EUROPEAN
COMMISSION

Brussels, 18.6.2019
SWD(2019) 223 final

COMMISSION STAFF WORKING DOCUMENT

Assessment of the draft National Energy and Climate Plan of Cyprus

Accompanying the document

Commission Recommendation

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

{C(2019) 4413 final}

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1. SUMMARY

Main observations[1]

- ✓ The draft integrated National Energy and Climate Plan (NECP) of Cyprus includes well-developed sections that will serve as a good basis for the development of a complete and coherent final plan. For example, various policies and measures have been presented, which seem generally coherent within and across Energy Union dimensions. The provided information would however benefit from a clearer presentation, for example by distinguishing between targets and projections, and by better describing the methodologies.
- ✓ Cyprus' 2030 target for greenhouse gas emission in sectors not covered by the EU Emissions Trading System (non-ETS) is -24 % compared to 2005 as set in the Effort Sharing Regulation (ESR)[2]. The draft NECP projects a 26 % gap to reaching Cyprus' ESR target in 2030 with existing measures and does not mention whether Cyprus intends to make use of the available flexibilities in the ESR, such as purchasing emission allocations from other Member States. It is noted that the planned policies and measures are still under development. Further consideration could be given in this section in particular to the transport sector, including on how Cyprus intends to reduce, as planned by 2030, the private use of cars by 30 % and to increase electromobility, public transport and cycling, as well as fuel switching for residential buildings. The draft NECP does not explain yet how Cyprus intends to achieve the Land Use, Land Use Change and Forestry (LULUCF) no-debit commitment (i.e. emissions do not exceed removals). It would also benefit from more details on the use of available flexibility in accordance with the accounting rules in the LULUCF Regulation[3].
- ✓ Based on a scenario with existing measures, Cyprus sets out a 19 % share of energy from **renewable** sources in gross final consumption of energy in 2030. This level of ambition, which is not set out clearly as the proposed national contribution to the EU renewable energy target for 2030, is significantly below the share of 23 % in 2030 which results from the formula contained in Annex II of the Governance Regulation, a situation which would also require an indicative trajectory in the final plan that reaches all reference points[4] in accordance with the national contribution set out in the final plan. For the transport sector, this share is projected to be at 7 % in 2030, compared to a 2020 target of 10 %. The final plan would benefit from elaborating further on the policies and measures allowing the achievement of the contribution and on other relevant sectorial measures.

[1] In addition to the notified draft NECP this assessment is based on 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] Pursuant to Article 4(a)(2) of Regulation 2018/1999.

- ✓ The proposed contribution to the EU **energy efficiency** target would actually allow Cyprus to increase its primary and final energy consumption in 2030 by 3.1 % and 18.8 % compared to 2017 levels, respectively. This would go in the opposite direction of the collective EU effort on energy efficiency. Cyprus mentions over 60 policies and measures that would contribute to achieving its energy efficiency contribution; the expected energy savings should be better factored-in in the final plan.
- ✓ Regarding the dimensions of **energy security** and **internal market**, Cyprus plans to diversify its energy sources by introducing natural gas via LNG import infrastructure and possibly domestic resources, increasing renewable energy penetration, improving conditions for demand response via network modernisation and regulatory changes, fully implementing a competitive electricity market, and by **interconnecting** its currently isolated electricity system. A more detailed description of the measures concerning the gas market and of the state of play, as well as of the remaining barriers and expected timelines for achieving a fully operational and competitive electricity market, would help to improve investor certainty and should be included in the final plan. The final plan would also benefit from considerations of how the proposed policies and measures across dimensions are expected to impact the level of energy poverty.
- ✓ With regard to **research, innovation and competitiveness**, Cyprus plans to triple its annual spending on energy and climate related research and innovation, which can be considered as good practice. The draft plan would benefit from a clear strategy and objectives for research and innovation to be achieved by 2030 through these additional funds. More concrete objectives for competitiveness, in particular for the industry sector, could have been included.
- ✓ The draft plan includes partial information on **investment needs**, although with limited detail and explanations and spread across different sections 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. A dedicated section on investment needs and its sources at national and Union level is needed in the final plan.
- ✓ For some of the Energy Union dimensions, there is already **regional cooperation** taking place between Cyprus and Greece, and also other Member States in the region. The final NECP could provide a more detailed, forward looking perspective for regional cooperation across all the Energy Union dimensions.
- ✓ The final plan would benefit from complementing the draft plan's analysis of the interactions with **air quality and air emissions** policy with more quantitative information.
- ✓ The issue of a **fair and just transition** to a climate neutral economy could be better integrated throughout the draft plan, by considering social and employment impacts related to a green and circular economy, such as shifts in sectors/industries (and the related skills/training impacts), distributional effects and revenue recycling.
- ✓ A list of all **energy subsidies,** including in particular for fossil fuels, and actions undertaken and planned to phase them out need to be included in the final plan.
- ✓ In the research and innovation dimension, the draft plan defines broad objectives to help increase energy efficiency, renewable energy, energy security and tackle climate change, while adding value for businesses and policy makers, along with more detailed objectives such as tripling the budget for research and innovation in energy and climate for the 2021-

2030 period or decoupling economic activity from the use of fossil fuels. This constitutes a **good practice**.

Preparation and submission of the draft plan

Cyprus notified its draft National Energy and Climate Plan (NECP) to the European Commission on 29 January 2019. The draft NECP of Cyprus was developed by an inter-ministerial team within a dedicated **national governance system for climate and energy**. The structure includes several national ministries and is co-chaired by the Minister of Agriculture, Rural Development and Environment and the Minister of Energy, Commerce and Industry. The draft plan is not explicitly based on an existing energy or climate strategy but takes into account various prior studies and sectoral plans.

A number of relevant stakeholders has already been consulted and involved in the working groups during the preparation process but the Cypriot draft plan does not yet include the outcomes of the **public consultation** and **regional cooperation** processes. A first discussion also took place in the national parliament, and an additional consultation is foreseen for the final plan.

Overview of the key objectives, targets and contributions

The following table presents an overview of Cyprus' objectives, targets and contributions under the Governance Regulation[5]:

	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) (%)	+3	-5	-24	As in ESR
	National target/contribution for renewable energy: Share of energy from renewable sources in gross final consumption of energy (%)	9.9	13	19	Below 23 % (result of RES formula)
	National contribution for energy efficiency: Primary energy consumption (Mtoe) Final energy consumption (Mtoe)	2.5 1.9	2.2 1.9	2.6 2.2	Very low Very low

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

	Level of electricity interconnectivity (%)	0	0	Not provided	N/A

Sources: EU Commission, ENERGY STATISTICS, Energy datasheets: EU28 countries; SWD(2018)453; European Semester by country[6]; COM/2017/718; Cypriot 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

The draft NECP states Cyprus' **non-ETS target** as defined in the ESR, i.e. a 24 % reduction by 2030 relative to 2005. It mentions no other objectives and targets for GHG emissions. With existing measures, the draft plan projects a 26 % gap for reaching the 2030 target[7]. To bridge this gap, significant additional measures, including possible use of flexibilities under the ESR, will be needed in the final NECP.

The draft plan gives an overview of key climate policies to achieve the ESR target, including some planned measures. It could not be verified whether these would suffice to bridge the identified gap, as an impact assessment of the planned measures is missing. The most important GHG reduction measures include the preparation of a recovery system for F-gases in equipment, the promotion of anaerobic digestion for the treatment of animal waste, the reduction of waste to solid waste disposal sites from sorting at production level, and the reduction of organics to landfills.

Transport is not listed among the key policies affecting the 2030 ESR target, even though it comprises 23 % of the GHG emissions in 2016 and emissions from road transport increased by 68 % compared to 1990. Beyond the below described modal shift and increased use of renewable fuels, it is expected that about 25-50 % of new vehicles will be electric by 2040, but this statement is not matched by planned investments in infrastructure. The plan could elaborate, in further detail, policies for supporting alternative fuels in all modes of transport.

The draft plan mentions policies and measures in **agriculture and forestry**, but it is not clear whether these are existing or planned policies nor is their mitigation or removal potential indicated, and how the Common Agricultural Policy would be considered. Specific measures for forest adaptation linked to Cyprus' Rural Development Programme 2014-2020 are described.

[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] It is noted that for calculating these emission reductions, Cyprus uses currently a 2005 effort sharing emission estimate of 3.95 Mt. There is a difference with the Commission's published Effort Sharing Decision 2005 base year data of 4.18 Mt (SWD(2018) 453 final, Table 4), Using the latter would lead to a slightly lower gap. Differences to be reflected in the estimate for the final NECP could arise due to recent GHG emission inventory updates.

The National Adaptation Strategy and Action Plan of 2017 and update in December 2018 are mentioned, and coordination, responsibilities and stakeholder consultation are described. However, Cyprus' adaptation goals are not described.

Renewable energy

The **renewable energy contribution** for the 2030 EU target is based on the with existing measures projection (WEM) but has not been clearly set out as national contribution to the EU renewable energy target for 2030 in the draft plan. The share of 19 % is significantly below the share of 23 % in 2030 that results from the formula contained in Annex II of the Governance Regulation. [8] The **indicative trajectory** over the 2021-2030 period to reach the 19 % contribution, provided only as part of the analytical basis, does not reach the reference points of 43 % by 2025 and 65 % by 2027.

For the **electricity sector**, the WEM scenario provides for a 26 % share of renewable energy in 2030, with solar capacity as the main renewable electricity generation technology. Cyprus envisages the deployment of 72MW Li-Ion batteries, which are expected to provide higher operational flexibility and improve the integration of renewable energy. However, the expected renewable energy capacity in 2030 could be put at risk by further delays in the full liberalisation of the electricity market, which continues to hinder the penetration of renewable energy in the electricity sector. The draft plan includes existing measures of net metering, net billing, self-consumption, communities and support schemes for production from renewable installations. It does not, however, provide details on whether these schemes will be renewed or replaced. This is only mentioned for the net metering and net billing schemes, which could be integrated in the self-consumption scheme.

For **heating and cooling**, the WEM scenario provides for a renewable energy share of 29 % in 2030. The draft plan does not show how Cyprus intends to increase renewable energy in heating and cooling by an indicative 1.3 percentage points as an annual average calculated for the periods of 2021 to 2025 and 2026 to 2030. Information on the role of waste heat or cold is not included. Only an existing measure for the use of solar water in households is included, with limited information on whether this measure will be renewed, replaced or complemented to reach the objective of an increased share of renewable energy in heating and cooling.

The renewable energy share in the **transport sector** is projected to be 7 % in 2030, compared to a 10 % target in 2020. For the 2030 transport share, Cyprus projects that second generation biofuels will be the main contributor to meet this target. However, Cyprus does not include the calculation of the transport target as required in the Renewable Energy Directive[9], taking into account the contributions of all eligible fuels 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.

Dimension energy efficiency

The proposed national contribution to the EU **energy efficiency target** which is provided in form of a projection, corresponds to a maximum final energy consumption of 2.2 Mtoe and to a primary energy consumption of 2.6 Mtoe in 2030. These levels would allow Cyprus to increase its primary and final energy consumption by a respective 3.1 % and 18.8 % compared to 2017

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

levels or 16.6 % and 15.2 % compared to Cyprus' 2020 targets. Overall, the contribution of Cyprus is unambitious taking into account the need to increase efforts to collectively reach the Union's 2030 energy efficiency targets.

At the same time, all sectors, including agriculture, industry, services, households and public sector, are targeted by existing or proposed policies and measures. For 2021-2030, the draft NECP states that the regulatory framework will be further adjusted to establish a secure, consistent and market-oriented framework for energy efficiency interventions, mainly targeting the building sector and, to a lesser extent, the transport sector. It is explained that the transport sector faces serious infrastructure constraints and is expected to perform very modestly in terms of energy efficiency improvements up to 2030. The draft NECP expects that by 2030 private vehicle use will decline by 30 % while public transport use will increase by 20 % and walking and cycling by 10 %. Support measures are to be provided in 2021-2030 but details are lacking. The draft plan should contain a description of existing and planned measures to improve efficiency in transport (e.g. incentivising multimodality and modal shift, intelligent transport systems, digitalisation and automation). . The possibility of setting up a railway system linking the main urban areas or developing a tram system in Nicosia, the main urban area, could be also exploited.The shift from oil to gas is mentioned as a way to address efficiency in the supply of energy. More emphasis will be put on standardization of energy services provided, the performance of such services, and their procurement and operation in the public sector.

Overall, policies and measures for the period 2021-2030 are not yet fully defined while subject to large uncertainties, and the draft plan rather describes the main areas of action. There are some inconsistencies in the way the measures are referred to across the draft plan. On the other hand, the voluntary template was completed with more than 60 measures, nearly half of which are new i.e. recently adopted, planned or provisional. Given the limited information about their expected impact and clear indications about those that will be implemented, it is not possible to assess whether the policy framework for the period 2021-2030 will be sufficient to achieve the energy efficiency contribution.

Cyprus has included some general information concerning policies and measures for buildings that could be implemented as part of its long-term renovation strategy. A cost-effective transformation of existing buildings into nearly zero-energy buildings could make a significant contribution to the energy efficiency target. The draft plan would benefit from a description of realistic and ambitious policies and measures to support the implementation of a coherent long-term renovation strategy, as well as from specific milestones, measureable progress indicators and an estimation of expected energy savings and wider benefits.

Also the issue of water scarcity, namely as regards the energy use of the existing four (soon 5) desalination plants, would benefit from being considered in the final plan.

Dimension energy security

Key objectives mentioned in energy security are the introduction of natural gas via LNG imports, the development of demand response in the electricity sector, the development of domestic renewable energy and natural gas resources, as well as the interconnection of Cyprus' electricity grid. The draft plan contains existing and planned policies and measures that should contribute to achieving these goals, for example through changes to the regulatory framework, enabling grid services by demand response or through the tender announcement for LNG import infrastructure. In view of Cyprus' high reliance on imported oil products, currently covering more than 90 % of its gross inland energy consumption, the diversification of energy sources would be a welcome development. However, more details could be provided in the final plan, including quantitative

estimates on import dependency, descriptions of remaining barriers, and detailed milestones linking objectives to planned policies and measures. Clear links to European Union legislation, for example on minimum oil stocks, risk preparedness and, in view of Cyprus' plans of introducing natural gas, the security of gas supply, would be welcome in the final plan. Existing preventive action and emergency plans on oil stocks, and with regard to cybersecurity should be described in more detail in the final plan.

Dimension internal energy market

Cyprus has not provided a numerical electricity **interconnectivity level** indicator but the draft plan adequately makes reference to the planned EuroAsia Interconnector Project of Common Interest (PCI), aiming to end the country's electricity system isolation. Cyprus remains the only Member State with an isolated electricity system and its support for cost-effective interconnection is welcome, also for the potentially significant benefits in the internal market, decarbonisation and energy security dimensions.

Cyprus is progressing in the establishment of competitive electricity markets and in introducing natural gas into its energy mix. Both processes have however been subject to significant delays in past years and potential further delays could pose a risk in achieving several of the objectives and measures presented in the draft plan. For example, the establishment of electricity forward, day-ahead, intraday and balancing markets will be a pre-condition for demand response, renewable energy and aggregation in these markets. While it is positive that the draft plan mentions the completion and operationalisation of its new market model as an existing measure, a more detailed explanation of the state of play, remaining obstacles and detailed timelines for establishing these markets could help improving investor certainty. In a similar vein, more details about the future gas market design and related regulatory measures could have been provided.

The introduction of a ‘net pool’ model, in compliance to the EU Target Model, is a policy measure that will modernise and increase the competitiveness of the Cypriot electricity market. Unbundling the activities of the state power company (EAC) opens up the market and a regulated price is planned to be introduced for the bilateral sale of electricity from EAC to suppliers. Fixing this price should respect the State aid principles and open the way to full market liberalisation. Given the small size and current isolation of its electricity system, flexibility will play a particularly important role in Cyprus in the years to come. This could have been better reflected in the draft plan with a description of specific objectives and policies and measures regarding aspects such as real-time price signals, the non-discriminatory participation of demand side flexibility sources and increased market competitiveness. A quantitative overview of the development of the different sources of flexibility should be included in the final plan as well as a more detailed description of the tools supporting their uptake, including modalities to remove barriers for the participation of aggregators. On the positive side, the draft plan describes electricity network modernisation projects that can be instrumental in this respect, including smart metering rollout and the deployment of smart grids for automation control and data acquisition and management. More information on these infrastructure investments, particularly regarding detailed planning and key milestones, would provide additional value.

The planned introduction of an independent comparison tool, the launching of energy communities, and the provision for supplier switching in 24 hours within a preliminary timeframe are welcome measures in the retail market area. Market entry and dynamism could be further encouraged by including a specific, possibly quantitative target for improving retail market competition.

There are no plans indicated for a national indicative objective to reduce **energy poverty**, estimated by Cyprus at 3.1 % of the total population. Existing measures tackling energy poverty and protecting vulnerable consumers are mentioned and include financial incentives for investments in energy efficiency and photovoltaic installations and a special electricity tariff. The final plan would benefit from considerations of how the proposed policies and measures across dimensions are expected to impact the level of energy poverty.

Dimension research, innovation and competitiveness

It is positive that the draft plan provides for a substantial increase in annual spending in research and innovation related to energy and climate, from currently some EUR 5 million to EUR 15 million as of 2020 up to 2030. A clear identification of research and innovation **objectives** to be achieved by 2030 could ensure more effective spending of these funds. The national objectives related to the deployment of low carbon technologies are still under development and expected in the final plan.

As regards competitiveness, the draft plan identifies the decoupling of economic activity from the use of fossil fuels by increasing energy efficiency as well as maximizing the use of renewable energy as a key challenge, but does not set out specific objectives other than the general renewable energy and energy efficiency targets. The draft NECP would benefit from presenting an 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 could be envisaged on that basis, together with policies and measures to achieve them, making appropriate links to enterprise and industrial policy.

While a brief description of planned policies and measures has been provided in the draft NECP, the objectives are not always clear and do not seem to add up to a consistent research and innovation strategy that would support the implementation of the Cypriot draft NECP. The draft plan describes **Strategic Energy Technology (SET) Plan** priorities, and indicates the sectors in which Cyprus will concentrate, but it does not provide explanatory details on Cyprus' role or concrete figures on how the SET Plan target will be aligned with the national energy and climate targets for the period 2021-2030. Moreover, no information as to specific SET Plan contributions has been provided. As regards financing, all measures identified in the draft NECP relate to the period 2014-2020, reflecting the absence of a concrete, forward looking research and innovation strategy in the draft plan.

3. COHERENCE, POLICY INTERACTIONS AND INVESTMENTS

It is clear that Cyprus has used extensive modelling for the development of the draft plan and it should be able to offer more information on **policy interactions**, including quantitative estimates. Since the impact assessment of the draft NECP is missing, the internal coherence of the proposed policies and measures cannot be fully assessed. The brief descriptions of the interactions of policies and measures between different dimensions are not yet complete, especially due to the absence of an analysis of potential negative impacts. Those policies and measures that have been described in more detail are largely coherent. Concerning the energy efficiency first principle, the draft NECP states that energy efficiency measures were prioritised in the with additional measures (WAM) scenario. However, this WAM scenario is not described in much detail in the draft plan and has not been provided as part of the analytical basis. The final plan would also benefit from indicating how the Common Agriculture Policy would be considered for reducing

GHG emissions and increasing removals. The sustainability of biomass used for energy is also a concern which could be elaborated in the final plan.

The issue of a **just and fair transition** to a climate neutral economy could be better integrated throughout, by considering social and employment impacts related to a green/circular economy, such as shifts in sectors/industries (and the related skills/training impacts), distributional effects and revenue recycling.

The draft plan has very limited information on interaction between climate and other relevant policies like the **circular economy** or **biodiversity**. Circular economy practices are described under "waste", to comply with EU regulations, without capitalising on the potential of the circular economy for decarbonisation. There are almost no references to the synergies and trade-offs of climate policy with biodiversity and the role of ecosystem services for mitigation and adaptation. **Biomass** is expected to play a major role in the energy mix, but the plan does not assess its potential sustainable supply and its limits.

The final plan would benefit from complementing the draft plan's analysis of the interactions with air quality and air emissions policy with more quantitative information.

The draft plan contains a partial assessment of the **investment needs** and expenditures, funding sources and other relevant information. However, the information is scattered across different sections of the draft plan and is not sufficiently comprehensive to allow for an in-depth assessment of the investment needs. The final plan is expected to include a comprehensive section identifying the investment needs as a whole, split by dimension and sub-dimension, along with a clear description of the methodology used for their estimation. Some investment needs could partly be covered by EU funds, in particular cohesion policy funding, notably in line with the investment guidance for 2021-2027 of the 2019 European Country Semester Report for Cyprus and with any other relevant legislation.

Links with the European Semester

Identifying financing needs and securing the necessary funding will be key to deliver on Cyprus' energy and climate objectives, issues addressed in the European Semester 2019. Based on the 2019 Country Report for Cyprus, published on 27 February 2019[10], the 2019 European Semester country-specific recommendations to Cyprus issued on 5 June 2019[11] highlight the need to invest in 'sustainable transport, environment, in particular waste and water management, energy efficiency and renewable energy'. When preparing its overview of investment needs and related sources of finance for the final plan, Cyprus needs to take into account these recommendations and links to the European Semester.

The draft plan includes a description of **energy subsidies** for renewable energy and vulnerable consumers. Based on internationally used definitions, energy subsidies, also including subsidies for fossil fuels, were identified in Cyprus in the Commission report on Energy Prices and Costs

[10] SWD(2019) 1012 final.
[11] COM(2019) 513 final.

in Europe[12]. The final plan should include national policies, timelines and measures planned to phase out energy subsidies, in particular fossil fuel subsidies.

The draft NECP includes no information on how climate change risks might affect energy supply, such as wildfires and storms destroying biomass resources and power networks, or changes in the availability of wind power, despite the fact that Cyprus' National Adaptation Plan sets measures for the energy sector. Information is also lacking on adaptation benefits for energy efficiency, such as in the thermal management of buildings.

4. REGIONAL COOPERATION

Cooperation in some of the Energy Union dimensions is already taking place between Cyprus and Greece, as well as with other Member States in the wider region. The final NECP could provide a more detailed, forward looking perspective for regional cooperation across all the Energy Union dimensions.

Cyprus intends to continue its regional cooperation in the internal market dimension both for electricity and gas, which is welcome. For electricity, the draft NECP mentions the EuroAsia Interconnector (PCI) as an additional measure, which would connect Cyprus to the electricity grids of Greece and Israel. Ending the electricity grid isolation of Cyprus would create the conditions for additional, mutually beneficial regional cooperation in areas such as generation adequacy and renewable energy and could produce significant benefits in the internal market, energy security and decarbonisation dimensions. For natural gas, Cyprus cooperates with Greece, Italy and Israel on the EastMed Pipeline, which would contribute to diversification of energy supply in Cyprus and the EU. For the dimensions of research, innovation and competitiveness, energy efficiency and decarbonisation, the draft plan mentions ongoing interregional programmes co-funded by European Structural and Investment Funds but does not yet include a more forward looking perspective.

Many of the challenges Cyprus faces relate to its geographical characteristics as an island country located relatively distant from all other EU Member States. In May 2017, the Clean Energy for EU Islands Initiative was launched, aimed 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 Cyprus is a signatory to the political declaration for this initiative, it has not mentioned it in the draft NECP. Cyprus could consider doing so in its final plan, and enhance cooperation with other Member States and island regions facing similar challenges and opportunities. This could include exchange and cooperation in areas such as interconnections, clean transport, system integration of local renewable production, specific demand response opportunities, for example from desalination plants or cooling loads, and the cost-effective deployment of energy storage systems.

[12] 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.

5. COMPLETENESS OF THE DRAFT PLAN

Information provided

The Cypriot draft NECP follows the template set out in Annex I of the Governance Regulation[13]. However, several elements are not or only partially provided and some sections contain information that could have been better presented in other parts of the final plan. Section 5 of Annex I is not included. The use of voluntary templates[14] to report on quantitative projection parameters and results as well as on policies and measures is welcome. While over 100 policies and measures have been provided and several of them are well described, the level of detail varies across dimensions and the link to the analytical basis of the draft plan is not always clear.

The **decarbonisation dimension** of Cyprus' draft NECP is partially complete. As regards **greenhouse gas** emissions, it does not include an estimation of the expected annual emission reduction trajectory for the period 2021-2030 under the ESR[15], and it does not mention whether Cyprus intends to make use of the available flexibilities.

There is no indication of how Cyprus will achieve the **LULUCF** no-debit commitment nor if it intends to use any available flexibilities, in accordance with the accounting rules set out in the LULUCF Regulation[16]. In addition, the draft plan does not mention Cyprus' adaptation goals. With respect to the National Forestry Accounting Plan including the national Forest Reference Level, submitted by Cyprus as required by Art. 8(3) of the LULUCF Regulation, the Commission has put forward substantial technical recommendations requesting action on a range of issues, detailed in SWD(2019) 213.

For **renewable energy**, the indicative trajectory for the reference points in 2022, 2025, and 2027 was not explicitly stated in the draft plan, but was provided as part of the analytical basis. Estimated trajectories by renewable energy technology are provided in absolute values for the electricity sector while for heating and cooling only shares are included and no trajectory by technology is provided for transport. Information is missing 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, as well as on the assessment of its source and impact on the LULUCF sink. Planned capacities are described but are not split between new capacities and repowering. The information provided with regard to policies and measures is rather generic, with many elements of section 3.1.2 of Annex I of the Governance Regulation[17] missing. The draft plan does not include information on investments needed until 2030.

Also for **energy efficiency**, the national contribution is not explicitly mentioned as such in the draft plan, but has been provided in form of a projection. Some additional key elements are missing, particularly those related to buildings to be included under section 2.2.ii of Annex I of the Governance Regulation[18]. A first estimation of the cumulative target for the period 2021-2030

[13] Annex I of the Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action.
[14] Voluntary template for policies and measures, voluntary template for reporting of used parameters and variables included in Annex I, part 2 of the Governance Regulation.
[15] Regulation (EU) 2018/842 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030.
[16] Regulation (EU) 2018/841 on greenhouse gas emissions and removals from land use, land use change and forestry.
[17] Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action.
[18] Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action.

for Article 7 of the Energy Efficiency Directive[19] has been provided but needs further refinement. Specific values regarding cost-optimal levels of minimum energy performance requirements for buildings are not included.

Regarding **energy security**, only limited information on future electricity generation adequacy beyond Cyprus' plans to set out strategic reserves has been provided. The links with existing EU legislation, including on electricity risk preparedness, are not sufficiently described.

Regarding the **internal market dimension**, the draft plan refers to the PCI aiming at interconnecting Cyprus to Greece and the rest of the EU. Furthermore, the draft NECP contains only limited information on Cyprus' plans to establish electricity forward, day-ahead, intraday and balancing markets, a pre-condition for the participation of demand response, renewable energy and aggregation in these markets. The draft plan does not sufficiently address measures related to gas, considering Cyprus' plans to introduce natural gas into its energy mix by late 2020.

For **research, innovation and competitiveness**, the draft plan provides a funding target but does not specify the objectives that are to be achieved by 2030. The current situation in the low-carbon technologies sector is not described.

Robustness of the Cypriot draft National Energy and Climate Plan

Some of the required elements of the **analytical basis** are present in Cyprus' draft plan. It reports a with existing measures (WEM) scenario in the voluntary template. The draft plan also contains elements of a with additional measures (WAM) scenario.

The **WEM** projection focusses on the energy efficiency and decarbonisation dimensions. Additional information would be desirable on the following variables: (i) the differentiation of sectoral GHG emissions per IPCC gas, (ii) GHG emissions from international aviation, (iii) GHG emissions and sinks from LULUCF, (iv) non-GHG air pollutants, (v) energy related investment needs (absolute values and as a percentage of GDP). The draft plan presents elements of a **WAM** scenario for energy efficiency. More information would be desirable on the role of this scenario and its relation to the WEM scenario.

The model-based projections are presented in a **transparent** way: key parameters have been provided with the exception of the number of households, which should be included in the final plan. Sources of the parameters and assumptions are provided in most cases. The key models used have been mentioned, yet the modelling approach has not been documented in detail.

Of the key model parameters, population and primary energy consumption are largely in line with EUROSTAT figures for the base year 2016. Figures for renewable electricity have not been reported for the projections base year. The GDP figures for the year 2017 in the draft plan are in line with EUROSTAT figures. The draft plan follows the EU ETS carbon price assumptions recommended by the Commission and its own assumptions for international fuel prices.

The impact assessment of planned policies and measures is announced to be included in the final plan. The assessment in the final plan should include, as a minimum, an assessment of the macroeconomic impacts and, to the extent feasible, the health, environmental, employment and education, skills and social impacts, including just transition aspects.

[19] Article 7 of the 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.