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**COMMISSION STAFF WORKING DOCUMENT**

**Assessment of the draft National Energy and Climate Plan of Austria**

*Accompanying the document*

**Commission Recommendation**

**on the draft integrated National Energy and Climate Plan of Austria covering the period  
2021-2030**

{C(2019) 4420 final}

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# 1. SUMMARY

## Main observations<sup>1</sup>

- ✓ The draft integrated National Energy and Climate Plan (NECP) of Austria builds on the climate and energy strategy called #mission2030, which guides the long-term transformation of Austria's energy system to meet the challenge of climate change. The draft plan puts a strong emphasis on the decarbonisation and energy efficiency dimensions and related policies. This economic and industrial transformation needs to be underpinned by ambitious policies on the security of supply, internal market dimensions and research, innovation and competitiveness dimensions.
- ✓ Austria's 2030 target for **greenhouse gas (GHG) emissions** not covered by the EU Emissions Trading System (non-ETS), is -36 % compared to 2005, as set in the Effort Sharing Regulation (ESR)<sup>2</sup>. The draft NECP acknowledges the need for and sets out additional policies, as with current measures Austria would miss this target by 20 percentage points. This gap assumes that the Land Use, Land Use Change and Forestry (LULUCF) no-debit commitment is met i.e. that emissions do not exceed removals, which is still left open in the draft NECP. It is worth highlighting that Austria has set quantified emission reduction targets (2030 compared to 2016) for the two key effort sharing sectors, transport and buildings. These targets are underpinned by a detailed list of additional measures. The draft plan provides less detail on other sectors and does not quantify yet how the remaining gap to the 2030 target of 4 million tons (Mt) CO<sub>2</sub>eq will be filled nor specifies the intended use of the flexibilities between the effort sharing, LULUCF and ETS sectors.
- ✓ For renewable energy Austria has not yet provided a specific figure as its contribution, but has provided a range of the share of renewables from 45 % to 50 % of gross final energy consumption in 2030. Part of this range of ambition is slightly below the share of 46 % by 2030 that results from the formula in Annex II of the Governance Regulation, a situation which would also require in the final plan an indicative trajectory that reaches all reference points<sup>3</sup> in accordance with the national contribution set out in the final plan. Austria has a very ambitious sectoral objective of a 100 % renewable electricity system by 2030, which could be an opportunity for highlighting, in the final plan, the interactions with the energy efficiency, energy security and internal market dimensions of the Energy Union and with future trends in energy sector like digitalisation. The final plan would benefit from elaborating further on the policies and measures allowing the achievement of the contribution and on other relevant sectoral measures.
- ✓ For energy efficiency, similarly, Austria has not yet provided a specific figure as its contribution, but it has provided a range, based on an optimistic forecast and a more pessimistic forecast related to the improvement of the country's primary energy intensity in the next decade (30 % and 25 % respectively in 2030 in comparison to 2015). The final

<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup> Pursuant to Article 4(a)(2) of Regulation 2018/1999.

plan would benefit from the inclusion of key elements of those sectors contributing to energy efficiency, such as the building renovation sector. The ongoing evaluation of the Energy Efficiency Act could also pose an opportunity to consider the level of the targets and relevant policies and measures, as there is need to increase efforts at the EU level to collectively reach the Union's 2030 energy efficient targets.

- ✓ In its draft plan, Austria emphasises **energy security**, indicating needs for significant investments to increase the storage capacity for both gas and electricity. Austria also exceeds the mandatory oil stock levels, while at the same time it is aiming to further decrease import dependency on fossil fuels by replacing them with domestic renewable energy. The final plan would benefit from further detailing objectives and more detailed information on concrete measures for implementing these policies.
- ✓ The draft plan states that Austria already exceeds the **interconnectivity** level of 15 % for 2030 and does not envisage a higher interconnection level for 2030. Considering the projected strong increase in electricity demand (increase of 20 % between 2020 and 2030 in the With Existing Measures scenario) and Austria's objective of 100 % renewable electricity production by 2030, this would imply a substantial increase in electricity generation capacity and implications on system flexibility, including the role of further interconnections, which could be elaborated in the final plan. On energy poverty, Austria reports the number of households affected but the final plan could provide more information on the measures to reduce energy poverty or ensure that the population at risk does not enter into energy poverty.
- ✓ The draft plan highlights the vision for private and public sector cooperation in a mission oriented approach to the **research, innovation and competitiveness** dimension to meet the challenges facing the energy system. In addition to the broad themes, identifying relevant areas where research and innovation efforts will be needed, more specific objectives and funding targets to reach the objectives set out in the Austrian Climate and Energy Strategy supported by policies are needed. Such objectives should be underpinned by 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.
- ✓ The draft NECP does not yet contain an impact assessment of planned policies and measures or information on **investments needs** and an assessment of the national, regional and Union sources of those investments beyond for electricity transmission infrastructure, thus not yet fully taking advantage of the role NECPs can play in providing clarity to investors and attracting additional investments in the clean energy transition. These elements need to be included in the final plan.
- ✓ Austria engaged in **regional cooperation** in various formats, notably the Visegrad Group, the Pentalateral Energy Forum and Central and South-Eastern Europe Energy Connectivity (CESEC). There is significant potential to further develop regional cooperation considering Austria's role as an important transit country and a gas hub.
- ✓ The final plan could benefit from further information and analysis of the interactions with **air quality** and air emissions policy. The projected increase in bioenergy would make air impacts especially important to consider.

- ✓ The draft plan is incomplete regarding **just and fair transition** aspects and could benefit from additional information on social, employment and skills impacts of a transition to a carbon neutral economy.
- ✓ A list of all **energy subsidies** and actions undertaken and planned to phase them out, in particular for fossil fuels, needs to be included in the final plan.
- ✓ As a good practice, the Austrian draft NECP provides a good example of combining quantified emission reduction objectives for the transport sector with underpinning concrete planned policies and measures to achieve them.

## Preparation and submission of the draft plan

Austria notified its draft National Energy and Climate Plan (NECP) to the European Commission on 21 December 2018. The Federal Ministry for Sustainability and Tourism (BMNT) steered the development of the draft plan.

There had been a **public consultation** on the climate and energy strategy underlying the NECP, and a preliminary version of the draft plan was available for commenting by the members of the National Climate Protection Committee (*Nationales Klimaschutzkomitee*). The committee consists of members from the federal government, the national parliament, provinces (*Bundesländer*), cities, business, unions, science and environmental NGOs. However, it is unclear what kind of comments were provided and how they were taken into account when finalising the draft plan. A public consultation specifically on the draft plan notified to the Commission did not take place.

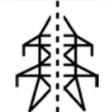
Austria participated in **regional discussions** with the Visegrad Group countries that took place in November 2018 while preparing the draft plan and further regional cooperation with neighbouring countries is foreseen for the final plan.

## Overview of the key objectives, targets and contributions

The following table presents an overview of Austria's objectives, targets and contributions under the Governance Regulation<sup>4</sup>:

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<sup>4</sup> 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 targets and contributions	Latest available data	2020	2030	Assessment of 2030 ambition level
	Binding target for greenhouse gas emissions compared to 2005 under the Effort Sharing Regulation (ESR) (%)	-9	-16	-39	As in ESR
	National target/contribution for renewable energy: Share of energy from renewable sources in gross final consumption of energy (%)	32.6	34.0	45.0-50.0	46 % (result of RES formula), partially in line or above
	National contribution for energy efficiency: Primary energy consumption (Mtoe) Final energy consumption (Mtoe)	32.5 28.4	31.5 25.1	28.0-30.0 24.0-25.0	Modest Modest
	Level of electricity interconnectivity (%)	15	32	Not provided	N/A

Sources: EU Commission, ENERGY STATISTICS, Energy datasheets: EU28 countries; SWD(2018)453; European Semester by country<sup>5</sup>; COM/2017/718; Austrian draft NECP.

## 2. ASSESSMENT OF THE AMBITION OF OBJECTIVES, TARGETS AND CONTRIBUTIONS AND ADEQUACY OF SUPPORTING POLICIES AND MEASURES

### Dimension decarbonisation

#### Greenhouse gas emissions and removals

Austria's binding 2030 **non-ETS greenhouse gas (GHG) emission target** is -36 % compared to 2005, which corresponds to a reduction of 28 % or 14.2 Mt CO<sub>2</sub>eq compared to 2016. Austria aims at achieving this target domestically. With existing policies, the draft Austrian NECP projects 16 % emission reductions, which corresponds to missing the 2030 target within effort sharing sectors by 20 percentage points. The draft plan does not mention the flexibility with the EU ETS, which Austria could request for meeting its ESR target (up to 2 % of 2005 emissions per year).

Austria does not indicate whether it intends to use the flexibility from the Land Use, Land Use Change and Forestry (LULUCF) to the effort sharing sectors (potentially up to 2.5 Mt over ten years), which requires that accounted removals exceed accounted emissions by at least this amount. With respect to the National Forestry Accounting Plan including the national Forest

<sup>5</sup> [https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/eu-economic-governance-monitoring-prevention-correction/european-semester/european-semester-your-country\\_en](https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/eu-economic-governance-monitoring-prevention-correction/european-semester/european-semester-your-country_en).

Reference Level, submitted by Austria as required by Article 8(3) of the LULUCF Regulation<sup>6</sup>, the Commission has put forward minor technical recommendations requesting action on a limited number of issues, detailed in SWD(2019) 213.

Austria's 2050 objective is to fully decarbonise the energy sector. However, the draft plan does not quantify any long-term target in terms of total GHG emission reductions.

Austria has a target for emission reductions in the **transport** sector (by 7.2 Mt CO<sub>2</sub>eq by 2030 compared to 2016), and the draft plan identifies a broad range of measures in this sector including e.g. a focus on zero emission vehicles, the use of biofuels and a shift from road to rail for freight transport by 2030. However, there are no estimated reductions from the individual measures. **Electromobility** and the underpinning charging infrastructure, supported by a package of federal measures such as fiscal and support to charging, is recognised to be of particular importance, but no concrete related objectives and only few concretely planned measures are described in the draft plan. The draft plan notes that Austria's lower taxation of transport fuels compared to neighbouring countries has a counteracting effect on emissions. Electricity is prioritised in the plan in comparison to alternative fuels but should also address how other alternative fuels are supported.

Austria also has a quantitative target for further emission reductions also in the **building** sector (3 Mt CO<sub>2</sub>eq between 2016 and 2030). The draft plan lists the focus areas for planned additional measures, which are currently under discussion with the provinces with the aim of developing a joint heat strategy at federal and provincial levels.

The draft plan includes contributions and some possible measures also in the product use and fluorinated gas sector (EU level policies) and in the waste sector. Apart from the sectors mentioned above, it does not quantify how the remaining gap of 4 Mt CO<sub>2</sub>eq will be filled to meet Austria's 2030 target.

The draft plan outlines a vision for **LULUCF and agriculture** in Austria, acknowledging the importance of its contribution to decarbonisation and discussing the context, regulatory goals, and good historical progress made by Austria. The policies and measures section in the draft plan is nevertheless very limited in specifying what may be achieved in the two sectors. The With Existing Measures analysis indicates an emissions increase by 2030 for the non-CO<sub>2</sub> agriculture sector. The draft plan refers to the Common Agricultural Policy as a tool for reducing greenhouse gas emissions from agriculture. For forestry, the plan addresses synergies between mitigation and adaptation objectives and policies.

The draft plan recognises the country's vulnerability to climate change and the relevance of climate resilience for the achievement of mitigation objectives, but it does not describe Austria's adaptation goals and policies.

### Renewable energy

The national contribution to the 2030 EU renewable energy target is not specified in the draft plan, but Austria has provided a **renewable share** in the range of 45–50 % in gross final consumption of energy in 2030. Part of this range of ambition is slightly below the share of 46 % by 2030 that results from the formula in Annex II of the Governance Regulation.

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<sup>6</sup> 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.

The draft plan includes an **indicative trajectory** for the overall renewable energy target expressed with ranges for every reference point meeting the required minimum renewable energy shares, with the exception of the lower values for which the 2025 reference point narrowly fails to meet the required minimum renewable energy shares.

The focus of the renewable energy dimension is on the **electricity** sector, where Austria aims to cover a high share of its electricity consumption from domestic renewable energy sources by 2030. 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 the target of covering 100 % of the demand with renewable electricity supply. These exemptions taken into account, Austria would still reach a 93 % share of renewable electricity in 2030.

In order to reduce its dependence on imported fossil fuels, Austria intends to develop the use of biomass, solar heat and ambient heat by 2030, both as direct heating and as district heating. Austria also intends to replace a large proportion of natural gas by renewable methane. In the final plan the information given could be strengthened by a clear description on how Austria intends to increase renewable energy in **heating and cooling** and in district heating and cooling by an indicative 1.3 and 1 percentage points as an annual average calculated for the periods of 2021 to 2025 and 2026 to 2030 respectively, including the role of waste heat.

When setting the **transport** target in the final plan, as requested in Articles 25-27 of Directive 2018/2001<sup>7</sup>, the contributions of all eligible fuels should be taken into account, as well as the limits for conventional fuels produced from food and feed crops, applicable multipliers and the sub target for advanced biofuels and if this will be implemented as an obligation on fuel suppliers.

The section on **policies and measures** provides a comprehensive overview of policies that are already in place or are being prepared. These include ongoing or planned revisions of legislation, for instance of the renewable energy law. Other policies and measures mentioned include the removal of the tax on self-consumed electricity and other financial incentives and the 100,000 solar roofs and small storage programme. The final plan is an opportunity to present more detailed measures on renewable energy communities and on self-consumption, and on measures to achieve further administrative simplification. For heating and cooling, Austria intends to make use of regulation and financial incentives to phase out the use of fossil fuels by replacing them with renewable energy sources for heating, hot water and cooling. Through market incentives Austria intends to expand agricultural and forestry bioenergy production.

### **Dimension energy efficiency**

Austria does not specify the **national contribution for energy efficiency** in 2030, but provides a range based on an optimistic and a more pessimistic forecast related to improvement of its primary energy intensity in the next decade (30 % and 25 % respectively in 2030 in comparison to 2015). In absolute levels these goals are translated into 28–30 Million tonnes of oil equivalent (Mtoe) and 24–25 Mtoe for **primary and final energy consumption** respectively. In both options, the Austrian goal for energy efficiency would require further reductions in final and primary energy consumption as compared to the Austrian 2020 energy efficiency target (31.5 and

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<sup>7</sup> 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.

21.1 Mtoe for primary and final energy consumption respectively) and to the latest observed consumption levels in 2017.

The reduction of energy intensity by 25 % would lead to a final energy consumption in 2030 that is almost unchanged compared with Austria's 2020 energy efficiency target (-0.3%) but 12 % lower compared to the consumption in 2017. In terms of primary energy consumption, under this scenario Austria's contribution would translate into 7.8 % reduction compared to 2017 and into a 4.8 % reduction compared to its 2020 target. In contrast, the reduction of energy intensity by 30 % would lead to a final energy consumption in 2030 that is 4.3 % lower than Austria's 2020 target, but 15.5 % lower compared to the consumption in 2017. In terms of primary energy consumption it would translate into 14.0 % reduction compared to 2017 and into 11.1 % reduction compared to its 2020 target. Overall, the contributions of Austria under both options seem to be of rather modest ambition considering the need to increase efforts at the EU level to collectively reach the Union's 2030 energy efficiency targets.

Austria presents the **cumulative savings** to be achieved under Article 7 of Energy Efficiency Directive<sup>8</sup> with a cumulative amount of 10.404 Mtoe, but more details are needed in the final plan on how individual measures contribute to reaching this target.

Key challenges on achieving the energy efficiency goals are well identified. The plan provides descriptive information on additional **policies and measures** beyond 2020 mostly targeting buildings and industry, without however clarifying their expected impacts and timeline of implementation. The plan mentions measures that contribute towards more efficient organisation of the mobility system and thus towards improved energy efficiency and emissions reductions (e.g. investments in the TEN-T rail network, modal shift, investments in public transport, soft measures, etc.). The importance of spatial planning in addressing decarbonisation and efficiency goals is acknowledged and it is part of the ongoing reflections on the future policy framework. It is explained in the draft plan that this is due to the ongoing evaluation of the Energy Efficiency Act, which would provide elements to the planning of future measures.

### **Dimension energy security**

Maintaining high level of security of supply is a priority in the ongoing transformation of the energy system, with an objective of 100 % renewable electricity system and increasing share of domestic renewable energy in the heating and cooling sector. As regards gas, the draft plan envisages continued reliance on gas, although with increasing shares of renewable methane and refers to the need to ensure sufficient storage capacity as a buffer in case of supply shortage. The draft plan recommends significant further investments in storage and network infrastructure and mentions power-to-gas/heat technologies and use of geothermal energy as possible pathways to improve security of energy supply.

### **Dimension internal energy market**

The draft plan states that Austria already exceeds the **interconnectivity level** of 15 % for 2030 and does not envisage a higher national level. The draft plan lists current Projects of Common Interest, which will increase interconnectivity, but does not indicate how the development of these projects will affect current congestion rates. Moreover, there is no indication on how rising electricity demand in the With Existing Measures (WEM) scenario would affect the level of electricity interconnectivity.

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<sup>8</sup> Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency as amended by Directive (EU) 2018/2002.

Given the electricity sector target of 100 % renewable electricity in 2030, the final plan should provide a quantitative overview of the development of the different sources of flexibility that is necessary to integrate the rising share of renewable energy into the electricity system. The final plan should specify where Austria sees the potential to increase system flexibility at least in a qualitative manner (objectives) and describe in detail the policy measures and instruments to implement this flexibility, to ensure the non-discriminatory participation of new market participants and the different flexibility sources in all energy markets.

Regarding **energy poverty**, Austria reports the number of households affected. The draft plan highlights that efforts are needed to ensure that all sections of the population can meet their basic energy and mobility requirements. In the finalisation of the plan, Austria is encouraged to consider this aspect of the internal market dimension of the Governance Regulation<sup>9</sup> and in light of the changes in the Electricity Directive<sup>10</sup>.

### **Dimension research, innovation and competitiveness**

The draft plan identifies relevant areas where research and innovation efforts will be needed to reach the objectives set out in the Climate and Energy Strategy, like sector coupling and digitalisation, but does not translate this into concrete measurable objectives.

As regards **competitiveness**, the emphasis is put on protecting Austrian businesses from carbon leakage, referring to the corresponding provisions under the EU ETS, and maintaining the competitiveness of the Austrian economy in general, including by the support of breakthrough technologies, e.g. CO<sub>2</sub>-neutral steel production. The NECP would benefit from presenting a more comprehensive analysis on where the low-carbon technologies sector, including for decarbonizing energy and carbon-intensive industrial sectors, is currently positioned in the global market, highlighting areas of competitive strengths and potential challenges. Measurable objectives for the future should be defined on that basis, together with policies and measures to achieve them, making appropriate links to enterprise and industrial policy.

Possible areas for policies and measures are enumerated, but without a clear timeline for implementation or financing measures for the period 2021-2030.

The cooperation with the **Strategic Energy Technology (SET) Plan** is well elaborated. However, the draft plan does not explain how the SET Plan Implementation Plan's objectives will be translated into the national context for the period 2021-2030. Concerning international cooperation the connection with the relevant areas of research and innovation efforts identified as priority areas for Austria could be highlighted in the final plan.

## **3. COHERENCE, POLICY INTERACTIONS AND INVESTMENTS**

The draft plan discusses the interlinkage between energy efficiency and some aspects of decarbonisation, but does not provide the required analysis of interaction and consistency between such policies and measures. Based on the draft plan, it can be concluded that there are synergies between many policies in the decarbonisation (GHG and renewable energy) and energy efficiency dimensions. For example, the existing heating strategy foresees a mix of incentives (e.g. fiscal measures) and regulatory provisions aimed at replacing oil-fired heating systems with renewable energy or efficient district heating (in existing buildings).

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<sup>9</sup> Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action.

<sup>10</sup> Article 5 of the Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU.

Also, the **circular economy** and its potential for GHG emissions reduction is quoted several times, with concrete examples along the value chain (e.g. on food waste).

Bioenergy and the national bio-economy strategy are crucial for achieving Austria's renewable energy and non-ETS targets. Further analysis of the implications for LULUCF and for Austria's biodiversity, as well as the potential and limits for sustainable supply of biomass, would be welcome. The draft plan addresses synergies between mitigation and adaptation objectives in relation to forestry; adaptation policy measures are foreseen to secure the forestry sectors' contribution to Austria's decarbonisation objectives.

The final plan could benefit from further information and analysis of the interactions with **air quality and air emissions policy**. The draft plan lacks quantitative analysis of the impacts of policies and measures on **air quality**, while the projected increase in bioenergy would make air quality impacts especially important to consider.

The application of the **energy efficiency first principle** is an important element to be taken into consideration when finalising the plan.

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 draft plan is incomplete regarding **just and fair transition** aspects and there is no assessment included on related issues such as the social, employment and skills impacts of a transition to a carbon neutral economy. In this regards, it would also be important to analyse the needs to industry to maintain or increase competitiveness, and the corresponding skill sets needed.

Very limited information is provided on **investment needs** and mechanisms to lever those. The draft NECP states that investment needs will be estimated in 2019 as part of the mid-term budget 2020 and that the results will be included, to the extent possible, in the planning. Funding sources are currently only mentioned in the context of energy transmission infrastructure, which refers to some EU programmes (Connecting Europe-Facility, EIB funds (e.g. EFSI) and EBRD which could be used. Information on funding targets, on how the funding would be split among the dimensions or policies and measures would be beneficial. Some investment needs could partly be covered by Union funds, such as cohesion policy funding, notably in line with the investment analysis for 2021-2027 of the 2019 European Semester Country Report for Austria and with any relevant legislation.

#### *Links with the European Semester*

Identifying financing needs and securing the necessary funding will be key to deliver on energy and climate objectives. The Commission had addressed that question as part of the 2019 European Semester process. Based on the 2019 Country Report for Austria, published on 27 February 2019<sup>11</sup>, the European Commission's recommendation for a Council recommendation for Austria issued on 5 June 2019<sup>12</sup>, in the context of the European Semester, highlights in particular the need to invest in 'sustainability'. When preparing its overview of investment needs and related sources of finance for the final plan, Austria should take into account these recommendations and links to the European Semester.

<sup>11</sup> Commission SWD(2019) 1019 final.

<sup>12</sup> COM(2019) 520 final.

The description of existing **energy subsidies**, particularly fossil fuels (section 4.6.iv) is an important element to be included in the final plan. Based on internationally used definitions, energy subsidies, including significant subsidies for fossil fuels and renewable energy, were identified in Austria in the Commission report on Energy Prices and Costs in Europe<sup>13</sup>. The national policies, timelines and measures planned to phase out energy subsidies, in particular fossil fuel subsidies (section 3.1.3.iv), should also be mentioned in the final plan. The list of subsidies currently being prepared by Austria (to be available by June 2019) should serve to complete these two aspects of the final plan.

#### **4. REGIONAL COOPERATION**

Austria participated in regional discussions with the Visegrad Group countries in November 2018 while preparing the draft plan. Further regional cooperation is foreseen in view to the final plan, which could take place e.g. in the context of the cooperation within the Central and South-Eastern Europe Energy Connectivity (CESEC) High-Level Group. As a gas hub for the region, Austria has an important role in this forum.

On 4 March 2019 a declaration was signed by the Ministers of Energy of Austria, Belgium, France, Germany, Luxembourg, the Netherlands and Switzerland, providing a political mandate to the Pentalateral Energy Forum to act as a forum for regional cooperation regarding the development and monitoring of the draft NECP in particular on issues with substantial cross-border effects. The approach taken, including the setting up of a dedicated Committee to coordinate regional cooperation on the draft NECPs, can be regarded as a good practice that can inspire other Member States.

As can be seen from the already ongoing regional cooperation, there is significant potential to further cooperate in the internal energy market and energy security areas, in particular with a view to the Austrian objective of having 100 % renewable share in the electricity sector and the assessment of regional system adequacy foreseen in the Electricity Regulation<sup>14</sup>. This is also valid as regards security of supply in the gas sector. The development of renewable energy, as well as regional cooperation in the research and innovation dimension, could facilitate the pursuit of common projects, including in the area of low carbon technology development.

#### **5. COMPLETENESS OF THE DRAFT PLAN**

##### **Information provided**

The structure of the submitted draft NECP is consistent with the template for national energy and climate plans<sup>15</sup>. The draft plan sets out planned policies and measures to achieve the 2030 emission reduction target, with focus on energy efficiency and increased use of renewable energy and varying level of detail across sectors. Important mandatory elements are missing from the draft plan, such as With Additional Measures (WAM) scenario, the impact assessment of the planned policies and measures as well as the overview of investment needs that are foreseen for the final plan.

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<sup>13</sup> Commission Staff Working Document Accompanying the Document Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Energy prices and costs in Europe, COM(2019) 1.

<sup>14</sup> Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity.

<sup>15</sup> Annex I of the Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action.

Concerning the **decarbonisation dimension**, the draft plan is partially complete with respect to the required information on **greenhouse gas emissions**. The draft plan lacks information on the estimated binding annual emission limits in 2021-2030 under the Effort Sharing Regulation<sup>16</sup> and does not apply the accounting rules as set out in the LULUCF Regulation<sup>17</sup>. The draft plan does not describe Austria's adaptation goals, even though a national adaptation strategy is available.

The elements regarding **renewable energy** are partially provided. The electricity sector elements are well developed and in the final plan a similar level of detail is needed with estimated trajectories of sectoral share of renewable energy also for heating and cooling and transport, and trajectories by renewable energy technology, as well as the total installed capacity between new and re-powered capacity. The ongoing work on the national heating strategy should give a good basis for developing the draft plan as regards heating and cooling sector, where increasing use of bioenergy has an important role. It is important to include also the required elements related to biomass in the final plan. Information is missing e.g. on the estimated trajectories on biomass supply (distinguishing between domestic production and imports) and demand (disaggregated between heat, electricity and transport) and trajectories on forest biomass, and on the assessment of its source and impact on the LULUCF sink. Measures regarding power purchase agreements (PPAs) are not included.

The draft plan recognises the importance attached to **energy efficiency** measures in Austrian energy policy agenda as economic measures to prevent greenhouse gas emissions. Increasing renovation rates is seen as one of the core energy efficiency measures. The final plan would therefore benefit from the inclusion of the key elements of the buildings long-term renovation strategy<sup>18</sup> which would help to reflect the important contribution of the renovation of buildings to the Union's 2030 energy efficiency target and to other part of the final plan, in addition to information on cost-optimal levels of the minimum energy performance requirements. The elaboration of a scenario With Additional Measures would also help in identifying and planning policies and measures at a sufficient scale to achieve the 2030 goals.

On **energy security**, information is needed on future electricity generation adequacy in the light of the ambitious sectoral renewable energy target, including on demand response. The draft plan provides information on the existing preventive action plan and on the emergency plan for gas as well as general information on the high levels of import dependency for oil and gas. It also includes a description of the supply structure in Austria (domestic production and imports) for oil, gas and electricity. For gas, reference is made to the publicly available preventive action and emergency plans pursuant to Regulation 2017/1938<sup>19</sup>. For electricity, reference is made to a voluntary risk assessment carried out by ministries, market participants and the national regulatory authority. There is also a reference to the mandatory assessment envisaged by the risk preparedness regulation, but a target date for this assessment is missing, as well as a description of measures on cybersecurity.

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<sup>16</sup> 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.

<sup>17</sup> Regulation (EU) 2018/841 on greenhouse gas emissions and removals from land use, land use change and forestry.

<sup>18</sup> Article 2a of Directive (EU) 2018/844 amending Directive 2010/31/EU on energy performance of buildings.

<sup>19</sup> Regulation (EU) 2017/1938 of the European Parliament and of the Council of 25 October 2017 concerning measures to safeguard the security of gas supply and repealing Regulation (EU) No 994/2010.

As regards **internal market**, in the final plan additional information on the functioning of the national retail and wholesale gas and electricity markets (e.g. wholesale and retail market concentration levels, indicators for market liquidity such as traded volumes and market participants and switching rates) should be provided. Additional information on elements concerning market integration would be necessary to understand how Austria intends to implement recent market design legislation, in particular regarding system flexibility, e.g. the uptake of different sources of flexibility (demand response, storage and distributed generation). On infrastructures, calculation methods for the already achieved 15 % interconnection level are not provided.

Objectives related to **research, innovation and competitiveness** are largely descriptive, identifying broad areas, but concrete and measurable objectives to be achieved by 2030, as well as deployment objectives for the post-2030 period would be needed to strengthen this dimension in the final plan.

### **Robustness of the Austrian draft National Energy and Climate Plan**

Some of the required elements of the **analytical basis** are present in the draft plan. Energy related details on projections With Existing Measures (WEM) scenario are reported using the voluntary template. A With Additional Measures (WAM) scenario is announced for the final plan. The sources for the tables and graphs in its analytical part include Statistics Austria, the Austrian Federal Ministry for Sustainability and Tourism and the German Federal Environment Agency.

The **with existing measures projection** largely covers the five dimensions of the Energy Union. Additional information would be desirable on: (i) the differentiation of sectoral GHG emissions per IPCC gas, (ii) the differentiation of sectoral GHG emissions between those covered by the EU ETS and those falling under the Effort Sharing Regulation, (iii) GHG emissions from international aviation, (iv) non-GHG air pollutants, (v) energy related investment needs and (vi) electricity interconnection levels.

The model based projections are presented in a largely **transparent** way. All key parameters are provided, except for technology costs beyond 2030, which are announced to be included in the final plan. The transparency of the projections could be further improved by adding (i) sources for assumptions on key parameters, and (ii) describing more explicitly which policies and measures are taken into account in the with existing measures scenario.

For the base year 2015, key model parameters are largely calibrated to the EUROSTAT figures with the exception of (i) total final energy consumption and (ii) the share of renewable energy in transport. The draft plan follows the international fuel and EU ETS carbon price assumptions as per the Commission's recommendation. However, the assumptions on the evolution of GDP differ from the Commission's recommended sources. More information on the choice of the modelling approach would be helpful.

The **impact assessment** of planned policies and measures is announced for the final NECP and is expected to cover the elements listed in the Governance Regulation<sup>20</sup>. It should include an assessment of macroeconomic and, to the extent feasible, the health, environmental, employment and education, skills and social impacts, including just transition aspects.

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<sup>20</sup> Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action.