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Assessment of the final national energy and climate plan of Austria

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1. SUMMARY

Austria's final integrated national energy and climate plan (NECP)¹ sets a 2030 target to reduce non-ETS **greenhouse gas (GHG) emissions** by 36% compared to 2005, which is in line with the legislated national 2030 reduction targets. This target will contribute to the overall EU level target of reducing GHG emissions by 40% compared to 1990. However, the plan recognises that even in the 'with additional measures' scenario, the GHG emissions reduction will be 9 percentage points lower (27% instead of 36%), and envisages further measures to address the remaining gap. These possible further measures include an 'decarbonisation' of the tax system and/or an extension of emissions trading to new sectors.

Austria's **renewable energy** contribution to the 2030 EU renewable target is estimated at 46%–50% of gross final energy consumption in 2030. This is considered to be adequate as the lower end of the provided range is in line with the minimum share of 46% resulting from the formula in Annex II of the Governance Regulation².

For **energy efficiency** the Austrian contribution set in terms of primary energy intensity is translated into a range of 28.7-30.8 Million Tonnes of Oil Equivalent (Mtoe) for primary energy and 24.0-25.6 Mtoe for final energy consumption, which remain of low ambition³. The plan recognises the 'energy efficiency first' principle, but fails to clearly identify how energy efficiency would be prioritised. The final NECP provides elements on energy efficiency of buildings such as indicative milestones, and a description of new measures. Austria submitted its long-term renovation strategy on 27 April 2020⁴.

Regarding **energy security**, the Austrian NECP aims to reduce reliance on imported fossil fuels by pursuing the goal of reaching 100% renewable electricity by 2030. The NECP sets out measures for investment in storage and network infrastructure, which would contribute to this goal.

Regarding the **internal energy market dimension**, the NECP maintains the interconnection level by 2030 at 15%.

As part of the **research, innovation and competitiveness dimension**, Austria has ambitious national objectives and funding targets, formulated as part of their #mission2030 and innovation strategy for 2050, underlining consistent and holistic funding streams from basic research to market uptake.

The overall amount of private **investment** for 2021 to 2030 is estimated at EUR 2-2.5 billion in the framework of the energy and mobility funding programme of the Federal Ministry for transport, Innovation and Technology.

¹ The Commission publishes this country-specific assessment alongside the 2020 Report on the State of the Energy Union (COM(2020)950) pursuant to Article 13 of Regulation (EU) 2018/1999 on Governance of the Energy Union and Climate Action.

² The Commission's recommendations with regard to the Member States' renewable ambitions are based on a formula set out in this Regulation. This formula is based on objective criteria.

³ In accordance with the methodology as illustrated in the SWD(2019) 212 final.

⁴ Austria submitted the long-term renovation strategy pursuant to Article 2a of Directive 2010/31/EU on the Energy Performance of buildings on 27 April 2020. However, this assessment is only based on the building related elements provided in the final NECP.

The final plan does not provide a list of **energy subsidies**. However, Austria is continuously updating a corresponding sector-based list of incentives and support measures (for the ETS and non-ETS areas) that are deemed counterproductive to achieving energy and climate targets. This list will serve as a starting point to gradually remove measures classified as counterproductive, set to take place between 2021 and 2030. Actions that have both been undertaken and planned to phase out fossil fuel subsidies are not included in the final plan. A list of **renewable energy subsidies**, in particular tax measures that serve to make the tax system more ‘green’, has been included, although more categories have been identified in recent Commission analyses on energy subsidies.

Concerning **air quality**, the final plan suggests that measures for reducing GHG emissions also have positive impacts as regarding reducing the development of atmospheric pollutants. A related evaluation of the ‘with additional measures’ scenario drawn up for this plan is currently still pending.

The final plan considers aspects of the **just and fair transition** but provides only limited information on social, employment and skills impacts of a transition to a climate neutral economy. On **energy poverty**, Austria reports the number of households affected by it and the measures being taken to reduce it.

Whereas Austria has a national climate adaptation strategy, the final plan does not specify Austria’s adaptation goals.

There are **several examples of good practice** in Austria’s final plan, in particular setting an 2030 interim milestone towards the full decarbonisation of the energy sector by 2050. It also reflects on and incorporates a number of elements of the European Green Deal for agriculture, such as organic farming, reduced use of fertilisers and conservation of natural areas.

The following table presents an overview of Austria’s objectives, targets and contributions under the Governance Regulation⁵:

	National targets and contributions	Latest available data	2020	2030	Assessment of 2030 ambition level
	Binding target for greenhouse gas emissions reductions compared to 2005 under the Effort Sharing Regulation (ESR) (%)	11%	16%	36%	As in ESR
	National target/contribution for renewable energy: Share of energy from renewable sources in gross final consumption of energy (%)	33.4%	34%	46-50%	Adequate (46% is the result of RES formula)

⁵ Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council.

	National contribution for energy efficiency:				
	Primary energy consumption (Mtoe)	30.0	31.5	28.7-30.8	Low
	Final energy consumption (Mtoe)	25.6	25.1	24.0-25.6	Low
	Level of electricity interconnectivity (%)	15.3%	10%	15%	N.A

Sources: European Commission, Energy statistics, Energy datasheets: EU countries; European Semester by country; Austria's final national energy and climate plan.

2. FINALISATION OF THE PLAN AND CONSIDERATION OF COMMISSION RECOMMENDATIONS

Preparation and submission of the final plan

Austria notified its final national energy and climate plan to the European Commission on 20 December 2019. The draft plan was drawn up with the involvement of social partners and NGOs by way of the National Committee on Climate Change (November 2018, July 2019). In November 2019, a comprehensive **public consultation** was held prior to the finalisation of the plan. According to Austria, comments from the public and stakeholders were thoroughly analysed and taken into account where possible. However, Austria has not submitted a summary of how those views have been taken into account in the final plan. There is no indication of the NECP having undergone a strategic environmental assessment under Directive 2001/42/EC.

Consideration of Commission recommendations

In June 2019, the Commission issued 10 recommendations based on Austria's draft plan⁶. Annex II to this staff working document offers a detailed account on how the different elements of these Commission recommendations have been reflected in the final NECP. Overall, the final plan **largely addresses** most of the Commission Recommendations. The main changes introduced in the final plan are set out below.

On **greenhouse gas emissions in non-ETS sectors**, Austria **partially addressed** the recommendation to complement the measures planned and to specify its intended use of the flexibilities between the effort sharing, accounted land use, land use change and forestry (LULUCF) and emissions trading system sectors. In particular, Austria has set quantified targets for emission reductions (2030 compared to 2016) for the two key effort sharing sectors, transport and buildings. These targets are underpinned by a list of additional measures, with most details on transport. The plan considers LULUCF and agriculture in Austria including setting out policies and measures for the two sectors in a detailed and comprehensive way. Austria has indicated that it will provide a specific target to reduce emissions in these sectors at the end of 2020. The plan does not quantify in detail how the remaining gap to the 2030 target of 5.2 million tons (Mt) CO₂eq will be filled nor does it specify the intended use of the flexibilities between the effort sharing, LULUCF and ETS sectors.

⁶ Commission Recommendation of 18 June 2019 on the draft integrated national energy and climate plan of Austria covering the period 2021-2030, C/2019/4420.

On **renewables**, Austria **largely addressed** the recommendation to increase its share of renewable energy to at least 46%, to better spell out renewables trajectories and to better detail and quantify policies and measures. In particular, Austria has increased the range of the share of renewable energy in gross final consumption of energy in 2030 to 46–50%, and includes an indicative trajectory for the overall renewable energy target expressed with ranges for every reference point, meeting the required minimum renewable energy shares. Austria also provides a comprehensive overview of policies and measures. However, the plan does not set out how Austria intends to increase renewable energy in heating and cooling or in district heating and cooling by an indicative 1.3 and 1 percentage points respectively. Details on renewables in the heating and cooling and transport are lacking.

On **energy efficiency**, Austria **partially addressed** the recommendation to review and clarify its contributions towards the 2030 EU-level target by slightly lowering its primary and final energy consumption by 2030 and identifying additional policies and measures that could deliver further energy savings by 2030 in view of the need to increase the level of effort in order to reach the EU's 2030 energy efficiency target. The section on energy efficiency is relatively short and provides only cursory information on planned measures and programmes, although there is more detailed information available than in the draft plan. Timelines, clear objectives and expected impacts are lacking. The national contribution remains set as a range, which creates challenges in assessing whether it is sufficient for reaching the EU targets. Austria has yet to provide all elements required by Annex III of the Governance Regulation regarding the energy savings obligation post 2020. In this regard, Austria's notification to the Commission was limited as regards sectors to target. On buildings, the information in the plan provides a better overview of the policies and measures towards 2030. The long-term renovation strategy was submitted on 27 April 2020.

On **energy security**, Austria **has not addressed** the recommendation to set out concrete objectives on i) diversifying oil and gas and on supply from non-EU countries, ii) reducing energy import dependency and iii) improving the national energy system's resilience and flexibility. In particular, Austria has not set any new specific objectives. The NECP highlights the expected benefits of the envisaged 100% renewable share in electricity, and expects investments to strengthen the storage and capacity reserve but does not quantify these measures.

On **research, innovation and competitiveness**, Austria **largely addressed** the recommendation to further clarify national objectives and funding targets in research, innovation and competitiveness and to underpin such objectives with specific and adequate policies and measures. In particular, the plan identifies relevant areas where research and innovation measures are needed. These efforts are considered credible in relation to the achievement of the targets, because of the methods and consolidated roadmaps described in the NECP. However, no timeline, no clear quantifiable objectives and no specific description of policies and measures in a measurable way have been provided. As regards competitiveness, objectives are hardly mentioned. The cooperation with the Strategic Energy Technology (SET) Plan is well explained.

Austria **partially addressed** the recommendation to strengthen **regional cooperation**. In particular, Austria provided information on cooperation in the Pentalateral Energy Forum in the preparation of the NECP, and highlighted various areas of the Energy Union where members will cooperate. However, no further details were provided about the cooperation in the Central and South-Eastern Europe Energy Connectivity (CESEC) High-Level Group. Regional cooperation on gas trade and infrastructure is not addressed, except briefly in the context of projects of

common interest (PCIs). No reference is made to the role of cooperation in the field of renewable energies in terms of Austria reaching its renewable target.

Austria **largely addressed** the recommendation on **investment needs** and mechanisms, and the funding sources to lever these. In particular, Austria provides estimates in its NECP as regards the investment needs until 2030 by investment areas for each dimension of the Energy Union. However, the NECP lacks a general assessment of the sources of funding for the investment needed.

Austria received a recommendation to list the actions taken and its plans to **phase-out energy subsidies, in particular for fossil fuels**. This recommendation was **partially addressed**. Austria is still creating a list of subsidies and incentives that are counterproductive to climate and energy targets. Further actions and plans will be developed on the basis of this list.

Austria **partially addressed** the recommendation to complement the **analysis on air quality**. In particular, Austria provided a short qualitative assessment of the impact its planned policies will have on air pollution, in particular its renewable energy policies. However, the NECP does not elaborate further on these impacts.

Finally, Austria **partially addressed** the recommendation to better integrate **just and fair transition aspects** by providing further details on the impact of policies and measures on social and employment aspects without however addressing the skills dimension. The NECP also contains a number support instruments against **energy poverty** by the Federal Government and provinces.

Links with the European Semester

In the context of the European Semester framework for the coordination of economic policies across the EU and of the country report 2019⁷, Austria received one country-specific recommendation⁸ on climate and energy, calling on it to ‘focus investment-related economic policy on research and development, innovation, digitalisation, and sustainability, taking into account regional disparities’. In the 2020 country report⁹ adopted on 20 February 2020, the Commission found that Austria had achieved limited progress on this recommendation.

Due to the COVID-19 crisis, the European Semester country-specific recommendations for 2020 addressed Member States’ responses to the pandemic and made recommendations to foster economic recovery. In particular, they focused on the need to front-load mature public investment projects as soon as possible and promote private investment, including through relevant reforms, notably in the digital and green sectors. In this context, Austria received a country-specific recommendation¹⁰ stressing the importance of focusing investment on ‘the green and digital transition, in particular on innovation, sustainable transport, clean and efficient production and use of energy’.

The Governance Regulation requires Member States to ensure that their national energy and climate plans take into consideration the latest country-specific recommendations issued in the context of the European Semester. In turn, Austria’s national energy and climate plan has the potential to support the implementation of the European Semester recommendations, as it identifies the necessary investment needs and financial sources to meet them.

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

Decarbonisation

Greenhouse gas emissions and removals

Austria’s binding 2030 **non-ETS greenhouse gas (GHG) emission target** is -36% compared to 2005¹¹, which corresponds to a reduction of around 30% as compared to 2017. Austria aims at achieving this target domestically. Austria’s 2050 objective as stated in the NECP is to fully decarbonise the energy sector, referring for further long term considerations as regards its long-term decarbonisation strategy.

⁷ The Annex D to the 2019 Country report also sets out priority investments for the 2021-2027 cohesion policy, substantially contributing to the clean energy transition.

⁸ Recommendation for a Council Recommendation on the 2019 National Reform Programme of Austria and delivering a Council opinion on the 2019 Stability Programme of Austria, COM(2019) 520 final.

⁹ Commission staff working document Country Report Austria 2020, SWD/2020/519 final.

¹⁰ Recommendation for a Council Recommendation on the 2020 National Reform Programme of Austria and delivering a Council opinion on the 2020 Stability Programme of Austria, COM(2020) 512 final.

¹¹ Regulation (EU) 2018/842 of the European Parliament and of the Council of 30 May 2018 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No 525/2013.

With existing measures, the NECP projects that emissions in effort sharing sectors will fall by 16%, missing the 2030 target within effort sharing sectors by 20 percentage points. With the measures contained in the plan, this gap in 2030 would reduce to 9 percentage points, or 5.2 Mt CO₂eq. In general, the NECP assumes that the gap of 5.2 Mt CO₂eq until 2030 could be filled by a reduction of 2 Mt CO₂eq due to a phase-out of fossil-fuel subsidies and other counterproductive incentives, and by a further reduction of 3.2 Mt CO₂eq through an extension of the ETS to other sectors and/or a tax reform. The recently formed Austrian government, sworn in January 2020, recognised the need to update the NECP, also in the light of its new climate neutrality target for 2040 and the envisaged measures in the coalition pact.

The plan provides a graphical estimate for annual emission allocations 2021-30 but does not provide the projected cumulative gap for effort sharing sectors. It also does not provide information on the use of the flexibility mechanism between the ETS and effort sharing sectors included in the Effort Sharing Regulation. Austria requested at the end of 2019 its full use (2% of 2005 emissions per year) in order to meet its non-ETS target.

Austria refers to the need to achieve the national LULUCF commitment under the LULUCF Regulation¹² but does not indicate whether it expects to generate LULUCF credits (i.e. accounted removals in excess of accounted emissions) and use them to achieve the effort sharing target (potentially up to 2.5 Mt over 10 years).

Austria has a target for emission reductions in the **transport** sector (by 7.2 Mt CO₂eq by 2030 compared to 2016, corresponding to 7.9 Mt compared to 2017) and has a clear objective to shift the focus for new vehicle registrations towards zero-emission cars and light goods vehicles by 2030. The plan identifies a broad range of regulatory, planning and fiscal measures in this sector including i) a focus on electrification of vehicles, ii) enhanced mobility management by the public and private sector, and iii) a shift from road to rail for freight transport by 2030. However, there are no estimated reductions from the individual measures identified. **Electromobility** and the charging infrastructure that underpins it, supported by a package of federal measures such as specific fleet conversion targets, various fiscal measures, support infrastructure and projects for electric mobility management, is recognised as being particularly important.

Austria also has a quantitative target for further emission reductions in the **building** sector (3 Mt CO₂eq between 2016 and 2030). The plan lists the focus areas for planned additional measures, which are the subject of discussion between the government and the provinces, with the aim being the development of a joint heat strategy at federal and provincial levels in 2020.

For other sectors there are no quantified targets. The plan includes contributions and some possible measures in the area of **sustainable consumption**, in the **fluorinated gas** sector (EU level policies) and in the **waste** sector.

The plan includes comprehensive policies and measures for **LULUCF and agriculture**, acknowledging the importance of their contribution to decarbonisation, and referring to the rural development plan under the common agricultural policy as the main policy instrument. A specific sectoral reduction target for agricultural emissions will be defined at the end of 2020. The plan refers to the need to strongly align the common agricultural policy with climate and environment targets. For forestry, the plan mentions the aim to raise total timber production in a sustainable

¹² Regulation (EU) 2018/841 of the European Parliament and of the Council of 30 May 2018 on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry in the 2030 climate and energy framework, and amending Regulation (EU) No 525/2013 and Decision No 529/2013/EU.

way. It is intended that the measures be implemented in synergy with the recommendations of the national adaptation strategy.

The plan recognises that Austria is vulnerable to climate change and that climate resilience is important in order to achieve mitigation objectives, but it does not describe the country's adaptation goals and policies.

Austria notified its long-term strategy to the Commission on 27 December 2019. Austria has recently brought forward to 2040 its objective of climate neutrality, which was initially set to '2050 at the latest' in the long-term strategy. This objective covers all sectors of the economy, including national and international aviation, and the natural sinks will compensate for the remaining emissions that are the most difficult to abate. The long-term strategy addresses most of the elements required by Article 15 of the Governance Regulation, some of them only partially.

Renewable energy

The national contribution to the 2030 EU renewable energy target is specified in the plan and the **renewable share** is set at 46–50% in gross final consumption of energy in 2030. This is adequate if the lower range is considered as the national contribution. The indicative trajectory reaches all reference points¹³. The NECP includes a long list of renewable policies and measures without describing in much detail individual policies. Some new quantifications are included compared to the draft plan, e.g. on the amendment of the Green Electricity act [Ökostromgesetz-Novelle], but in general there is little quantified information.

The focus of the renewable energy dimension is on the **electricity** sector, where Austria aims to use domestic renewable energy sources to cover a large share of its electricity consumption. Excluding the electricity needed for certain activities, such as balancing and stabilising grid operations, and electricity generated privately in the goods production sector, Austria aims to reach a target of 100% renewable electricity. The main additional contribution in the electricity sector will come from wind and photovoltaic sources. These policies and measures are considered credible in relation to achieving the target, because Austria already produces over 72% of its electricity from renewables sources. It is estimated that another 27 TWh of renewable energy would be needed to achieve the goal of 100% renewable electricity. This should be facilitated by the amendment of the Renewables Deployment act [Erneuerbaren-Ausbau-Gesetz], which is currently in the parliamentary process. Its entry into force is planned for 2021.

For **heating and cooling**, the NECP provides information on the contribution of renewables consumed in that sector to the overall share of renewable energy. However, the plan does not specifically set out how Austria intends to increase renewable energy in heating and cooling and in district heating and cooling until 2030 by an indicative 1.3 and 1 percentage points respectively. Without further specifics, the plan envisages that regulation and financial incentives will be used to phase out fossil fuels and replace them with renewable energy sources. Through market incentives, Austria intends to expand agricultural and forestry bioenergy production. Austria also intends to replace a significant proportion of natural gas with renewable methane both from biological and non-biological origins. Details will be set out in a national heating strategy. While the plan includes trajectories for using certain types of biomass, including consumption in the electricity sector, it does not include all relevant information, i.e. it fails to distinguish between all relevant types of biomass or the sectors that consume biomass.

¹³ Pursuant to Article 4(a)(2) of Regulation 2018/1999.

Finally, the NECP includes principles for promoting renewable energy communities and energy self-consumption in line with the provisions of Regulation (EU) 2018/1999 as well as references to existing laws.

When the **transport** target was set out in the final plan, as requested under Articles 25-27 of Directive (EU) 2018/2001¹⁴, Austria did not provide a detailed listing of the contribution of different types of biofuels pursuant to the accounting rules. The main additional contributions to achieve the minimum target of 14% renewables in transport in 2030 will come from increased e-mobility. Austria will maintain the use of biodiesel, increase the use of bioethanol and include a share of advanced biofuels. For the key policies and measures used to achieve the 46-50% renewables share, the plan puts forward specific targets for road transport electrification and biofuels, as well as for increasing rail transport. These policies and measures are considered credible in relation to the achievement of the target, because the plan includes a comprehensive overview of relevant initiatives, covering the road and rail sectors in-depth.

The section on **policies and measures** on renewables provides a comprehensive overview of policies that are already in place or are being prepared. While not quantifying the impact of individual policies, the plan describes ongoing or planned revisions of the relevant legislation. These include policies and measures like the removal of the tax on self-consumed electricity and other financial incentives as well as schemes to speed up uptake wind and solar energy and bioenergy.

Energy efficiency

Austria aims to improve its contribution in terms of primary energy intensity by 25-30% compared to 2015. The NECP translates the national contribution into primary and final energy consumption in 2030, also based on the two scenarios as set out in the draft plan (25% and 30% saving). Those ranges for contributions are below the scenario with additional measures, meaning that they are not supported by policies at this stage.

The plan provides descriptive information on **policies and measures** beyond 2020 mainly targeting the transport and building sectors. Given the missing quantifications, the impact of the policies and measures cannot be assessed as regards achieving the target. The sources for the scenarios are mentioned (Umwelbundesamt 2018 and 2019), but no further reference is given. Austria intends to submit further indications regarding policies and measures in 2020.

The NECP provides the amount of the required cumulative end-use energy savings to be achieved by 31 December 2030 – 11.878 ktoe (a slight revision upwards from the draft plan). However, the plan does not provide information required in Annex III of the Governance Regulation. It remains unclear which policy measures will be used to achieve the specified energy savings. A methodology for the operation of policy measures has not been notified to the Commission, i.e. expected energy savings are not indicated, assessments of additionality, materiality and interaction of policy measures are missing. The NECP provides only the ‘main areas’ to be targeted through the implementation of Article 7 of the Energy Efficiency Directive.

As regards **energy efficiency in buildings**, Austria has provided further information in its NECP including policies and measures. The plan specifies that a new energy saving target for 2021 to 2030 was set for federal government buildings, i.e. buildings owned and used by the federal

¹⁴ Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources.

government, in the amount of 84.7 GWh based on the currently available building data. Austria also delivered on some of the mandatory elements of the EU's **long-term renovation strategy**, such as a description of indicative milestones for 2030, 2040, 2050 and wider benefits. The plan contains indicative milestones in terms of primary energy intensity as well as the energy from renewable sources that will be needed in case there is an excess of primary energy intensity. However, the plan does not differentiate between different types of buildings. It mentions that further measures and policies will be determined in its long-term renovation strategy¹⁵.

The NECP contains a range of measures on energy efficiency of transport, including support to i) multimodality, ii) rail transport and iii) road transport electrification. The description of the role and relevance of intelligent transport management, digitalisation and automation for the energy efficiency of transport, and estimates of the contribution of measures to overall transport decarbonisation are not very developed.

Energy security

According to the Austrian NECP, the ongoing transformation of the energy system, with an objective of **100% renewable electricity** by 2030, is deemed as effective in reducing Austria's reliance on imported fossil fuels.

As regards electricity, the plan contains insufficient information on generation adequacy and cross-zonal capacity.

As regards **oil and gas**, Austria's import dependency remains high at over 90% and over 80%, respectively. According to the Austrian NECP, the objective of a fully renewable electricity supply by 2030 would help reduce this reliance on fossil fuel imports. As regards **diversifying sources and routes**, the plan mentions the PCI gas interconnection with Slovenia and the future role of renewable gases (biomethane, hydrogen) but does not indicate concrete objectives.

The plan envisages further investment in **storage** and network infrastructure. In particular, storage facilities should be exempted from end-use charges and benefit from support for green electricity. The plan also mentions the use of battery storage and geothermal energy as possible technologies to improve security of energy supply.

When considering risks, the plan does not take into account the **plans of the other connected Member States**. It also does not take account of cybersecurity in the energy sector.

The planned policies and measures are lacking specific objectives. Information on how these policies and measures are expected to contribute to energy security, notably the reduction of import dependency, remains vague. The plan mentions the **emergency plans** for gas, electricity and oil, provided for by the applicable sectorial rules.

Internal energy market

In its plan, Austria sets an **interconnectivity level** of 15.3% for 2030, which it already achieved in 2017 and which is above the EU-level target of 15%. Having met this interconnectivity target, Austria is not obliged to outline plans to exceed it.

The NECP is lacking an overview of the development of the different sources of **flexibility** necessary to integrate the rising share of renewable energy into the electricity system.

¹⁵ Austria submitted its long-term renovation strategy pursuant to Article 2a of Directive 2010/31/EU on the Energy Performance of buildings on 27 April 2020.

Regarding gas infrastructure, the plan stresses that Austria holds a key position in the European gas grid and is a major gas transit country. The Baumgarten gas transfer facility in Lower Austria is one of the most important gas hubs in Europe. Therefore, Austria is particularly affected by capacity expansion projects planned or implemented in the surrounding region.

The plan provides an insufficient overview of current **market conditions** for gas and electricity, in particular regarding levels of competition and liquidity of markets. However, it includes a number of policy objectives related to the internal energy market such as ensuring system stability, fair distribution of infrastructure costs, correct price signals, and strengthening the way the market functions.

Likewise, on electricity and gas wholesale markets, the measures (such as integrated network planning between gas and electricity, facilitating the permitting procedure for power lines) are not concrete enough and the plan lacks information on how they are expected to help achieve the policy objectives of simplifying authorisation procedures, improving flexibility and integrating renewable energy sources. Congestion management in Central Europe needs a solution at regional level that facilitates cross-border electricity flows, while ensuring system security.

Regarding **energy poverty**, Austria reported the percentage of households affected. The plan contains a number of support instruments put forward by the federal government and the provinces to alleviate energy poverty. These include, in particular, minimum income instruments, housing subsidies (subject support) and building support that is granted for housing construction and renovation works. However, information on their expected impacts is lacking.

Research, innovation and competitiveness

Austria has ambitious national objectives and funding targets, specifically on energy-related research and innovation (R&I), formulated as part of its ‘#mission2030’ and 2050 energy research and innovation strategy covering the entire field of energy transition and adjacent fields. The NECP expects public spending in energy research initiatives to leverage around EUR 2 to 2.5 billion of private investment in energy and mobility innovation in Austria by 2030. This is expected to be provided under the energy and mobility funding programme of the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology to realise goals such as an energy system based 100% on renewables. The measures described partly include activities corresponding to EU-level measures such as positive energy districts. These measures also make up part of the activities specified under the SET plan.

The NECP notably considers renewable hydrogen as a key technology for sector integration and coupling. The plan sets a concrete target for renewable electricity-based hydrogen consumption of 1.1 TWh (4 PJ) in 2030, having already provided detailed sub targets. New regulatory and financial measures are announced. Austria plans to include hydrogen in the legal framework for renewable gases and to exempt renewable gases from taxation.

As regards **competitiveness**, Austria believes it has huge potential to build on past innovation success to develop and implement innovative technologies and solutions. The policies and measures in the final plan describe the priority actions of the energy research plan, spelling out Austria’s energy research and innovation strategy. The NECP also contains measures to increase the competitiveness of rail and inland shipping, the vehicle industry and aviation sector, as well as energy efficiency measures to increase competitiveness of small and medium-sized businesses. Austria is also participating in building European value chains through the 'Important Project of European Interest' on batteries and hydrogen. In its analysis, the plan includes links to national technology roadmaps, describing the status and market development scenarios for each

technology. Regarding patents and private R&I investment in low carbon technologies, no concrete figures or targets are provided. The plan gives quantitative information on researchers in various energy sectors, in terms of full time equivalents.

Austria is focusing on the 2050 energy research and innovation strategy as part of the vision to become a global innovation leader in the energy transition. Its long-term R&I strategy emphasises an integrated and systematic approach, in which innovation systems are interlinked and developed in close partnership with the industry.

Connections with the SET Plan are well explained. The final plan provides a good overview of the respective responsibilities in implementing the SET Plan, although Austria does not mention that it participates in two temporary working groups of the SET Plan – one on batteries and the other on renewable fuels and bioenergy. Austria provides funding to the implementation plan on energy system in the context of the transnational joint programming platform on smart energy systems (ERA-Net). There is no reference to how this helps Austria achieve its national energy and climate goals, but the NECP states that it helps the federal government to implement its climate and energy strategy.

Overall, the plan identifies relevant areas where R&I efforts are needed. These efforts are considered credible in relation to the achievement of the targets, because of the methods and consolidated roadmaps described in the plan. However support measures are not described in a measurable way, timelines are not provided and concrete figures on funding or investment plans are lacking, making it difficult to establish how they help Austria achieve its policy objectives.

4. COHERENCE, POLICY INTERACTIONS AND INVESTMENTS

The final plan discusses the **interlinkages** on a very general level between energy efficiency (absolute energy consumption) and the required renewable production to achieve the minimum share. No other interlinkages have been assessed. The final plan does not explore the synergies between many policies in the decarbonisation (GHG and renewable energy) and energy efficiency dimensions. The research and innovation dimension is consistent regarding its descriptive links to the other dimensions, namely with the energy and climate targets, but remains vague since the plan provides no concrete figures apart from the above-mentioned budget figures.

The plan estimates the **investment needs** until 2030 by investment areas (between EUR 166.449 and 173.449 billion), mainly allocated to i) the transport sector (EUR 97.183 billion), followed by ii) the energy system (EUR 31.547–38.547 billion), iii) heating and cooling (29.728 EUR billion) and iv) innovation, research and development (EUR 6.971 billion). For LULUCF, F-gases and the waste sector, a comparatively small amount of EUR 1 billion is provided. It also provides details for each dimension of the Energy Union, including horizontal measures like the climate protection initiative ‘klimaaktiv’.

In general, Austrian public funding programmes (federal, provincial, communal), the EU, private investments are the financing sources mentioned in the plan for many of the outlined measures, without any estimated amount for each source. The NECP only specifies for each investment area whether investment needs are expected to be covered by public (national or EU) and/or private finance sources, without any estimated amount for each source.

With regard to **transport**, the NECP sets the objective of shifting new registrations to zero-emission cars and light goods vehicles by 2030. For lorries and buses, specific incentives are planned to help significantly increase the number of zero-emissions vehicles by 2040. Measures

exist to support the performance of the rail network, including increasing rail electrification to 85% by 2030 and replacing diesel shuttles by electric vehicles by 2025.

The plan identifies the incentives and **subsidies** classified as counterproductive to energy and climate targets that are expected to be gradually removed by 2030 if there are no counter-arguments (particularly in relation to location). The plan does not elaborate further on counter-arguments and their impact on the planned phase-out. Austria is currently drawing up the list of ‘counterproductive incentives and support measures’. The NECP divides counterproductive incentives and subsidies into the following four categories: (i) direct subsidies (targeted subsidies and loans); (ii) indirect subsidies and other tax incentives; (iii) unused sureties/guarantees; and (iv) targeted benefits in the scope of state regulation and other regulatory incentives, the effects of which counteract compliance with climate and energy targets that are binding under international and EU law and result in increased GHGs, a reduced share of renewable energy, and reduced energy efficiency.

The NECP provides a good summary of the **macroeconomic impact** of the planned policies and measures. However, there is limited information on the methodology applied, which makes it difficult to provide an overall assessment of the macroeconomic analysis provided.

Regarding aspects of the **just and fair transition**, the does not address issues such as the social, employment and skills impacts of a transition to a climate neutral economy.

Climate change impacts are not mentioned as risks for energy security (e.g. availability of hydro power), although the country’s national adaptation plan includes such measures for the energy sector.

The climate risks would need to be specifically identified for the energy sector and followed by concrete policies and measures. Energy efficiency measures need to be mindful of adaptation co-benefits and trade-offs under future climate conditions.

With regard to **air quality and air emissions policy** the final NECP only provides a short qualitative assessment of the envisaged impact its planned policies will have on air pollution, suggesting an overall positive impact whereby full decarbonisation of the electricity consumption is reached. However, the analysis of the specific impacts of the ‘with additional measures’ scenario is not provided, nor is there any information on the methodology used, possible synergies, and trade-offs. The plan refers to the national air pollution control programme but does not refer to its assessment by the Commission.

The **circular economy** and its potential for GHG emissions reduction are briefly mentioned, without being given more comprehensive consideration. Further efforts would also be welcome in future NECPs reviews, in line with the most recent scientific evidence.

The plan has not estimated the trajectories on **bioenergy demand and on biomass supply** by feedstocks and origin. Also, it has not provided an assessment of sources of forest biomass and its impact on the LULUCF sink. Austria indicates that it has improved in mobilising biomass, and its use of wood residues and damaged wood for producing renewable energy without putting strain on natural sinks, biodiversity or food supply. The interdependence between climate change and **biodiversity** is hardly assessed, including for example the interactions of policies with carbon sinks and biodiversity, especially when referring to the increased use of bioenergy and afforestation measures. The report relies on “sustainable forests management”, which would require a sufficiently detailed definition providing useful operational guidance.

The application of the ‘**energy efficiency first**’ principle is an important element that Austria partially took into account. Regarding the internal energy market dimension, alternative energy efficiency measures appear to be prioritised, but it remains unclear what they will cover. In the energy security dimension priority appears to be given to the measure promoting renewable energies while alternative energy efficiency measures targeting the demand do not appear to be considered sufficiently. Austria also does not fully consider the ‘energy efficiency first’ principle in the budget and investment need to be planned.

The plan fully complies with **data transparency** requirements but only partially with the recommended use of European statistics.

5. GUIDANCE ON THE IMPLEMENTATION OF THE NATIONAL ENERGY AND CLIMATE PLAN AND THE LINK TO THE RECOVERY FROM THE COVID-19 CRISIS

Austria needs to swiftly proceed with implementing its final integrated national energy and climate plan as notified to the Commission on 20 December 2019. This section provides some guidance to Austria for the implementation phase.

This section also addresses the link between the final plan and the recovery efforts from after the COVID-19 crisis, by pointing at possible priority climate and energy policy measures Austria could consider when developing its national recovery and resilience plan in the context of the Recovery and Resilience Facility¹⁶.

Guidance on the implementation of the national energy and climate plan

The NECP sets a 2030 target for non-ETS **greenhouse gas** emission reductions of -36% compared to 2005, in line with the Effort Sharing Regulation. However, the plan recognises that even in the ‘with additional measures’ scenario, the GHG emissions reduction will be 9 percentage points lower (27% instead of 36%), and envisages further measures to address the remaining gap. These possible further measures include a ‘decarbonisation’ of the tax system and/or extending emissions trading to new sectors.

Austria's contribution to the EU 2030 renewables target is adequate according to Annex II of the Governance Regulation, whereas Austria's ambition as regards its contribution to the 2030 energy efficiency target is assessed as being low and not fully supported with the proposed policies. Austria's plan therefore leaves still scope to further develop and strengthen policies and measures on both renewables and energy efficiency so as to contribute more to the EU climate and energy targets and boost the green transition.

On **renewables**, Austria committed to achieving a share of 46%-50% renewable energy in gross energy consumption as well as a share of 100% renewable electricity. This will require the swift implementation of adequate policy measures including by amending the Renewables Deployment Act and increasing the generation of electricity from renewable capacities. Achieving the

¹⁶ On 17 September 2020, the Commission has put forward the Annual Sustainable Growth Strategy 2021 (COM(2020) 575 final), as well as guidance intended to help Member States prepare and present their recovery and resilience plans in a coherent way, without prejudice to the negotiations on the proposal for a Regulation on the Recovery and Resilience Facility in the European Parliament and the Council (Commission Staff Working Document. Guidance to Member States – Recovery and resilience plans, SWD (2020) 205 final).

contribution will also require a substantial increase of renewable energy in the heating and cooling and transport sector. To this end, it is important to finalise and implement the announced heating strategy and to promote e-mobility and the use of renewable and low carbon fuels.

On **energy efficiency**, Austria would benefit from adopting and implementing additional policies and measures that would deliver additional energy savings by 2030. Proper implementation of Article 7 of the Energy Efficiency Directive requires planned measures to be properly identified, and their effects and contribution to the energy efficiency targets to be assessed and quantified. In addition, following up on the NECP's recognition of the 'energy efficiency first' principle, it is necessary to ensure the principle is applied in practice.

Improving energy efficiency in buildings has great potential for speeding up energy savings and contributing to the recovery of the economy after the COVID-19 pandemic. Building on the momentum of the **Renovation Wave** initiative¹⁷, there is scope for Austria to intensify efforts to improve the energy performance of the existing building stock with specific measures, targets and actions, while giving due attention to energy poverty. Further support for the renovation of public and private buildings could be provided through increased public funding and by leveraging EU and national budgets with private money, combining grants, lending, guarantees and loan subsidies. Austria would need to underpin the substantial energy saving potential of the existing building stock by implementing the long-term renovation strategy, in accordance with Article 2a of the Energy Performance of Buildings Directive.¹⁸

As regards **energy poverty**, Austria is encouraged to consult the Commission Recommendation of 14 October 2020 on energy poverty and its accompanying staff working document providing guidance on the definition and quantification of the number of households in energy poverty and on the EU-level support available to Member States' energy poverty policies and measures. Energy poverty could be, among other measures, addressed through specific support to socially innovative solutions and social enterprises that work on addressing this challenge (e.g. energy-awareness campaigns, retraining unemployed as energy advisors, supporting green installations by co-operatives, buying energy-saving appliances for social enterprises to rent out).

With regard to **energy security**, Austria is invited to set out concrete objectives on diversifying oil and gas and on supply from non-EU countries as well as on reducing energy import dependency. Austria is encouraged to consider developing further measures to maintain gas infrastructure and expand electricity infrastructure to enable the integration of smart sectors. The intended increase in the share of renewable energy sources will require a higher degree of resilience and flexibility for the national energy system. The swift completion of the pending internal system reinforcement projects is crucial in this regard. Austria is also encouraged to improve its analysis on generation adequacy.

Regarding the **internal energy market** dimension of its plan, Austria is invited to set out concrete objectives and develop corresponding measures for improving the resilience and flexibility of the national energy system to underpin the fully renewable electricity supply envisaged for 2030. Austria is also encouraged to improve its analysis of current market conditions for gas and electricity, in particular regarding levels of competition and liquidity of markets.

¹⁷ Communication 'A Renovation Wave for Europe – greening our buildings, creating jobs, improving lives', COM(2020)662 and SWD(2020)550.

¹⁸ Austria submitted the long-term renovation strategy in accordance with Article 2a of Directive 2010/31/EU on the Energy Performance of buildings on 27.04.2020.

Austria's plan forcefully links the **research, innovation and competitiveness** priorities both in terms of the different time periods for 2030 and 2050 and with activities at European and international level. In order to quickly and effectively fulfil those priorities concrete investment and action plans with clear timelines, budget allocations and a number of key performance indicators would nevertheless help defining the way forward.

Although the plan contains an estimate of **investment needs**, Austria is invited to provide, in a more systematic way, information about the current level of and need for public finance and resources at both national and EU level. The plan would further benefit from an additional specification of the sources of the investment needs.

On **regional cooperation**, Austria has been rather proactive, notably in the context of the Pentalateral cooperation. Austria is invited to continue ongoing efforts with a view to intensifying exchanges and initiatives facilitating the implementation of its national energy and climate plan, in particular as regards relevant cross-border issues. Austria is also invited to better exploit the potential of the **multilevel climate and energy dialogues** to actively engage with regional and local authorities, social partners, civil society organisations, business community, investors and other relevant stakeholders and to discuss with them the different scenarios envisaged for its energy and climate policies.

Austria is invited to prepare a more complete and updated inventory on **energy subsidies**, and to intensify actions to phase them out, in particular for fossil fuels. A rapid phase out of the fossil fuel subsidies through concrete measures and associated timelines (coupled with measures to mitigate the risk of households' energy poverty), would further boost the green transition.

For all investments implementing the national energy and climate plan, Austria is invited to ensure these are in line with national, regional or local plans for **air pollution reduction**, such as the National Air Pollution Control Programme (NAPCP), and relevant air quality management plans.

In implementing its plan, Austria is invited to make the **best possible use of the various funding sources available**, combining scaled-up public financing at all levels (national and local, as well as EU funding) and leveraging and crowding in private financing. Tables 1 and 2 of Annex I provide an overview of EU funding sources which should be available to Austria during the forthcoming multiannual financing period (2021-2027), and EU funding addressed to all Member States and companies. For the forthcoming period, the European Council has committed to the mainstreaming of climate action into all EU programmes and instruments and to an overall target of at least 30% of EU funding to support climate objectives. At the same time, EU expenditure should be consistent with the Paris Agreement and the 'do no harm' principle of the European Green Deal. At the EU level, funding will be available for Austria from the Innovation Fund, and will also be based on revenues from the auctioning of allowances under the EU emissions trading system.

Link to the recovery from the COVID-19 crisis

The vast majority of Member States' final national energy and climate plans were drafted before the COVID-19 crisis, and the present Staff Working Document assesses Austria's plan in that context. Nevertheless, the implementation of Austria's final integrated national energy and climate plan will need to fully take into account the context of the post-COVID-19 recovery.

In the context of the Recovery and Resilience Facility, which is expected to be operational on 1 January 2021, **the final plan constitutes a strong basis for Austria to design climate and**

energy-related aspects of its national recovery and resilience plan, and to deliver on broader European Green Deal objectives.

In particular, **mature investment projects outlined in the plan, as well as key enabling reforms that address inter alia, investment-barriers, would need to be frontloaded as much as possible**. The link between investments and reforms is of particular relevance for the national recovery and resilience plans, to ensure a recovery in the short to medium term and strengthening resilience in the longer term. In particular, Member States' recovery and resilience plans should effectively address the policy challenges set out in the country-specific recommendations adopted by the Council.

In addition, **the Commission strongly encourages Member States to include in their recovery and resilience plans investment and reforms in a number of 'flagship' areas**¹⁹. In particular, the 'Power up', 'Renovate' and 'Recharge and refuel' flagships are directly related to energy and climate action and to the contents of the final national energy and climate plans. Measures under the 'Reskill and upskill' flagship are also essential to foster the climate and energy transition in all Member States.

In turn, the Recovery and Resilience Facility will provide opportunities to accelerate Austria's green transition while contributing to economic recovery. In order to follow the commitment of the European Council to achieve a climate mainstreaming target of 30% for both the multiannual framework and Next Generation EU, Austria's recovery and resilience plan will have to include a minimum of 37% expenditure related to climate. Reforms and investments should effectively address the policy challenges set out in the country-specific recommendations of the European Semester, and will have to respect the principle of 'do no harm'.

Based on Austria's final national energy and climate plan, and on the investment and reform priorities identified for Austria in the European Semester, **the Commission services invite Austria to consider, while developing its national recovery and resilience plan, the following climate and energy-related investment and reform measures:**

- Measures to significantly reduce greenhouse gas emissions in view of Austria's shift to climate neutrality, including reforms of energy and transport taxation, and measures to promote sustainable mobility, including e-vehicles;
- Measures to develop renewable energy sources, including the generation of renewable methane from biomass and renewable hydrogen, and upgrading the energy infrastructure;
- Measures to increase energy efficiency in buildings, in particular through large-scale renovations and investments.

The above mentioned measures are indicative in nature and not meant to be exhaustive. They aim to orient reflections in the development of the national recovery and resilience plan. They do not prejudge the position of the Commission on the actions to be proposed. This position will, inter alia, need to comply with the agreed legislative text on the Recovery and Resilience Facility.

¹⁹ Cf. Annual Sustainable Growth Strategy 2021 (COM(2020) 575 final), pp. 9-12.

ANNEX I: POTENTIAL FUNDING FROM EU SOURCES TO AUSTRIA, 2021-2027

Table 1: EU funds available, 2021-2027: commitments, EUR billion

Programme	Amount	Comments
Cohesion policy funds (ERDF, ESF+, Cohesion Fund)	1.1	In current prices. Includes funding for European territorial cooperation (ETC). Does not include amounts transferred to the Connecting Europe Facility.
Common agricultural policy – European Agricultural Fund for Rural Development, and direct payments from the European Agricultural Guarantee Fund.	8.5	In current prices.
Recovery and Resilience Facility	3.0	In 2018 prices. Indicative grants envelope, sum of 2021-2022 and estimated 2023 commitments. Based on the Commission's summer 2020 GDP forecasts.
Just Transition Fund	0.1	In 2018 prices. Commitments both under the multi-annual financial framework (MFF) and Next Generation EU.
ETS auction revenue	0.2	Indicative: average of actual 2018 and 2019 auction revenues. The amounts in 2021 to 2027 will depend on the quantity and price of auctioned allowances.

Table 2: EU funds available to all Member States, 2021-2027, EUR billion

Programme	Amount	Comments
Horizon Europe	91.0	In current prices. Includes Next Generation EU credits.
InvestEU	9.1	In current prices. Commitments both under the multi-annual financial framework (MFF) and Next Generation EU. Includes the InvestEU fund (budgetary guarantee to public and private investment) and the advisory hub (technical advice). Does not consider appropriations available to beneficiaries through implementing partners, such as the European Investment Bank.
Connecting Europe Facility <ul style="list-style-type: none"> • Transport • Energy 	24.1 5.8	In current prices. The commitment for transport includes the contribution transferred from the Cohesion Fund. Excludes Connecting Europe Facility Military Mobility funding for dual use infrastructure.
Recovery and Resilience Facility	360.0	In 2018 prices. Non-allocated commitments for loans. Loans for each Member State will not exceed 6.8% of its gross national income.
Technical Support Instrument	0.9	In current prices.
Programme for Environment and Climate Action (LIFE)	5.4	In current prices.
European Agricultural Fund for Rural Development	8.2	In current prices. Commitments under Next Generation EU.
Innovation Fund	140.0	Approximation: 7/10 of the allocations of ETS allowances to provide revenue to the Innovation Fund for 2021-2030 and assuming a carbon price of EUR 20 per tonne.

Note to both tables

The figures provided by programmes under the EU budget include both the proposals under the forthcoming multiannual financial framework, and the reinforcement of these under the Next Generation EU instrument outside the EU budget.

The figures quoted in this document are based on the conclusions of the European Council of 17-21 July 2020. They however do not prejudge the outcome of the ongoing discussions between the European Parliament and the Council on the elements of the recovery package, such as the Multiannual Financial Framework, the sectoral programmes, their structure and budgetary envelopes, which will be concluded in accordance with their respective adoption procedure.

For most of the above funds, support to the climate and energy transition is one objective among others. However, for the forthcoming period, the European Council has committed to the mainstreaming of climate action into all EU programmes and instruments and to an overall target of at least 30% of EU funding to support climate objectives. EU expenditure should also be consistent with the Paris Agreement and the ‘do no harm’ principle of the European Green Deal.

Some of the programmes listed in Table 2 provide funding through open calls to companies, not public administrations.

ANNEX II – DETAILED ASSESSMENT OF HOW COMMISSION RECOMMENDATIONS HAVE BEEN ADDRESSED

Recommendations		Assessment	
Decarbonisation – GHG	<p>Complement the measures planned in the building and transport sectors in order to achieve the 2030 greenhouse gas target of -36 % compared to 2005 for sectors not covered by the EU emissions trading system with measures notably in the agriculture and land use, land use change and forestry (LULUCF) sectors.</p> <p>Specify the intended use of flexibilities between the effort sharing, accounted LULUCF and emissions trading system sectors.</p>	Partially addressed	Comprehensive measures on agriculture and LULUCF have been added. However, Austria has still not made clear how it will reach its 2030 GHG target for emissions outside the ETS as a gap of 9 percentage point remains with the planned measures.
Decarbonisation – renewables	Put forward a share of renewable energy of at least 46 % as contribution to the Union's renewable energy target for 2030, as indicated by the formula in Annex II of Regulation (EU) 2018/1999, while maintaining the ambitious renewable electricity target.	Not addressed	The intended use of the flexibilities between the effort sharing, accounted LULUCF and emissions trading system sectors has not been specified in the NECP.
	Include an indicative trajectory in the final integrated national energy and climate plan that reaches all the reference points pursuant to Article 4(a)(2) of Regulation (EU) 2018/1999 in accordance with that share, in view of the need to increase the level of efforts for reaching this target collectively.	Fully addressed	Austria has provided the trajectories and improved renewables (RES) target.
	Indicate detailed and quantified policies and measures that are in line with the obligations laid down in Directive (EU) 2018/2001 of the European Parliament and Council and enabling a timely and cost-effective achievement of this contribution.	Fully addressed	Included.
	Furthermore, put forward trajectories and corresponding measures in the heating, cooling and transport sectors to meet the indicative target pursuant to Article 23 of Directive (EU)	Partially addressed	Austria provides a long section on RES policies as before. However, individual policies are often not clearly described and the text is a mixture of planned policies and measures. The final plan includes a description of existing policies and expressions of intent.
		Partially addressed	An indicative trajectory by sector is provided. The plan is in line with indicative 1.3 and 1 percentage points as an annual average calculated for the periods of 2021 to 2025 and 2026 to 2030

	<p>2018/2001 and the transport target pursuant to Article 25 of the same Directive.</p>		<p>respectively, including the role of waste heat. However, the plan does not set out specifically how Austria intends to achieve the increase by an indicative 1.3 and 1 percentage points. Specific targets for road transport electrification and use of biofuels are provided, without specifically addressing the use of gaseous transport fuels such as hydrogen and (sustainable) natural gas. The plan also does not provide a detailed listing of the contribution of different types of biofuels pursuant to the accounting rules set out in Article 25 of Directive (EU) 2018/2001.</p>
	<p>Provide additional details on the enabling frameworks for renewable self-consumption and renewable energy communities, in line with Article 21 and 22 of Directive (EU) 2018/2001.</p>	<p>Fully addressed</p>	<p>The NECP provides more information regarding renewable energy communities, detailing experiences, aims and policies and measures. With regard to enabling energy self consumption, the plan contains further information.</p>
<p>Energy efficiency</p>	<p>Review its contributions and identify additional policies and measures that could deliver further energy savings by 2030 in view of the need to increase the level of efforts in order to reach the Union's 2030 energy efficiency target.</p>	<p>Partially addressed</p>	<p>The contributions are slightly lower than in the draft plan.</p>
	<p>Clarify its national contribution, which is currently open to two different options, and express it in both primary and final energy consumption.</p>	<p>Not addressed</p>	<p>Contributions still set as a range.</p>
	<p>Further substantiate its provisional indications about the policies and measures to be implemented after 2020, for which their timeline of implementation, clear objectives and expected impacts and savings should be included in the final integrated national energy and climate plan.</p>	<p>Partially addressed</p>	<p>The plan only provides cursory information for planned measures and programmes to achieve the national energy efficiency contribution and energy efficiency obligation schemes under Articles 7a and 7b of the Energy Efficiency Directive. No indication is provided for when exactly the elements required will be submitted. The voluntary guiding template from the European Commission has not been used. Austria did not submit an annex, drawn up in accordance with the requirements and structure laid down in Annex III to the Governance Regulation, setting out the Member State's methodologies and policy measures for achieving the energy savings requirement in accordance with Article 7 and Annex V of the Energy Efficiency Directive.</p>

				<p>The information provided on the renovation of buildings is improved. The plan mentions that further measures and policies will be determined in the long-term renovation strategy, which was submitted on 27 April 2020.</p> <p>Austria has not set any specific objectives. The NECP only stresses the expected benefits of the envisaged 100% RES share in electricity, and envisages investments into storage and capacity reserve but does not quantify these measures.</p> <p>-</p>
Energy security	Set out concrete objectives on the diversification of oil and gas and on supply from third countries on the reduction of energy import dependency.	Not addressed		
Internal energy market	No recommendations	n/a		
Research innovation and competitiveness	Further clarify national objectives and funding targets in research, innovation and competitiveness, specifically related to the Energy Union, to be achieved between now and 2030, so that they are readily measurable and fit for purpose to support the implementation of targets in the other dimensions of the integrated national energy and climate plan.	Largely addressed		<p>The plan identifies relevant areas where research and innovation measures are needed. These efforts are considered credible in relation to achieving the targets, because of the described methods and consolidated roadmaps. However, support measures are not described in a measurable way and no timeline is provided.</p>
Investments and funding sources	Underpin such objectives with specific and adequate policies and measures, including those to be developed in cooperation with other Member States, such as the European Strategic Energy Technology Plan. Provide a general overview on the investment needed to modernise its economy by reaching its energy and climate objectives. Provide a general assessment of the sources of that investment, including appropriate financing at national, regional and Union level.	Partially addressed		<p>The cooperation with the Strategic Energy Technology (SET) Plan is well explained.</p>
Regional cooperation	Continue regional cooperation, including consultations with neighbouring countries, both with a view to finalising and implementing the integrated national energy and climate plan, notably in the context of the Central and South Eastern Europe Energy Connectivity (CESEC) High-Level Group and the Pentilateral Energy Forum.	Largely addressed		<p>The recommendation to provide a general overview on investments needed is largely addressed, although the methodology applied is not clearly described.</p> <p>The recommendation on the sources of investment is partially addressed as the provided information is very general and information is lacking in detail on how to stimulate private investment and how to use financial instruments.</p>
		Partially addressed		<p>Information has been provided on cooperation in the Pentilateral Energy Forum in the preparation of the NECP, highlighting various areas of the Energy Union where members will cooperate. However, no further details were provided about the cooperation in the Central and South-Eastern Europe Energy Connectivity (CESEC) High-Level Group.</p>

	Especially considering Austria's role as a regional gas hub.	Partially addressed	Regional cooperation with regards to gas trade and infrastructure is not addressed, except briefly in the context of PCIs.
	In view of the Austrian objective to raise the share of renewables in the electricity sector to 100 %.	Partially addressed	Cooperation in the field of renewable energies is expected as part of the Pentilateral Energy Forum, without any reference to its contribution to reaching Austria's RES target. In the decarbonisation chapters, the plan refers to opportunities for cooperation and joint renewable energy projects discussed with neighbouring countries, without specifying the modes of cooperation.
Energy subsidies	List all energy subsidies.	Partially addressed	In comparison with the draft plan, a list of incentives and support instruments serving to reduce GHGs has been included in the final plan. Quantitative figures on subsidies are not included and more categories appear to exist based on recent Commission analyses on subsidies.
	List in particular fossil fuels subsidies.	Not addressed	A list of fossil fuel subsidies is lacking. The exercise to create a list of 'counterproductive incentives and support measures' is still ongoing.
	List actions and plans to phase out energy subsidies, in particular for fossil fuels	Partially addressed	Actions and plans are not fully developed at this stage. It is stated in the plan that the identified incentives and subsidies classified as counterproductive to energy and climate targets will be gradually removed during the 2021-2030 period if there are no counter-arguments.
Air quality	Complement the analysis of the interactions with air quality and air emissions policy, including from a quantitative perspective.	Partially addressed	Apart from some general information and a short assessment, Austria did not elaborate on the impacts on air pollutants and interaction with air emission policy.

<p>Just transition and energy poverty</p>	<p>Integrate just and fair transition aspects better, notably by providing more details on social, employment, skills, income distribution impacts of planned objectives, policies and measures, including for carbon-intensive and industrial regions.</p>	<p>Not addressed</p>	<p>The draft plan for Austria analyses the impact of the transition on energy poverty and on skills, but there is no reference to employment. To address the impact on skills, there is only a general description of the measures proposed such as training and retraining of workers and employees, linking research with industry. The income distributional impacts of the transition are also assessed overall; however more details could be provided on the distributional impacts of specific planned transition measures (beyond their employment gain effect) on households' income (including impact on housing costs) and on the effectiveness of (potential) mitigating measures for low-income households.</p>
	<p>Complete the approach to addressing energy poverty issues by including specific measurable targets, and details on the financial resources for the implementation of the described policies as required by the Regulation (EU) 2018/1999.</p>	<p>Largely addressed</p>	<p>The draft plan is detailed in developing the approach to address energy poverty issues, including by providing additional details on existing and potential measures, the energy-poverty plans and their expected impact.</p>