has subscribed to the objective of the Pentalateral Forum⁷ to decarbonise their electricity system as soon as possible, ideally by 2035.

The use of renewable energy in the heating and cooling sector is projected to reach a share of 10.2% by 2025 and 15.4% by 2030, representing an annual average increase of 0.35 percentage points (ppt) and 1.04 ppt respectively for the periods 2021-2025 and 2026-2030. This is below the binding target of the revised REDII of at least 0.8 ppt as an annual average for the period 2021-2025 and at least 1.1 ppt for the period 2026-2030. The target including indicative top-ups would be 1.8 ppt per year over the whole 2021-2030 period. The draft plan describes how Belgium intends to achieve that increase of renewable energy in heating and cooling and in district heating and cooling, but the role of waste heat and cold and the accounting of renewable electricity in the trajectory remains unclear, also across the different regions. The use of renewable energy in district heating and cooling is set to reach 54% in Flanders over the 2021-2030 period (Wallonia and Brussels do not provide this information).

Bioenergy will remain dominant among renewable heating sources with 1930 ktoe in 2030 and is projected to grow by 42% compared to 2020. Heat pumps will see their gross final consumption grow significantly by 2030, reaching 590 ktoe compared to 130 ktoe in 2020. The electricity needed to run these heat pumps and their projected capacity were not included. The projected increase in heating from renewable energy is also due to the planned renovation of the existing building stock (resulting in significant energy efficiency

⁷ The Pentalateral Energy Forum is a regional partnership between Belgium, the Netherlands, Luxembourg, Germany, France, Austria and Switzerland created in 2005. It gives political support to a process of regional integration and develops pioneering initiatives in the field of market coupling, security of supply and a decarbonised energy system.

gains and a reduction of the total heating and cooling energy consumption by 14% in 2030 compared to 2021).

The draft updated NECP does not include overall targets for **the use of renewable energy in the industry** nor for the **renewable energy share in buildings**. Measures to promote renewables-based electrification of industrial processes to replace fossil fuels used for industrial heating with the aim of reducing the use of fossil fuels and replace it by renewable hydrogen and electrification were included, for example targets/quotas/schemes that also highlight renewable hydrogen trade.

In the transport sector, the share of renewable energy is projected to reach 28.2% in 2030. Belgium has not provided the equivalence of the target in GHG reduction. For the transport sub-target the main measure is the Act on Product Standards for the Integration of Energy from Renewable Sources into fossil transport fuels of 31 July 2023. This law requires suppliers of liquid and gaseous fuels to provide a minimum proportion of renewable fuels. The law sets out further that the share of advanced biofuels has to reach at least 4.2% by 2030. Further, the contribution of conventional biofuels will be gradually reduced. The draft updated NECP does not set a target for electric cars by 2030. However, the draft plan includes targets for charging infrastructure as well as measures related to electro-mobility (both relating to vehicles and to charging infrastructure). Except for Wallonia, these relate mostly to existing measures. A lot of information is provided on the plans to decarbonise the maritime transport sector. However, clear quantitative targets are not always provided.

The draft updated NECP does not provide information on the capacity of electrolyzers in 2030 but sets out measures for **Renewable Fuels of Non-Biological Origins (RFNBO) use** in demand sectors mostly in transport and industry. However, no target has been set for the latter. Although becoming an import hub for hydrogen is mentioned as an objective of the national hydrogen strategy, and Belgium commits to contribute to the development of import infrastructure in the context of H2 Global, no information regarding **international partnerships** to facilitate imports of renewable hydrogen has been included. Some information is provided regarding the pathway for oil-based transport fuel substitution through electrification and renewable hydrogen in land transport.

On **policies and measures**, in the **electricity sector** the objective is to accelerate the production of electricity from renewable energy through investment aid, fiscal measures, awareness raising and eased administrative procedures. The existing green certificates schemes are planned to be phased out or revised. Long-term Power Purchase Agreements are mentioned as an instrument for public authorities, but only Wallonia outlines a potential measure designed to facilitate their use by private actors. On guarantees of origin Belgium only refers to enhancements of the current system to improve consumers' information in relation to gases.

When it comes to **Joint projects** Belgium has the intention to reinforce the regional cooperation in the framework of the North Seas Energy Cooperation (NSEC) with the aim to establish joint projects for the production of offshore renewable energy. Wallonia also envisages a cooperation on joint projects with other Member States in order to increase its renewable energy share. Brussels region will rely on cooperation mechanisms to achieve its 2030 renewable energy target but does not specify whether it intends to use joint projects. The draft plan indicates that in order to reflect the EU's solar energy strategy, Flanders has raised its deployment target for solar energy and continues implementation

of its "Solar Plan 2025" adopted in 2019 with regulatory, financing and other support measures. Wallonia plans new measures on solar obligations for new buildings, spreading good practices for large-scale PV installations and measures to facilitate financing and purchasing of solar PV installations by public bodies. Individual self-consumption and energy sharing of renewable energy, as well as renewable and citizen energy communities is considered as a means to achieve the objectives and will be promoted through the regulatory and enabling frameworks which have been put in place by the three regions as well as further measures are envisaged (for example, review of the regulatory framework and support instruments for energy communities in Flanders, adaptation of tariffication for energy communities and energy sharing at building level and awareness-raising measures in Wallonia). The draft updated plan presents sufficient and well-described measures for promoting energy sharing as well as renewable and citizen energy communities but puts less emphasis on individual self-consumption. However, no quantitative goals for **self-consumption** are included in the draft plan. Flanders aims for access to an energy community for one per 500 inhabitants by 2025. No quantitative goals for energy communities are presented for the Walloon and Brussels Region.

Belgium has not indicated in its draft updated plan whether it has put in place a strategy on **energy system integration** (although it is recognised as a priority) and the draft updated plan lacks information on concrete measures planned. However, it is mentioned that the TSO has assessed the flexibility needs in 2030 and Flanders has adopted a "Flexibility plan 2025" in 2022 with concrete measures. Moreover, the draft updated NECP acknowledges the importance of demand response and storage, as well as the development of smart metering systems and a shift to digitalisation. In this context, a support model for bidirectional charging is planned to be developed.

Measures for **renewable heating and cooling** include the phasing out of new coal and oil based heating installations and of connections of new buildings to the natural gas network, continuation of investment aid and tax credits for energy efficient renovation of buildings (i.e. facilitating the fitting of renewable energy installations and the connection to district heating networks), mandatory integration of energy from renewable sources in buildings (especially public buildings and large non-residential consumers), regulatory measures and support for the development of local heating plans. Measures related to industry have been included by Flanders. The plan provides information on measures to be implemented from Article 23(4) as amended.

The draft updated NECP highlights biogas as one of the areas where the federal government will focus, when it comes to the deployment of renewable energy. Some references to measures related to the promotion of **bioenergy** availability and biomass sustainability have been included in the updated draft NECP, specifically highlighting the Walloon region's specific objectives for 2030, where, among the proposed measures, one can find the establishment of an enabling framework for the sustainable use of biomass and the development of biogas, and second and third generation biofuels. The Flemish region referred to biomass as one of the measures that could be used in the effort to green industrial heat demand, as long as this biomass meets the RED sustainability criteria.

When it comes to projections, both the Walloon and Flemish regions have included some projections regarding the evolution of the share of renewables (including biomass/biofuels) per sector in 2040. yet without clear communication of a national biogas/biomethane target. The cascading principle has been highlighted and the draft updated NECP includes some considerations regarding the competition for the use of biomass. The Walloon region

has included some predictions on the development of forest resources and the interplay with the carbon sink role of the forests. However, the draft updated NECP does not include data on biomass supply by feedstock and origin, nor on the source of forest biomass used for energy and the impact on the LULUCF sink.

Belgium has not made the required assessment, based on the revised REDII, regarding the domestic supply of forest biomass for energy purposes in 2021-2030 in accordance with the revised sustainability criteria and regarding the compatibility of the projected use of forest biomass for energy production with Belgium's new obligations under the revised LULUCF Regulation, particularly for 2026-2030, together with national measures and policies ensuring such compatibility. In addition, the draft updated plan does not include an assessment on the impact that bioenergy trajectories may have on biodiversity and air quality. However, specifically when it comes to air quality, the Flemish and Brussels-Capital Regions have included some reflections on the link between air quality and the combustion of solid biomass. The planned increase in the use of bioenergy is mentioned as a challenge in view of air pollutant emissions by Wallonia and a number of recommendations are formulated, without explaining whether Wallonia intends to make any of such measures binding. Although well the framework for biogas/biomethane is well framed, including closing the loops of the byproducts, the draft updated NECP did not provide an action plan with target/trajectory for Belgium till 2030.

The draft updated plan does not include **mapping of the areas** necessary to achieve the national contribution to the EU 2030 renewable energy target. Both Flanders and Wallonia plan to designate suitable areas for wind energy, which might benefit from the rules for the permit-granting procedure in renewables acceleration areas defined in the revised REDII. For the streamlining of administrative procedures and time limits for granting permits, the plan does not include a reference to a contact point for project promoters, but Flanders has integrated several permit-granting procedures. Further measures streamlining administrative procedures include a reform of the State Council to accelerate appeal procedures, and dedicated strategies to accelerate permit-granting procedures for wind energy in Flanders and Wallonia. Moreover, it is foreseen to make more space available for wind energy development (e.g., by investing in new radars), and Wallonia plans to facilitate permitting for shallow geothermal. The plan makes a reference to the way offshore renewable development is addressed in the maritime spatial plan, with an intention to designate further areas and to cooperate with other North Sea countries. The plan has not elaborated on the additional human resources dedicated to permitting for renewable energy projects, except for a measure to increase staff at the State Council dealing with appeal procedures.

3.2 Energy efficiency (including buildings) dimension

Energy savings are presented as a pillar of the draft plan, with Belgium targeting to reduce energy consumption by 1.13 Mtoe per year (FEC by 0.46 Mtoe per year) until 2030 compared to the 2017-2019 average.⁸ This corresponds to a corrected national contribution of 36.5 Mtoe for primary energy consumption (compared to 33.796 Mtoe according to the

⁸ Calculations by JRC: The 2017-2019 average has been calculated based on the EED recast FEC definition, and the savings per year have been calculated for the period 2021-2030: PEC: 47.8 Mtoe; FEC 34.5 Mtoe.

EED recast Annex I formula results) and 29.9 Mtoe for final energy consumption (compared to 28.783 Mtoe according to the EED recast Annex I formula results).

Belgium's contributions deviate from the projections of the EU Reference Scenario, based on the calculation stemming from the formula in the EED recast Annex I, by 8.2% and 4% for primary and final energy consumption respectively.

The target for 2030 is also set at a lower level as compared to Belgium's 2020 energy efficiency targets (-16.5% for primary and -8% for final energy consumption).⁹The target on reducing total final energy consumption of all public bodies is not well described in the plan and does not include information regarding the measures planned, nor on the exclusion/inclusion of public transport or armed forces. Only partial information is available regarding the renovation efforts of governmental buildings at regional level.

The draft updated NECP only mentions that an incoming EU obligation to ensure an annual reduction of 1.9% of final energy consumption by all public bodies is anticipated.

The draft updated NECP provides satisfactory information on what measures will be used to deliver the energy savings required post-2020 under Article 7 EED (Article 8 EED recast). The policies and measures contained in the draft plan under the energy efficiency dimension are sufficiently well described, but for most of the measures details on their implementation status and period are missing, and only a partial estimation of energy savings is included. More details are needed to fully understand how these measures contribute to the achievement of the 2030 energy efficiency targets.

Belgium revised the amount of **cumulative energy savings** to be achieved by 2030 in line with the new ambition of the EED recast to 267.65 TWh. However, the draft updated NECP specifies that the planned measures will only contribute approximately to 156.762 TWh.

A wide range of measures covering all sectors is presented, differentiated between the regions (and sometimes the federal level). The main sectors addressed are **buildings, industry and transport**. In addition, seven cross-cutting measures are reported, many of which aim at developing ESCOs in the Flemish region. Most of the measures reported for the 2021-2030 period are a continuation or revision of measures previously implemented in the 2014-2020 obligation period.

However, the **impact of the measures** is not systematically quantified, and no clear overview is presented. Accordingly, it is not possible to assess the contribution of the measures towards the **achievement of the national targets**. Furthermore, energy savings related to energy poverty alleviation are reported for three policy measures (Wallonia's renovation strategy, Wallonia's package to tackle energy poverty and Flanders' measure to promote renovation after the purchase of a building).

The draft updated NECP presents the **planned measures to achieve the 2030 energy efficiency goals**, but their expected savings are not quantified. Measures are differentiated between the regions (and sometimes the federal level), but no clear overview is presented. As for most of the measures, details on their implementation status and period are missing, it is not possible to clearly identify if (and what) additional measures are to be adopted.

⁹ The comparison has been done with the 2020 targets as included in the final NECPs 2020 JRC assessments (43.7 Mtoe PEC, 32.5 Mtoe FEC).

The draft plan also does not include measures reflecting the ‘**energy efficiency first principle**’. The plan considers the principle only in the energy security dimension, by pointing out its active commitment to reducing energy intensity and dependence on foreign supplies of primary energy sources, relying on its central position in Western Europe and its highly interconnected network infrastructure with neighbouring countries.

The federated entities contribute to the Belgian objective through policies and measures while the Federal State contributes to the objective by means of accompanying measures. The Belgian draft updated NECP recalls the long-term renovation strategies (LTRS) of the three regions but does not update any key elements, targets or milestones. It is informative and detailed as regards measures in the building sector but lacks an aggregated overview of the existing LTRS targets and milestones. Measures in the building sector are differentiated between the regions (and sometimes the federal level), but no clear overview is presented. As most of the measures do not detail their implementation status and period, it is not possible throughout to clearly identify additional measures.

Several of the measures, such as **minimum energy performance standards** to trigger building renovations for residential and non-residential buildings, are in line with the provisional agreement of the recast Energy Performance in Buildings Directive. Also, supporting measures such as building renovation passports and one-stop-shops are being put in place as well as fiscal instruments such as reduced VAT on renovation and renewable energy in buildings. Financial support for condensing gas boilers in buildings has ended as of 2023. There are several measures in place to support an increased uptake of renewable energy in buildings, for instance through solar installations (PV and solar thermal) and heat pumps. The draft updated NECP does not refer explicitly to the projects for building renovation financed under the Recovery and Resilience Facility (RRF) (building renovation is an important part of the BE Recovery plan).

The impact of measures is not systematically quantified in the draft updated NECP. Accordingly, it is not possible to assess the **contribution of the measures to the national energy efficiency target or the LTRS target**. Finally, the draft NECP update does not provide a general overview of the investments needed to meet the objectives, targets and contributions.

3.3 Energy security dimension

Fossil fuels are still very prominent in the Belgian energy system. Their share in gross energy available has only slightly decreased from 76% in 2013 to 74% in 2021. In 2021, Belgium had an energy **import dependency on third countries** of 58% compared to 53% in 2013¹⁰. Because of its geographical location, Belgium is a commercial hub for oil, gas and electricity trade which is an asset for the country’s security of supply. At the same time, as Belgium is still very reliant on the imports of primary energy sources (oil and gas in particular), the government aims at diversifying its energy sources, its supplier portfolio as well as its supply routes. According to the plan, however, the energy import dependency is expected to increase from 74% in 2022¹¹ to approximately 78% (WAM scenario) and

¹⁰ Eurostat data.

¹¹ Eurostat data.

83% (WEM scenario) by 2030¹². This can be explained by the fact that the share of fossil fuels (oil, natural gas and solid fossil fuels combined) in the gross energy consumption is expected to increase from 68.9% in 2021 to 75,7% in 2030 (WAM scenario).

Natural gas is the second-largest source of energy in Belgium, accounting for 27% of the energy mix and for 25% of the electricity mix in 2021 (both above the EU27 average)¹³. Belgium does not have any domestic gas production and relies fully on imports for its consumption. However, its dependence on direct imports from Russia was traditionally lower than the EU average and amounted to 12% in 2021. According to the plan, its main suppliers in 2021 were Norway and the Netherlands, followed by Russia (pipeline), Qatar (LNG) and Russia (LNG).

In terms of gas infrastructure, Belgium has one LNG terminal in Zeebrugge and one gas storage facility with a capacity of 0.8 bcm compared to Belgium's annual gas consumption of 18.3 bcm in 2021. Since the outbreak of war in Ukraine, the Zeebrugge LNG terminal has become key to Belgian security of gas supply. According to the draft updated NECP, the facility's regasification capacity is set to be enhanced (+10,5 GWh per hour by 2026). The Belgian TSO Fluxys also plans an improvement of its network to facilitate the transmission of LNG imported through the Zeebrugge terminal towards Eastern Belgium. Belgium will also continue to closely monitor the filling level of its gas storage capacities, and the draft updated plan refers to the possibility to designate an operator in charge of ensuring sufficient storage filling, in case the market does not deliver on this objective.

Following the shutdown of the Groningen gas field in the Netherlands, Belgium is planning to phase out L-gas¹⁴ by 2024. As regards the deployment of renewable and low-carbon gases, the draft updated plan does not contain aggregated objectives for the whole country, and only the Brussels region provides a non-binding target for the deployment of biogas for 2030.

Following Russia's war of aggression against Ukraine, Belgium reduced its gas demand by 15% between August 2022 and September 2023, equal to the -15% voluntary objective and slightly less than the EU27 average (-18%)¹⁵. The draft updated plan does not describe the implemented gas demand reduction measures, nor does it explain how these are integrated in the medium-term planning towards 2030. The role of natural gas in the national energy system is even expected to increase and to reach between 32% (WAM scenario) and 33% (WEM scenario) of the gross energy consumption by 2030. All in all, while the draft updated plan contains some positive elements, it lacks details about the policy objectives and concrete measures to increase the Belgian security of gas supply.

Electricity demand currently accounts for 17.5% of total energy demand in Belgium. According to the draft updated plan, electrification of transport, heating, and industry will increase the share of electricity in the energy mix, although no specific estimation of rate of electrification is provided.

¹² This indicator takes into account all imports, including those from other EU countries, and not only those from third countries, by contrast with the indicator used before in the paragraph.

¹³ https://energy.ec.europa.eu/data-and-analysis/eu-energy-statistical-pocketbook-and-country-datasheets_en

¹⁴ Low-calorific natural gas or gas with a low calorific value. This gas contains relatively lower proportions of higher hydrocarbons and consequently has less energy than high-calorific gas.

¹⁵ DG ENER Chief Economist, based on Eurostat data.

On security of electricity supply, the draft updated NECP presents concrete measures such as the 10-year lifetime extension of an aggregated 2 GW capacity from nuclear reactors Doel 4 and Tihange 3. However, the draft updated NECP does not report details on measures taken to diversify and address long-term supply of nuclear materials, fuel, spare parts, and services.

Other mentioned measures related to security of electricity supply include the use of a Capacity Remuneration Mechanism (CRM), the acceleration of the deployment of onshore and offshore renewable energy, including the development of 3.5 GW of offshore wind energy in the North Sea by 2030. Additionally, the draft updated NECP states that Belgium will examine all the options from a study on security of supply, which can be deployed if necessary.

Interconnections also play an important role in securing electricity supply in Belgium. The draft updated NECP highlights planned projects in the Federal Network Development Plan 2024-2034 to ensure interconnections levels, including the development of the offshore network via the Nautilus interconnection with the United Kingdom and the TrintonLink with Denmark.

On the demand side, the draft updated NECP points to measures taken under Regulation 2022/1854 on an emergency intervention to address high energy prices such as information campaigns. These measures will also be included in a toolbox to be used in case of electricity supply issues.

Belgium plans to increase its **system flexibility** to integrate an increasing share of renewable energy in the electricity mix. At the regional level, the updated draft NECP highlights the Flexibility Plan 2025 approved by the Flemish Government and the development of a framework conducive to the deployment of flexible and storage solutions in the Walloon region. According to the updated draft NECP, Belgian operational electricity storage capacity at the end of 2022 was 1 427 MW (1 307 MW in pumping and 120 MW of batteries). For 2029-2030 Belgium expects 1 305 MW for pump storage, 2 271 MW for large-scale storage and 477 MW for small-scale storage. However, the exact scope of these storage categories is not clear and should be further clarified in the final version of the plan.

Oil is the main energy source in Belgium representing about 45% of total energy available¹⁶. In 2021, oil consumption was highest in the transport sector (51%), followed by industry (33%) in particular, as Belgium has a significant petrochemical industry. Belgium is fully dependent on crude oil deliveries from third countries. Following the Russian war of aggression against Ukraine, Belgium phased out Russian crude oil supplies (29% of imports in 2021) by diversifying its suppliers. Belgium's top three oil suppliers in 2023¹⁷ were: Norway (18%), United Kingdom (12%) and United states (12%). Belgium plays an important role in regional oil products trade thanks to its pipeline connections, a large import terminal at the Port of Antwerp, four large refineries with combined production capacity 679 kb/d and large oil storage capacities.

On security of oil supply, Belgium is consistently well-above EU requirements on emergency oil stocks. The draft updated NECP aims at decreasing the amount of imported

¹⁶ <https://ec.europa.eu/eurostat/web/interactive-publications/energy-2023>

¹⁷ Eurostat.

oil by 2030 but does not provide a specific projection of such a decrease nor does it assess the impact of decarbonisation in Europe on the national oil infrastructure (refinery, oil stocks, pipelines).

The draft updated NECP addresses the **resilience of supply chains** in terms of access to critical raw materials needed for the green transition, and notably refers to the creation of a knowledge centre on the matter, as part of the Federal Institute for Sustainable Development.

The draft updated NECP addresses **physical and cybersecurity** of energy infrastructure. Measures include the designation of critical energy infrastructures and operators, companies' staff screenings, and the update of the Security and Critical Infrastructure Protection Law to include internal and external audits for relevant operators, in anticipation of the compliance with the directive 2022/2557/EU on the resilience of critical entities.

When it comes to electricity **supply crisis management**, the draft updated NECP mentions that the existing legal framework has been strengthened and improved, for instance, by streamlining and simplifying the procedures for designating priority network users and by the revision of demand reduction measures and communication channels. As for the **risk preparedness** plan for the electricity sector, the draft updated NECP states that in the coming years the focus will be on strengthening existing contingency plans and quantifying the **impact of climate change** on the resilience of the electricity grid and infrastructure – including in terms of water-resilience.

The draft updated plan adequately describe the measures in the **event of a security of supply crisis** for natural gas by making several references to the Emergency Plan, as per the regulation 2017/1938/EU on gas security of supply, and its adaptation after the Russian war of aggression against Ukraine, in particular the adoption of a definition of protected customers. The draft updated plan mentions future updates meant to make it more operational, in particular: the creation of a legal basis for a "shipper of last resort" to further develop demand-side response; the development of an operational fiche for all the measures contained in the plan; the setting up of a procedure to minimize cross-effects of a gas crisis on the electricity system in close cooperation with the TSOs (Elia and Fluxys).

In this regard, Belgium submitted its National Risk Assessment, its Preventive Action Plan and its Emergency Plan, as well as the Common Risk Assessments for Belarus, Baltic Sea, L-gas, Norway and United Kingdom regional risk groups. At the time of writing, they are all being assessed by the European Commission.

3.4 Internal energy market dimension

The current draft updated plan **put forward an interconnection level of 20% for 2030**. This is particularly relevant considering the increase in renewable electricity in 2030 and the importance of available capacity in neighbouring Member States to ensure electricity demand is met, notably during episodes of tension in its electricity system requiring import. The plan could further elaborate on the expected benefits of the key electricity infrastructure projects for the current identified congestion.

With regards to the increase of the renewable energy target and the need to enable the consumers to rapidly reap the benefits of it, the plan provides key policies and measures to incentivise demand response. The plan provides only a partial view of flexibility needs, however. Moreover, the plan does not indicate specific measures to accelerate the

deployment of electricity storage, neither to engage the system operators in facilitating the penetration of flexibility services. Furthermore, the plan does not indicate clear objectives with regards to the development of smart grids. Few details are presented on policies to enhance flexibility and enable a non-discriminatory participation of new flexibility services, including by empowering final consumers.

The draft updated NECP aims to modernise and expand the distribution grid to accommodate an increase in renewable energy sources and electricity demand by promoting digitalisation through an (accelerated) roll out of smart meters, implementing flexibility, including demand response and storage, financing grid modernisation, smartification and reinforcement (based on grid investment plans, data management, regulatory sandboxes, more time-differentiated network tariffs). The plan contains convincing and well-described measures to empower consumer to self-consume and share electricity, as well as join or develop energy communities (through a review of the enabling framework, as well as awareness raising, innovative pilots and assistance programmes). The plan does not contain a specific target for renewable energy-based energy communities for the Walloon and Brussels regions.

The plan mentions the emergency measures to limit the impact of high energy prices that were implemented. Those measures either were ending by 31.12.2022 or were "one-off" measures. The measures are therefore not part of a medium-term planning.

With regard to energy poverty, the draft plan reports that **21.5% of Belgian households lived in energy poverty in 2022**. The used indicators correlate to a large extent with the new definition of energy poverty in the recast Energy Efficiency Directive but would benefit still from an assessment of the level of energy efficiency of housing stock of energy poor customers. The plan reports extensively on measures and policies already in place or planned, both in terms of price support measures and income support schemes, as well as more structural measures across all Regions (e.g., financial support for renovation of housing, coaching, assistance and awareness raising, energy audits and consumption monitoring, debt relief). It would, however, benefit from exploring further the synergies with social policy as well as measures to facilitate access to renewable energy for energy poor and vulnerable households, including through energy sharing schemes and energy communities. The Federal government has expanded the social tariff to a wider group of residential electricity consumers until July 2023 and district heating consumers. In addition, the Federal government, as part of its fourth federal plan to tackle poverty and inequality, plans to monitor energy poverty with the aim of providing targeted and effective support. However, the plan does not set out national objectives to reduce energy poverty nor analyses whether this number is considered significant. A concrete timetable for the announced measures is also missing.

3.5 Research, innovation, competitiveness, and skills dimension

3.5.1 Research and innovation

Belgium reports a national target for research and innovation (R&I) in specific climate and energy technologies. The draft updated NECP also states that in line with the Recovery and Resilience Plan from 2020 onwards, 10% of the R & D budget will be allocated to climate and energy projects equal to 0.32% of GDP in 2021). It details the split between public and private funds (25% from the public sector). However, Belgium's draft

updated plan does not provide national energy and climate R&I spending targets for the future, only rough estimates for Wallonia, where the aim is to achieve an annual amount of government expenditure of EUR110,000,000 by 2030 for the energy and climate objectives in the field of R&I in addition to the expected EUR 571,000,000 from the private sector. It is not possible to assess whether this funding will be sufficient to achieve the national objectives by means of the reported funding targets, related to the Energy Union R&I objectives, notably those under the Strategic Energy Technology (SET) Plan.

Belgium's draft updated plan presents R&I support measures and budgets related to climate and energy technologies, especially in areas that have the greatest impact on the climate, such as sustainable construction, renewable energy, management and the adaptation of energy networks, sustainable mobility, agricultural production, the circular economy and all sectors directly aimed at reducing emissions of greenhouse gases. However, the plan does not provide aggregated data on the planned spending per technology class. The plan explains R&I efforts related to climate adaptation, carbon sinks, nature restoration and air quality (Horizon Europe missions). Belgium contributes to 9 out of 14 SET Plan Implementation Working Groups and focuses R&I funding towards achieving the targets for wind, energy efficiency in buildings, Energy systems, Renewable fuels and bioenergy, Photovoltaics, Concentrated solar power / Solar thermal energy, Energy efficiency in industry, Positive energy districts, HVDC, notably via the SET Plan ERA-nets and Clean Energy Transition Partnership.

There is already good regional R&I cooperation taking place between Belgium and other Member States, with potential for enhanced cooperation in areas such as offshore wind, hydrogen, energy systems, HVDC, nuclear research and innovation. Cooperation through the European Strategic Energy Technology (SET) Plan and its implementation working groups (IWGs), Mission Innovation, Horizon Europe, the Clean Energy Ministerial and the International Energy Agency's Technology Collaboration Programs are mentioned as important activities in the R&I landscape, but without providing specific targets for increased ambition in the future. In collaboration with international partners, Belgium will continue research on innovative solutions for management of high-level radioactive waste. The Belgian government has decided to establish a long-term programme with an earmarked budget of EUR 100 million for research on Small Modular Reactors (SMRs).

In the draft updated plan, Belgium reports on the decision to build a new major nuclear research infrastructure, MYRRHA (Multipurpose Hybrid Research Reactor for High Tech Applications), with the ambition to remain a world-class R&D and innovation player in numerous related fields, including in the production of medical radioisotopes, as well as research on new materials, particle accelerator technology, and transmutation of radioactive waste. In 2018, Belgium decided to allocate EUR 558 million of additional funding to implement the first major part of the MYRRHA. MYRRHA is intended to become a pan-European nuclear research facility and to further attract foreign partners an international non-profit association (IVZW MYRRHA) was established in 2022.

Finally, Belgium will also continue to collaborate with Euratom and other Member States on the development of nuclear fusion energy, in support to the implementation of the European Roadmap.

3.5.2 Competitiveness

Belgium has put in place measures and investments intended to support research, innovation and investments in manufacturing and scaling-up of commercially available clean energy technologies, equipment and components, notably by supporting technology clusters to develop into industrial ecosystems. At federal level, the ‘transformation fund’ set up in the context of the recovery policy provides support to anchor crucial companies, strengthen their solvency, and help them reorient in relation to the long-term challenges such as the fight against climate change. The NECP also refers to the intention to define measurable objectives on competitiveness for the energy-intensive industry and the low-carbon technology sector that should serve to guide policies and measures to achieve them, making the required links with corporate and industrial policies. In Wallonia, the ‘competitiveness clusters’ and the ‘intelligent specialisation strategy’ constitute the strategic framework for R&I and industrial policy, while in Flanders among others has the ‘Moonshot’ programme, the ‘Green Deals’ and the ‘industrial climate leap’ programme to support the transition of industry.

Belgium has set concrete climate and energy-related competitiveness objectives, in particular in the low-carbon technologies sector, such as becoming a European leader in clean hydrogen generation, transport and use, as well as carbon capture, transport and use or export to storage sites, through national, regional European R&I programmes, Innovation Fund and IPCEIs. The plan, however, lacks sufficient information about the investments needed for the manufacturing of key components and equipment for other net-zero technologies, and how Belgium will increase the resilience of its supply chains. The plan includes measures to support a circular economy to ensure better use of natural resources and reduce dependencies as well as increase waste management.

Belgium does not provide information related to the Digitalisation of Energy System EU Action Plan. They did include measures that enable digitalisation of the energy system through solutions such as developing, testing and piloting, and market uptake of smartness of the electricity grid, consumers empowerment.

3.5.3 Skills

The Belgian draft updated plan identifies skill shortages that undermine the development of strategic sectors for the energy transition (e.g., building renovation, research and innovation of new energy technologies, hydrogen sector, performing environmental assessments, etc.). However, it does not provide an analysis of expected jobs to be created by 2030 to enable climate action in Belgium. The draft plan states that in Wallonia 20% of the present construction workforce needs to be reallocated to renovations. Moreover, Belgium focuses on maintaining knowledge and further development of high-level expertise in the nuclear field, in particular for responsible spent fuel and radioactive waste management, production of medical radioisotopes, in nuclear medicine, particle accelerator technology, and Small Modular Reactors (SMRs). The draft updated NECP recognises the importance of maintaining and developing training profiles to create sustainable jobs that contribute to the energy transition and to ensuring the necessary versatility of training profiles. However, it does not include more information on skills gaps and measures or investments to overcome them to boost European competitiveness in clean energy technologies, equipment, and components (connecting for instance with

relevant European Year of Skills initiatives, Pact for Skills large scale partnerships, New Innovation Agenda).

4 JUST TRANSITION

Just transition is partially addressed in the draft. The plan lacks explicit strategies, especially at the national and sectoral levels, to identify and quantify the social, employment, and skills effects of the energy and climate transition. Specific strategies for vulnerable groups, such as low-income households and regions impacted by the transition away from fossil fuels, are notably absent. The objectives and targets to achieve a just transition are generally not very clear, nor are they based on an in-depth analysis of potential employment and skills impacts and opportunities of the climate and energy transition in the Flemish and Brussels region and at Federal level, correlated with effective energy specific measures and policies that can help deliver on these objectives in the Flemish and Walloon region and at Federal level. The draft updated NECP does not provide sufficient information for the preparation of the Social Climate Plan, as assessed in Section 7.

The plan includes instruments to advance a just transition at regional level (Energy Policy Document, PACE, Climate order) which set out general principles to inform the design of relevant measures and policies. The Brussels region in particular sets out measures and policies to facilitate access to affordable energy from renewable sources, energy efficiency home renovations, appliances, and advice. Measures to address access to quality employment, inclusive education, and lifelong learning are mentioned, but there is a lack of detailed information on their implementation and effectiveness. The existence of fair tax-benefit systems and social protection systems is not explicitly outlined in the plan.

The draft updated plan provides information on resources committed to the outlined policies, including the Walloon Recovery Plan and the Social Climate Fund, but the details are not extensive. The plan generally contains little analysis and few ambitious measures to support vulnerable groups, such as low-income households and regions facing economic challenges due to the transition.

5 REGIONAL COOPERATION

Belgium has engaged in regional cooperation in various fora, including by drafting of common chapters with other partners in the Pentilateral Energy Forum and through intensive collaboration in the North Seas Energy Cooperation (NSEC). Belgium is actively developing electricity interconnectors, both with France and the Netherlands. In the Atlantic Offshore category it works on a hybrid offshore interconnector with Denmark and a Modular Offshore Grid with the UK. Belgium seeks to expand its outlets for captured CO₂ by engaging not only with the Netherlands, but also directly with Norway. In the new hydrogen category, Belgium has a sizeable number of projects on the list.

The use of cooperation mechanisms in the area of renewables is addressed in the plan but with few details.

Belgium has still not signed any solidarity agreements for the security of gas supply out of the five needed (with Germany, Netherlands, Ireland, France and Luxembourg), and the draft updated plan does not foresee any progress in this regard. The draft updated plan

mentions several bilateral agreements with third countries in the field of energy (Norway, United Kingdom, Oman and Namibia), although without providing details on how these agreements contribute to Belgian security of supply.

6 INTERNAL COHERENCE AND POLICY INTERACTIONS WITHIN THE DRAFT UPDATED NECP

The draft updated plan reflects in several instances synergies within and between the 5 dimensions of the Energy Union. Examples include the recognition of the impact that increased flexibility, demand response measures and improved energy-efficiency have on the penetration of renewable energy. Similarly, the plan points to the contribution of policies targeting energy efficiency and more locally produced renewable energy contribute on increased energy security and reduction of GHG emissions as well as accommodating the partial phase-out of the nuclear park. The draft updated plan also recognises the role of circular economy in improving energy efficiency, reducing greenhouse gases and improving energy security, just like it links policies and measures to improve the energy-efficiency of buildings with tackling energy poverty. The draft updated plan also recognises the interlinkages between energy security and the "energy-efficiency-first" principle. Grid operators are requested to exploit the synergies between energy-efficiency and flexibility measures when planning their investments in gas and electricity infrastructure.

Still, there is room for a more systematic assessment of the consistency of specific policies and measures such as interactions between spatial, agricultural, forest and nature, and materials policies, and their impact on the carbon balance. In addition, consistency of policies and measures taken at different levels of government and interactions of certain objectives are not addressed.

7 STRATEGIC ALIGNMENT WITH OTHER PLANNING INSTRUMENTS

Belgium formally submitted an amended Recovery and Resilience Plan (RRP), including a REPowerEU chapter on 20 July 2023. Although the RRP and the REPowerEU chapter are mentioned at numerous instances and its general contribution to the objectives of the NECP are outlined, the 92 investments and reforms of the Belgian RRP with 40% or 100% climate tracking are not directly referenced in the draft NECP. Some projects related to the Belgian RRP are mentioned in the draft NECP, such as hydrogen infrastructure and charging points. Furthermore, the section on investment needs provides some details on the content of the RRP and REPowerEU chapter, however, no clear linkage between the described projects and the measures in the RRP are made. Overall, the consistency between NECP and RRP is vague and the draft updated NECP lacks granularity on the contribution of the RRP and the REPowerEU chapter to the NECP targets and covers rather poorly the main reforms and investments of the RRP that contribute to implementing the objectives, targets and contributions.

The draft NECP mentions the need to address clean air related challenges and identifies in several places co-benefits and trade-offs between climate and energy and clean air policies. The impact of planned policies and measures on the main air pollutants for which Directive 2016/2284 sets emission reduction commitments is only quantified for

Wallonia. No projections are provided for Belgium as a whole. The same holds for the link between the draft updated NECP and clean air programmes, such as the National Air Pollution Control Programme, which is not elaborated for all regions (Wallonia refers to its integrated *Plan Air Climat Energie* - PACE).

The draft plan raises the importance of biodiversity and describes several measures to preserve and enhance it, such as nature-based solutions or nature restoration, as well as the synergies with other policies, like adaptation or carbon sinks. The draft plan includes also several measures related to water resilience (droughts, floods, water scarcity), even if the connection with energy security is hardly analysed.

The draft updated NECP refers to the Belgian Territorial Just Transition Plan (TJTP) that focuses on 3 districts of the Hainaut province (i.e., Tournai, Charleroi, Mons) in the Walloon Region. The main CO₂ emissions in the targeted territories relate to the production of lime, dolomite and cement, which represent no less than 50% of Walloon industrial emissions. Supported actions described in the NECP include replacing fossil fuels with renewable hydrogen and biomethane. In addition, the decarbonisation of regional industry will be supported through subsidies to invest in economic reconversion and the purchase of high-quality co-finance technology materials, as well as transforming brownfields for new developments and support for research and innovation.

The plan provides inadequate analytical basis for the preparation of the Social Climate Plan (SCP) that will address the impacts of the new emissions trading system for fuel combustion in buildings, road transport and additional sectors (ETS2) on vulnerable households, transport users and micro enterprises. The draft updated NECP presents only general information on the Social Climate Fund (SCF) and does not outline concrete measures to be included in the future SCP. The plan contains no information on the governance of the Fund, on the process to draft the SCP, on the methodology to identify potential beneficiaries, or other information useful for the effective implementation of the SCF. The plan mentions promoting innovative public initiatives for collective transport in rural areas, which could be relevant for the SCF even though no explicit link is made between the two; furthermore, measures are not planned for the identification of transport poverty, nor are reduction targets mentioned. Thus, the current draft does not explain how the SCP will build on the NECP update and how the consistency between the two plans will be ensured.

In its draft updated NECP, Belgium does not provide the quantification of the climate impacts of measures currently included in either of its **two CAP strategic plans**. The plan is consistent with the national **adaptation strategies** of the Federal State and the three regions, although the plan is less detailed.

In the draft updated NECP, Belgium addresses the 2022 and 2023 country-specific recommendations to enhance diversification and reduce their dependency on fossil fuels by taking specific actions such as shortening and simplifying permitting procedures to accelerate the deployment of renewables, and pursuing efforts on energy efficiency including on manufacturing processes and decarbonisation of industry. Moreover, the draft updated NECP includes actions to upgrade Belgium's electricity transmission and distribution infrastructure to allow a higher roll out of renewables and to focus on energy storage facilities to ensure flexibility and security of supply.

8 FINANCING THE ENERGY AND CLIMATE TRANSITIONS

8.1 Investments needs

The draft plan includes information on the expected investment needs for strategic investments until 2030. These estimates stem from a report conducted under the National Strategic Investments Pact prepared by a group of independent experts on six areas in total, including energy and mobility. However, the fields, according to which the investment needs estimates until 2030 are grouped, neither correspond to the five dimensions nor link directly to the policies and measures described in the plan. Additionally, the plan only refers to the investment need for one specific measure – the long-term renovation strategy for the Walloon building stock until 2050. Overall, the cumulative additional investments needed for the energy transition up to 2030 are estimated at EUR 60 billion, of which EUR 9 billion are estimated to be funded from public resources and EUR 51 billion from private resources. For the transport sector, investment need estimates amount to around EUR 25 billion (EUR 19 billion funded from public and EUR 6 billion from private resources). These estimates do not represent the additional investments of the WAM scenario compared to the WEM baseline as they are derived from different modelling sources. Furthermore, the plan outlines the investment need on a regional level (Wallonia/Flanders), however, it is not clear if this regional investment is required in addition to the national investment or if it simply represents a decomposition of the national investment. Investment needs on nature restoration and nature-based solutions, which are a relevant component of the plan, are not estimated.

8.2 Funding sources

The plan outlines the main sources of financing used to implement the planned key policies and measures. While Belgium indicates that mapping of funding sources at national, regional and EU level is still ongoing, there is already a lot of information provided about each of the funding source considered. For instance, the Plan reports that the European Social Fund Plus (ESF +) plans to invest in 2021-2027 over EUR 1.2 billion in Belgium, with 16% of the funding contributing to green skills development. However, this assessment is not done in a consistent way for all measures. There is also no consolidated overview at plan level. It is therefore not possible to identify potential gaps in terms of funding. The draft plan does not contain information on the sources of financing of each policy and measure, nor does it contain information on the split between the public and private part of the financing, the lifetime of the measure, or the share coming from the EU budget. An overview table gathering all the budgetary information of the different policies and measures is not provided.

The type of support schemes applied is specified only for some of the measures. Overall, the plan does not provide comprehensive evidence that funds and instruments are used in a cost-efficient way.

9 ROBUSTNESS OF THE ANALYTICAL BASIS OF THE DRAFT UPDATED NECP

The draft updated NECP only describes historical trends for a few input parameters such as population, number of households and heating degree-days, and their projections until 2040. Other indicators such as GDP, sectoral gross value-added or technology cost

developments are not reported. While the Walloon modelling exercise considers Commission recommended parameters on international fuel prices and EU ETS carbon price, it is not clear if these assumptions were also used across the different modelling exercises considered in the draft NECP update. Historical and projected key energy indicators such as final and primary energy consumption and renewable energy shares are reported in the template of the Annex I of the Governance Regulation.

The new ETS for buildings, road transport and additional sectors (ETS2) has been considered in the plan and in the projection scenarios, although it is unclear how. The Belgian NECP refers several times to an external study of the impacts of ETS2, which itself seems to take a standard price hypothesis of EUR 45. However, it remains unclear if the Belgian NECP completely endorses this work and how it has been integrated in the assessment.

The draft NECP update describes both a With Existing Measures (WEM) and With Additional Measures (WAM) scenarios with detailed projections for the relevant sectors of the economy, including industry, the energy system and transport, and covering the period until 2040. However, it is not clear which specific policies and measures are considered in the projections.

Regarding the modelling tools, the TIMES-Wallonia model is mentioned. However, the draft NECP update does not explicitly describe which tools are used for the other regions or at the federal level and how the coherence between the different modelling tools is ensured. The draft NECP update would benefit from a more comprehensive description of the tools and methodologies used and their coherence.

The impact assessment of planned policies and measures is a compilation of projections made by three governmental entities: the Flemish and Walloon regions and the Federal State, but the analyses differ in their depth. They compare projections between the WEM and WAM scenarios for various dimensions of GHG emissions, RES and energy efficiency.

The Federal government mentions that results of a study assessing the macroeconomic impact of policies and measures will be available in 2024, while the Flemish and Walloon regions' assessments regarding macroeconomic impact are mainly qualitative. Some macroeconomic transmission channels are outlined, but only in a descriptive manner, without providing quantitative details.