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COMMISSION STAFF WORKING DOCUMENT

Assessment of the draft National Energy and Climate Plan of Estonia

Accompanying the document

Commission Recommendation

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

{C(2019) 4406 final}

Table of contents

1. SUMMARY	2
Main observations	2
Preparation and submission of the draft plan	4
Overview of the key objectives, targets and contributions.....	4
2. ASSESSMENT OF THE AMBITION OF OBJECTIVES, TARGETS AND CONTRIBUTIONS AND ADEQUACY OF SUPPORTING POLICIES AND MEASURES	5
Dimension decarbonisation	5
Greenhouse gas emissions and removals.....	5
Renewable energy	6
Dimension energy efficiency.....	7
Dimension energy security	8
Dimension internal energy market	9
Dimension research, innovation and competitiveness.....	10
3. COHERENCE, POLICY INTERACTIONS AND INVESTMENTS.....	10
4. REGIONAL COOPERATION.....	12
5. COMPLETENESS OF THE DRAFT PLAN	13
Information provided.....	13
Robustness of the Estonian draft National Energy and Climate Plan	15

1. SUMMARY

Main observations¹

- ✓ Estonia's draft National Energy and Climate Plan (NECP) builds on existing energy and climate (including adaptation) policy framework. The key objectives relate to the decarbonisation and energy efficiency dimensions. Significant work is ongoing on completing elements of the analytical basis for the final plan, including the impact assessment.
- ✓ Estonia's 2030 target for **greenhouse gas emissions** in sectors not covered by the EU Emissions Trading System (non-ETS) is -13 % compared to 2005 as set in the Effort Sharing Regulation (ESR)². The European Commission estimates that with existing measures Estonia may miss this target by 21 percentage points, but the draft NECP seems to indicate that planned additional measures may close this gap. More detail is needed on policies in the building sector and on the expected impact of planned policies, in particular on the combined impact of different transport policies. The final plan would also benefit from information on whether any use of flexibilities between the effort sharing and land use sectors is planned.
- ✓ Estonia mentions that it intends to comply with the **Land Use, Land Use Change and Forestry (LULUCF)**³ no-debit commitment (i.e. emissions do not exceed removals). However, the draft plan provides no information as to how accounted greenhouse gas emissions or removals in the sectors will evolve.
- ✓ Estonia estimates a share of 42 % of **energy from renewable sources** in gross final consumption of energy for 2030. This level of ambition, not clearly set out as a contribution to the EU renewable energy target for 2030, is significantly above the share of 37 % in 2030 that results from the formula in Annex II of the Governance Regulation⁴. The lack of scenarios with existing or additional measures and limited information on policies and measures makes it difficult to assess whether or not this share will be reached. In the transport sector, there is limited progress towards the 2020 target, and concrete measures to meet the 14 % target for 2030 have not yet been provided. The final

¹ 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.

² 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.

³ 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.

⁴ 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

plan would thus benefit from elaborating further on the policies and measures allowing the achievement of the foreseen contributions and on other relevant sectorial measures.

- ✓ Estonia sets a contribution to the EU **energy efficiency** target in terms of primary energy consumption of maximum 5.49 Mtoe. An official corresponding figure for final energy consumption is not yet provided. The draft contribution represents low ambition, and more details on policies and measures would be necessary to assess their sufficiency. Opportunities for growth and job creation are not yet fully exploited.
- ✓ The draft NECP mentions the Baltic synchronisation project and the Balticconnector pipeline as key **energy security** measures. The final plan would benefit from detailing Estonia's strategy for ensuring electricity generation adequacy and gas supply diversification and decreasing gas import dependency, as well as addressing the remaining challenges related to the completion of the Baltic synchronisation project.
- ✓ Estonia already has an electricity interconnectivity level of 63 %, and the draft NECP does not specify the **interconnection level** aimed for in 2030. The quantitative **internal energy market** indicators included represent a good start, which the final plan could build on by providing additional core parameters on market functioning, corresponding future objectives and quantifiable supporting policies and measures. While the draft plan sets out detailed specific policies and measures to define and address **energy poverty**, there would be benefit in further assessing and highlighting in the final plan objectives and policies for reducing energy poverty, as well as their intended impacts.
- ✓ The draft NECP identifies a number of research domains which will receive attention. However, identifying clear **research and innovation** objectives and funding targets, as well as corresponding policies and measures for 2030 would make the final NECP even more comprehensive.
- ✓ The draft plan includes references to financing sources for some policies and measures, notably EU funding programmes and the national budget. Information on **investment needs** needs to be included in the final NECP, thus fully taking advantage of the role NECPs can play in providing clarity to investors and attracting additional investments in the clean energy transition. The final plan would also benefit from an analysis of how the Modernisation Fund can be used to foster transformation of the economy.
- ✓ There is potential for intensifying already existing **regional cooperation** between Estonia and the other Baltic countries, extending them to new areas and broadening the geographic reach to include the Nordic countries.
- ✓ The draft NECP mentions the importance of the link with **air quality and air emissions policy** and states that these interactions will be quantitatively assessed in its final version.
- ✓ The issue of a **just transition** to a climate neutral economy could be better integrated throughout the plan, by considering social and employment impacts, for example shifts in sectors/industries, distributional effects and revenue recycling. The plan would benefit from providing more details on the question of skills and training.
- ✓ A list of actions undertaken and planned to phase-out **energy subsidies**, in particular for fossil fuels, needs to be included in the final plan.
- ✓ An element of **good practice** is the translation of the objective of uninterrupted supply in the energy security dimension into a series of detailed indicators and sub-targets.

Preparation and submission of the draft plan

Estonia notified its draft National Energy and Climate Plan (NECP) to the European Commission on 28 December 2018. The draft NECP is based on three climate and energy policy documents, approved in 2017: the Climate Change Adaptation Plan until 2030 (CCAP 2030), the General Principles of Climate Policy until 2050 (GPCP 2050), and the National Energy Development Plan 2030 (NEDP 2030+). The Ministry of Economic Affairs and Communications and the Ministry of the Environment were in charge of preparing the draft NECP. Relevant stakeholders were involved in the development of the policy documents and were also given the opportunity to participate in the development of the draft NECP.

The Estonian government presented the draft NECP to the national parliament and local governments, and an initial stakeholder consultation has taken place. Further inter-ministerial and stakeholder **consultations** are foreseen in connection with the finalisation of the plan.

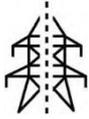
Estonia has presented the draft NECP to other Baltic and Nordic Member States. The draft plan mentions Estonia's active involvement in the Baltic Council of Ministers and the Baltic Energy Market Interconnection (BEMIP) work and lists the key discussion topics (such as electricity, gas, renewable energy and energy efficiency), without referring specifically to the role of **regional cooperation** in the preparation of the draft plan.

Overview of the key objectives, targets and contributions

The following table presents an overview of Estonia's objectives, targets and contributions under the Governance Regulation:

	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) (%)	+10	+11	-13	As in ESR
	National target/contribution for renewable energy: Share of energy from renewable sources in gross final consumption of energy (%)	29.2	25	42	Above 37 % (result of RES formula)
	National contribution for energy efficiency: Primary energy consumption (Mtoe) Final energy consumption (Mtoe)	5.6 2.9	6.5 2.8	5.5 (2.75) ⁵	Low Low

⁵ Projection from the National Energy Development Plan 2030; not confirmed as an official contribution.



Level of electricity interconnectivity
(%)

63

76

Not
provided

N/A

Sources: EU Commission, ENERGY STATISTICS, Energy datasheets: EU28 countries; SWD(2018)453; European Semester by country⁶; COM/2017/718; Estonian 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

In addition to the **ESR target** of -13 % by 2030 and the obligation to comply with the LULUCF no-debit commitment, Estonia has a national target for total greenhouse gas emissions of -80 % by 2050, compared to 1990 levels.

The draft plan presents the projections submitted under the Monitoring Mechanism Regulation in 2017. Based on these projections, the European Commission estimates that Estonia may with existing measures miss its 2030 target by 21 percentage points (1.4 Mt. CO₂eq) and have a deficit of 7.6 Mt CO₂eq over the period 2021-2030. This assessment does not take into account possible credits or debits in the LULUCF sector as no information is provided in the draft plan on whether Estonia plans to use flexibilities.

The draft plan provides projected emissions and removals in the **LULUCF sector** in reported terms. The final NECP would benefit from clarifying the impact of renewable energy/bioenergy policy on the LULUCF sector and any potential sink, as well as explaining how the LULUCF sector will evolve (forest sink, agricultural land) under different scenarios of land use development. With respect to the National Forestry Accounting Plan including the national Forest Reference Level, submitted by Estonia as required by Article 8(3) of the LULUCF Regulation⁷, the Commission has put forward technical recommendations requesting action on a number of issues, detailed in SWD (2019)213.

The draft plan includes an overview of planned **measures** within agriculture (only until 2020) and transport. The estimated effect of these measures in 2030 is 1.8 Mt CO₂eq of which 1.5 Mt is in the transport sector. If fully implemented, these measures could be sufficient to meet Estonia's ESR target. However, it is unclear whether overlaps between measures in the transport sector have been taken into account in these estimates. The description of the main concrete mitigation actions considered for the decarbonisation of the agriculture sector could be detailed further in the final plan. The final plan would benefit from also presenting the impact of policies in other sectors, notably the building sector.

⁶ 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.

⁷ Regulation (EU) 2018/841 on greenhouse gas emissions and removals from land use, land use change and forestry.

It is projected that emissions from the **transport** sector will increase by 2030. Besides renewable energy and energy efficiency measures, **electromobility** is supported through different measures including fiscal incentives and support for charging in order to reduce emissions. No long-term plan is yet provided on mapping out charging and refuelling infrastructure. Incentives are also available for biofuels. More details on how related policies will be developed, including for other alternative fuels, would be welcome.

For implementing the national adaptation goals, the draft NECP refers to national adaptation planning and describes eight sectors in which sub-objectives have been set, but detailed measures are not set out yet. The draft plan also includes the objective to increase the preparedness and capacity to adapt to the impacts of climate change at regional and local level.

Renewable energy

Estonia estimates an ambitious share of 42 % **renewable energy** in gross final consumption of energy for 2030, not clearly set out as contribution to the EU renewable energy target for 2030. This is significantly above the share of 37 % in 2030 that results from the formula in Annex II of the Governance Regulation⁸. The draft NECP includes an indicative trajectory for the overall target and demonstrates that between 2021-2030 it reaches the reference points of 18 % by 2022, 43 % by 2025 and 65 % by 2027, as required by the Governance Regulation⁹.

The overall share has not been expressed in terms of absolute values (ktoes), and the same holds true for the various renewable energy sectors. The draft plan does not yet include information how the share has been calculated, or the underlying assumptions. Information on scenarios with existing or additional measures for renewable energy pending submission, it is not yet possible to assess whether the proposed share will be met.

The sectoral shares are 30 % for **electricity**¹⁰ (compared to a 17.6 % target for 2020), 14 % for **transport** (10 % for 2020) and an ambitious share of 80 % for **heating and cooling** (38.4 % for 2020¹¹).

With regards to **district heating and cooling**, the draft plan does not yet provide sufficient information on the choice taken between implementing third party access for suppliers of renewable energy and waste heat and cold or endeavouring to achieve at least 1 percentage point of annual average increase in renewable energy and waste heat and cold. If the latter is chosen, more details on the planned measures for district heating and cooling and how they contribute to achieving the at least 1 percentage point annual average increase in the periods of 2021-2025 and 2026-2030 would benefit the final plan.

Regarding **transport**, Estonia provides the contributions of energy carriers and biofuels, but the calculation of the target as requested in Articles 25-27 of the recast of the Renewable Energy Directive¹² in absolute values (ktoes) is not included. The final plan could better clarify what is understood by first and second generation biofuels, as these terms are not defined in the recast of

⁸ Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action.

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

¹⁰ The draft NECP mentions that the share could reach 50 % with the use of statistical transfers.

¹¹ According to the most recent Eurostat data, the share of renewable energy in the heating and cooling sector already exceeds 50 %.

¹² 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.

the Renewable Energy Directive¹³. In this regard it is difficult to assess whether or not the advanced biofuel sub-target will be fulfilled. In addition, the final plan needs to provide comparable numbers for all the years between 2020 and 2030 in terms of applicable multipliers.

The draft Estonian NECP contains a list of **policies and measures**; their level of detail could be further developed in the final plan. The measures provided for **electricity** would benefit from including information such as eligibility for subsidies. More clarity could be provided on the measures foreseen for promoting renewable energy **in heating and cooling**, including in district heating and cooling. When it comes to renewable energy **in transport**, the draft NECP includes a measure related to increasing the share of biofuels in transport. The explanation in Annex IV of the draft plan indicates that the main objective of the measure is to meet the 2020 renewable transport target of 10 %, on which little progress has been made in the last years. Since no additional measures are included to support meeting the 14 % renewable transport target by 2030, it is not clear if the target will be met.

Dimension energy efficiency

The draft Estonian NECP expresses the national energy efficiency contribution for 2030 only in **primary energy consumption**, at a level of 5.49 Mtoe. The draft plan refers to a projected value for final energy consumption in 2030, without justifying its level or stating that it is part of Estonia's energy efficiency contribution. The final energy consumption value originates from a scenario established in the context of the Estonian National Energy Development Plan 2030¹⁴ (NEDP 2030+). The NEDP 2030+ projections are the main references used for the setting of Estonia's contributions, and no specific scenarios with existing measures (WEM) or with additional measures (WAM) have been set up for the purpose of the preparation of the draft NECP. The Commission's assessment takes the projected final energy consumption value into consideration, along with the primary energy consumption value.

Estonia's contribution is set at a level which would require the country to decrease its consumption by 2.7 % from its primary energy consumption in 2017 and by 4.2 % for final energy consumption. The contribution for 2030 is also set at a lower level as compared to Estonia's 2020 energy efficiency target (-15,4 % and -1,9 % for primary and final energy consumption, respectively). Overall, Estonia's contributions seem to be of low ambition, considering the need to increase efforts at the EU level to collectively reach the Union's 2030 energy efficiency targets.

Almost all sectors have a role to play in achieving the 2030 objective for energy efficiency, as the **measures** included in the draft NECP (more than 20 are included in the voluntary template including already existing and new ones) cover buildings, the public sector, transport and energy supply. Amongst the new measures listed, most address the transport sector and building renovation, while less focus is put on industry. The potential of heating and cooling has been taken into account to some extent as specific goals are set and measures planned to promote the diffusion of CHP and to reduce system losses in the existing district heating network.

The draft plan mentions measures that would contribute towards more efficient organisation of the mobility system and thus towards improved energy efficiency and emissions reductions (e.g.

¹³ 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.

¹⁴ https://www.mkm.ee/sites/default/files/ndpes_2030_eng.pdf.

spatial planning, measures to reduce transport demand, support for public transport and active modes, investments in infrastructure, behavioural change). Measures in progress are also mentioned (e.g. establishment of road charges for heavy duty vehicles, congestion charging in Tallinn, development of railway infrastructure including the construction of Rail Baltica). The plan could benefit from more explicit reference and detail with respect to multimodality and modal shift (e.g. enabled by the completion of the Rail Baltica project), digitalisation and automation in the different transport modes.

However, the policies and measures are not described in detail, the timeline of implementation is unclear and the expected impact of the measures is missing in the draft plan. Therefore it is not possible to assess whether they would be sufficient to achieve the goals set.

As for the energy savings obligations under Article 7 of the Energy Efficiency Directive¹⁵, a provisional target has been correctly set.

The draft NECP also includes some general information related to policies and measures for **buildings** that could be implemented as part of Estonia's long-term renovation strategy¹⁶.

Dimension energy security

Estonia's main objective in the energy security dimension appears under the headline of ensuring continuous energy supply. The draft NECP states that this can be ensured by more extensive use of domestic energy resources – oil shale and renewable energy, while at the same time ensuring that the share of any one energy source does not exceed 30 % by 2020.

The Baltic synchronisation project is mentioned as a key measure for improving the flexibility and resilience of the electric system. When it comes to other policies and measures, the draft plan mentions support for renewable energy and efficient cogeneration, as well as obligations that the regulator may impose on the system operator. The final plan could benefit from clarifying the timeframes for the policies and measures included in Annex IV of the draft NECP and specifying how they will contribute to meeting the set objectives.

Likewise, the description of the current situation and projections could be more detailed. For example, the draft NECP does not mention the emergency reserve power plant or specify its future role, especially after synchronisation with Continental Europe. In this context, the issue of ensuring generation adequacy in particular could be addressed further, also given the withdrawal of some of the oil-shale generation capacity already in 2019.

The draft plan could also benefit from describing risks linked to the current integration of the Estonian electricity system into the Belarus-Russia-Estonia-Latvia-Lithuania (BRELL) system and the mitigation measures foreseen until full synchronisation with Continental Europe is in place.

¹⁵ 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.

¹⁶ The inclusion of policies and measures relating to the long-term renovation strategy to support the renovation of the national stock, provided by Article 2a of Directive 2010/31/EU on the Energy Performance of Buildings as amended by Directive 2018/844, was not required for the draft NECP due to the later transposition of the EPBD set for 10 March 2020.

Regarding gas, the draft NECP includes objectives related to the development of the gas system and market and diversification of gas supply. A number of quantitative indicators have been included, but it would be beneficial to include additional details in the final NECP, given that currently the section includes mostly references to the National Energy Development Plan 2030.

The draft NECP refers to the construction of the Balticconnector pipeline between Estonia and Finland as the main measure for meeting the objectives. Even though additional national measures are not planned for the period 2021-2030, the strategy regarding diversifying gas supply and decreasing gas import dependency could be detailed further in the final NECP to match the defined objectives.

Dimension internal energy market

Estonia's level of **interconnectivity** in 2017 was 63 %, already exceeding the required 15 % level, and no further interconnection level aimed for in 2030 is put forward. The draft NECP refers to ENTSO-E's analysis assessing Estonia's performance against the three thresholds which serve as urgency indicators¹⁷ of the need to develop further interconnection capacity and concludes that by 2030 Estonia will be compliant and no further investment in interconnectors will be necessary.

The information included in the draft NECP on the necessary quantitative core parameters for **wholesale market** functioning represents a good start that the final NECP could build upon. Apart from providing information on such missing elements as peak load and installed generation mix, the final plan would benefit from clarification regarding the specific policies and measures, which at times have not been distinguished from the objectives and targets. The impact of the key measure mentioned, namely, the synchronisation with the Continental Europe system, on market functioning could be further detailed. The final plan could also explain the link between the targets and measures for security of supply, flexibility and market integration, especially given that there is considerable overlap.

As competitive markets are a key enabler for other dimensions of the Energy Union, objectives related to the further development of wholesale and retail market competition and corresponding measures and timelines merit being included in the final plan. When it comes to ensuring **flexibility** of the energy system with regard to renewable energy production the draft NECP mentions the synchronisation project which will remove electricity system bottlenecks across the Baltic States. Other than that the **measures** provided are mostly limited to a description of noteworthy ongoing projects but without clear **objectives**, including a time frame for when they are to be met, the information provided at times lacks context. Clearly identifying Estonia's objectives for system flexibility, smart grids, demand response and aggregation, storage, and distributed generation and clarifying how the measures listed contribute to meeting the objectives would also lend further credibility to Estonia's 2030 ambition level for renewable energy.

The draft plan includes measures for consumer protection and competitiveness but does not set concrete objectives, deeming them not applicable. However based on current retail market functioning, objectives in these areas would be important for meeting the broader Energy Union

¹⁷ Price differential in the wholesale market exceeding an indicative threshold of EUR 2/MWh between Member States, regions or bidding zones; nominal transmission capacity of interconnectors below 30 % of peak load; nominal transmission capacity of interconnectors below 30 % of installed renewable generation capacity.

objectives. Additional information on **policies and measures** concerning market integration would be necessary to understand how Estonia intends to implement recent market design legislation, in particular regarding consumer participation in the energy system, demand response and storage, including via aggregation, retail market competition and dynamic pricing.

The draft plan provides information on objectives for general poverty and mentions the number of households receiving the subsistence benefit. It is not clear if a dedicated assessment of the number of households in **energy poverty** as required by the Governance Regulation¹⁸ has been carried out. This assessment, which is expected to build on existing social policy and other relevant policies, could serve as an indication of what objectives specific to energy poverty would be warranted in the final plan. The presentation of policies and measures addressing energy poverty is detailed. Further highlighting the use of energy efficiency measures to alleviate energy poverty, could evidence a stronger, multi-dimensional approach to tackling this issue.

Dimension research, innovation and competitiveness

The draft NECP identifies a number of research domains which will receive attention, but does not set clear research and innovation **objectives** to be achieved by 2030. Similarly, funding targets and financing measures have been provided only up to 2020.

In line with the binding template, the final plan needs to include specific research and innovation objectives and a description of policies and measures until 2030, to give a clear indication of how they will contribute to the collective achievement of Energy Union objectives under this dimension.

In terms of **competitiveness**, the draft plan presents a set of quantified objectives by 2030, aimed at ensuring affordable energy supply and contributing to improving Estonia's overall macroeconomic competitiveness. The NECP would be rendered more comprehensive if this was expanded to cover specifically the low-carbon technologies sector, including for decarbonising energy and carbon-intensive industrial sectors, accompanied with an analysis on where said sector 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.

When it comes to **cooperation** with other Member States, a description is provided of the cooperation programme between the Baltic States and Nordic Energy Research, which in the 2021 framework focusses on the transport sector, buildings and industry, energy system analysis, and challenges and opportunities in regional energy networks. The final NECP would benefit from considering the areas in which regional cooperation can add value in the 2030 perspective, as well as clarifying how the **Strategic Energy Technology (SET) Plan** priorities and implementing plans are being translated to the national context.

3. COHERENCE, POLICY INTERACTIONS AND INVESTMENTS

The draft NECP identifies several policy interactions from some of the proposed policies and measures. Completed scenarios with existing and additional measures would be necessary to perform a full assessment of coherence and policy interactions. The final plan would benefit from

¹⁸ Pursuant to Article 3.3(d) of Regulation 2018/1999.

considering the coherence of adaptation to climate change with the relevant dimensions of the Energy Union. This could include such aspects as the potential impact of climate change risks on energy supply (e.g., wildfires and storms destroying biomass resources and power networks, availability of hydro power) and the co-benefits of adaptation for energy efficiency, such as in the thermal management of buildings. The draft plan also does not quantify the supply of biomass for energy purposes in Estonia, and its sustainability and impact on the LULUCF sector and biodiversity has not been explained. The potential supply of sustainable biomass, including supply of biofuels feedstocks (first generation or advanced) could be further specified. The final plan could also elaborate on synergies and trade-offs with **biodiversity** policies.

Considering the relevance for greenhouse gas emission reductions, the final plan could reflect interactions with **circular economy**. It could also mention the forthcoming national action plan for circular economy (planned to be adopted in 2020) and its possible actions and targets (e.g. regarding re-use, repair and recycling, including plastics reduction and recycling).

The draft plan does not include any assessment of the impact of planned policies on air quality, but it mentions that ambient air pollutant projections will be added to the final plan.

The coherence of the final plan would also benefit from an explanation of how the future electricity generation adequacy and system flexibility will be ensured in light of the Estonia's ambition for renewable energy and reduction of electricity produced from oil shale. Concerning oil shale more broadly, it is also not clear to what extent the impact of its continued development and use on Estonia's decarbonisation targets has been assessed.

Including relevant considerations on **just transition** issues in the final plan, in line with the requirements set out in the Governance Regulation¹⁹ would provide a more comprehensive overview of the trade-offs associated with this issue. The issue of a **just transition** to a climate neutral economy more generally could be better integrated throughout by considering social and employment impacts related to a green/circular economy, for example shifts in sectors/industries, skills impacts, distributional effects, energy poverty and revenue recycling. The plan would benefit from providing more details on the question of skills and training. It would also benefit from considerations in terms of costs and benefits as well as cost effectiveness of planned policies and measures.

The draft NECP does not explicitly refer to the **energy efficiency first** principle. The impact assessment only includes the statement that in order to assess policy interactions, there must be firm understanding about the impact energy efficiency policy has on the sizing of the energy system to reduce the risk of stranded investment in energy supply. The draft NECP also states that energy efficiency is an important means for reducing energy import dependency. On the other hand, it remains unclear how energy efficiency and demand response have been addressed in the assessment of the future electricity generation adequacy.

The designated section on **investment needs**, market risks and barriers and additional public finance support has not been completed in the draft NECP. The information will be developed in 2019, after the updated greenhouse gas emissions projections have been published. The draft plan includes references to financing sources for some policies and measures, namely, EU funding programmes, and the national budget. Comprehensive information for all policies and measures

¹⁹ Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action.

would be necessary for a full assessment of investment needs. The draft plan does not make reference to the use of Estonia's share of the Modernisation Fund (8.6 million allowances corresponding to EUR 172 million at a carbon price of EUR 20)²⁰ to support investments in energy systems and sectors, from 2021 to 2030. Some investment needs could partly be covered by EU funds, in particular cohesion policy funding, notably in line with the investment analysis for 2021-2027 of the 2019 European Country Semester Report for Estonia 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 addressed this question as part of the 2019 European Semester process. Based on the 2019 Country Report for Estonia, published on 27 February 2019²¹, the European Commission's recommendation for a Council recommendation for Estonia issued on 5 June 2019²², in the context of the European Semester, highlights in particular the need to invest in 'sustainable transport and energy infrastructure, including interconnections' and in 'resource and energy efficiency'. When preparing its overview of investment needs and related sources of finance for the final plan, Estonia should take into account these recommendations and links to the European Semester.

The draft plan includes information on **energy subsidies**, including fossil fuels. Based on internationally used definitions, the report of the European Commission on Energy Prices and Costs in Europe²³ also identifies energy subsidies in Estonia, including for renewable energy and fossil fuels. Although some intentions on tax exemption measures for fossil fuels are stated, it would be important that the final plan includes a more detailed description of national policies, timelines and measures to phase-out energy subsidies, particularly for fossil fuels.

4. REGIONAL COOPERATION

Cooperation between the Baltic States takes place in the framework of the Baltic Energy Market Interconnection Plan (BEMIP)²⁴ high level group. Building on the initial focus of the work on electricity and gas markets, infrastructure and power generation, the scope of the initiative was extended to include security of supply, energy efficiency and renewable energy.

Considerable progress has already been made with regards to ending the energy isolation of the Baltic States through the completion of key infrastructure projects, and the Baltic States are currently among the best interconnected regions in Europe.

²⁰ The figure is based on the amounts established in Directive (EU) 2018/410 and is subject to various uncertainties, such as the possibility to transfer allowances available pursuant to Article 10c to the Modernisation Fund.

²¹ SWD(2019) 1005 final: Country Report Estonia 2019.

²² COM(2019) 506 final: Recommendation for a Council recommendation on the 2019 National Reform Programme of Estonia and delivering a Council opinion on the 2019 Stability Programme of Estonia.

²³ 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.

²⁴ The members of the initiative are European Commission, Denmark, Germany, Estonia, Latvia, Lithuania, Poland, Finland, and Sweden. Norway participates as an observer.

Nevertheless, further efforts are needed to deliver on the Energy Union objective of a fully integrated European energy market. The next steps include the completion of the regional gas market, with the construction of the Balticconnector pipeline between Estonia and Finland, and the integration of the Baltic States' electricity network into the continental European network. Regional cooperation has a key role in assessing regional system adequacy as foreseen in the Electricity Regulation²⁵. This will become even more important in light of increasing shares of renewable energy and corresponding need for system flexibility.

In the consultation process on the draft Finnish NECP, Estonia has already stressed the need for closer regional cooperation on generation adequacy and electricity market integration. Due to the expected shutdown of Estonian oil shale generation capacities, combined with an increase in intermittent renewable generation, there are concerns with ensuring electricity generation adequacy, with implications for the regional electricity market. Thus, developing electricity market services on a regional scale and increasing the level of flexibility is important for Estonia and the other Baltic States.

The potential for regional cooperation in renewable energy and energy efficiency needs to be further explored. This could take the form of exchange of best practice or common projects. Cooperation in research could also be considered.

Decarbonisation of the transport sector is a challenging area for the Baltic States, as evidenced for example by the recent figures on the shares of renewable energy in transport (0.4 % in Estonia, 2.5 % in Latvia and 3.7 % in Lithuania in 2017, compared to the 2020 target of 10 %²⁶). A common approach in this area could provide cost-optimal solutions. In a broader regional context, Estonia has already flagged this concern to Finland to ensure that as various technologies are available for decarbonising transport, the development of the charging and refuelling infrastructure is done in a coherent way and does not lead to fragmentation of the EU internal market.

In May 2017, the Clean Energy for EU Islands Initiative was launched, aiming at accelerating the clean energy transition by helping islands reduce their dependency on energy imports and making better use of locally available renewable energy sources. It also provides a forum for exchange of best practices and aims to promote modern and innovative energy systems and reduce greenhouse gas emissions on islands. Although Estonia is a signatory to the political declaration for this initiative, it has not mentioned this in the draft NECP. Estonia could consider doing so in its final plan, and enhance cooperation with other Member States and island regions.

5. COMPLETENESS OF THE DRAFT PLAN

Information provided

The draft Estonian NECP follows the template set out in Annex I of the Governance Regulation²⁷. While objectives, targets and contributions for 2030 are present, the lack of detail concerning corresponding policies and measures limits the depth of the Commission's assessment.

²⁵ Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity.

²⁶ Eurostat.

²⁷ Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action.

Regarding the greenhouse gas emission reduction aspect of the **decarbonisation dimension**, the draft NECP is partially complete. It does not sufficiently substantiate how Estonia expects to reach its 2030 targets under the Effort Sharing Regulation (ESR). In particular, there is little detail on the status and anticipated effects of the policies and measures described.

The draft plan does not include an estimation of the annual binding emission limits in 2021-2030 under the Effort Sharing Regulation (ESR)²⁸. Neither does it apply the accounting rules as set out in the Land Use, Land Use Change And Forestry (LULUCF) Regulation²⁹, which are necessary to assess whether Estonia would achieve its overall non-ETS target. Although it acknowledges the binding no-debit commitment of the LULUCF Regulation³⁰, there is no information on how this will be achieved under the Regulation's accounting rules. For example, the potential use of flexibilities between the LULUCF and the ESR sectors is not addressed, although they are likely to be important elements for Estonia's achievement of its overall 2030 target.

The draft plan provides information on targets and trajectories concerning **renewable energy**, but only percentages have been provided. For the estimated sectoral shares the final plan also needs to include absolute values, which would allow to validate that the sectoral contributions are coherent with the overall share of renewable energy. The same holds true for the renewable energy technologies in electricity and heating and cooling to achieve the overall sectoral trajectories from 2021 to 2030, as these are not provided. Information on the total installed capacity split between new and re-powered capacity needs to be included in the final plan.

The information on trajectories for bioenergy demand and supply, and trajectories for forest biomass, as well as an assessment of its source and impact on the LULUCF sink is missing from the draft plan, which is however especially important given the prominent role of bioenergy in Estonia's draft NECP. Measures regarding power purchase agreements (PPAs) and enabling framework to promote and facilitate development of renewable self-consumption, energy communities and simplification of administrative procedures are not included.

Scenarios with existing and additional measures for **energy efficiency** as well as an assessment of the impact of the planned policies are missing. The draft NECP only partially includes the required elements of the long-term renovation strategy. Policies and measures planned under the strategy, and policies and measures for the promotion of electromobility are not included.

On **energy security**, the draft NECP includes objectives related to ensuring security of electricity supply and diversification of gas supply, and a number of corresponding measures. The final plan would need to include information on import dependency and the diversification strategy. References to existing risk preparedness, preventive action and emergency plans, as well as oil stocks and emergency procedures would also be beneficial for the final plan. Given Estonia's focus on the digitalisation agenda, as evidenced for example by the Tallinn e-Energy declaration³¹, the final NECP could also address topics becoming more relevant for energy security in a 2030 perspective, such as cybersecurity.

²⁸ Regulation (EU) 2018/842 on binding annual greenhouse gas emission reductions.

²⁹ Regulation (EU) 2018/841 on greenhouse gas emissions and removals from land use, land use change and forestry.

³⁰ Regulation (EU) 2018/841 on greenhouse gas emissions and removals from land use, land use change and forestry.

³¹ <https://www.eu2017.ee/tallinn-e-energy-declaration>.

The **internal market** section of the draft NECP does not indicate the level of electricity interconnection Estonia is aiming for in 2030. Objectives and strategies to further develop competition in the market are missing. A full assessment of the dimension would necessitate more detailed information on the core quantitative parameters on the functioning of the national retail and wholesale gas and electricity markets as well as more clearly defined objectives and targets, supported by policies and measures.

The draft NECP does not include national objectives or funding targets to be achieved by 2030 as regards **research and innovation**, nor objectives related to the deployment of low-carbon technologies, which would be particularly relevant to support Estonia's ambition level for renewable energy development.

Very limited information is provided on **investment** needs. The final plan needs to include an assessment of the investment needs associated with the planned policies and measures, including sector or market risk factors or barriers and an analysis of additional public financial support or public funds to fill the identified gaps.

Robustness of the Estonian draft National Energy and Climate Plan

Elements of the **analytical basis** are included in the draft NECP. Details on the projection with existing measures (WEM) have been reported using the voluntary template. The projection with additional measures (WAM) is announced to be provided later in 2019. The plan uses European statistics for the data presented in some of the tables and graphs.

The **WEM projection** focusses on the decarbonisation and energy efficiency dimensions of the Energy Union. Key assumptions, parameters and results are reported up to 2035. Additional information would be desirable on the following variables: (i) the differentiation of sectoral greenhouse gas emissions between those covered by the EU Emissions Trading System (EU ETS) and those falling under the Effort Sharing Regulation, (ii) greenhouse gas emissions from international aviation, and (iii) non-GHG air pollutants.

Key model parameters such as gross domestic product, population as well as fuel and emissions prices are reported, ensuring **transparency** of the model based projections. The final plan could be enriched by (i) adding technology cost assumptions, (ii) providing information on sources and the modelling approach.

For the base year of 2015, key model parameters such as population, gross domestic product (assuming 2010 prices) and final energy consumption are largely in line with EUROSTAT figures. On the other hand, the draft plan follows its own assumptions for fuel and EU ETS prices. Parts of the impact assessment on planned policies and measures are present, namely regarding transport and agriculture. The final plan should complete the assessment of macroeconomic and, to the extent feasible, the health, environmental, employment and education, skills and social impacts, including just transition aspects.