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CORRIGENDUM

This document corrects document SWD(2020) 911 final of 14.10.2020

- Modifications are introduced in Annex 1 of the report, regarding specifically values and annotations in tables 1 and 2.

- Minor editorial changes throughout the document.

The text shall read as follows :

COMMISSION STAFF WORKING DOCUMENT

Assessment of the final national energy and climate plan of Italy

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1. SUMMARY

Italy's final integrated national energy and climate plan ('NECP')¹ sets a 2030 reduction target for **greenhouse gas ('GHG') emissions** not covered by the EU emissions trading system ('non-ETS') at -33%, as compared to emissions in 2005. Italy aims to exceed this target, with planned measures expected to reduce Italian GHG emissions in the Effort Sharing Regulation (ESR) sectors by 35% in 2030 compared to 2005. The NECP also estimates the cumulative additional reduction effort in relation to the existing policies and measures projection between 2021 and 2030. The plan lacks precise indications on how Italy intends to achieve the land use, land use change and forestry (LULUCF)² 'no-debit' commitment (i.e. that accounted emissions do not exceed removals). The NECP identifies the objectives of Italy's national adaptation strategy for the energy sector, and refers to the ongoing preparation of the national adaptation plan.

Italy sets a **contribution of 30%** (as a share of gross final consumption) **to the 2030 EU renewable energy target**, maintaining the same level indicated in the draft NECP. This is considered as sufficiently ambitious as it is above the minimum share of 29% resulting from the formula in Annex II of the Governance Regulation³.

For **energy efficiency** the Italian contribution to the collective 2030 EU target is sufficient⁴ and amounts to 125.1 Mtoe for primary energy and 103.8 Mtoe for final energy consumption. The contribution has not changed in comparison to the draft plan. The final plan provides substantial information on the actions and national goals to renovate the building stock. Italy has not yet submitted its long-term renovation strategy.

The final NECP sets **new objectives for energy security**. The NECP aims at reducing the level of dependency (from 77.7% in 2016 to 75.4% in 2030 and to 74.6% in 2040) and sets out levels for additional storage (almost 1000 MW by 2023, split between hydroelectric and electrochemical production, and 6 000 MW in addition to 4 000 MW distributed storage by 2030).

On the **internal energy market**, the final plan includes objectives, policies and measures such as removing price distortions or including measures to ensure the non-discriminatory participation of new market participants in the deployment of the second generation of smart metering systems and the phasing-out regulated prices. However, there is a lack of clear objectives, milestones and timelines to deliver on the envisaged reforms and measures. On **electricity interconnectivity**, Italy expects to increase its interconnectivity level to 10% by 2030.

In terms of national objectives and funding targets for **research, innovation (R&I) and competitiveness**, the final NECP confirms the objective to double the public funds for research into clean energy, from around EUR 222 million in 2013 to the approximately EUR 444 million from 2021. The overall R&I target is a 1.53% of GDP by 2020.

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

² 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 Regulation (EU) No 525/2013 and Decision No 529/2013/EU.

³ The Commission's recommendations with regard to the Member States' renewable ambitions are based on a formula set out in this Regulation. The formula is based on objective criteria.

⁴ In accordance with the methodology as illustrated in the SWD(2019) 212 final.

On investment needs, the NECP provides substantial information, including the incremental annual investments needs for 2017-2030 across different sectors and their expected macroeconomic impacts. The NECP estimates that, between 2017 and 2030, EUR 183 billion in cumulative **additional investment** are needed compared to the current policies scenario (equivalent to an 18% increase) to address the objectives set out by the plan. The assessment of expenditure and funding sources presented for the national, regional or Union levels remains partial.

The measures contained in the plan are well coordinated with **air quality** policy and the impacts of different measures on reduction of most relevant air pollutants are well reflected.


The final plan also includes a list of **energy subsidies**, in particular for fossil fuels, and related actions undertaken and plans to phase them out. The list of energy subsidies appears to be in line with the figures and categories as identified in recent Commission analyses on energy subsidies. However, specific actions to gradually phase-out harmful subsidies remain limited.

On a **socially just and fair energy transition**, the NECP provides a good analysis of the expected socioeconomic impact, focusing on the phase-out of coal and possible impacts on occupation and skills. Italy estimates that implementing the NECP will create 117 000 additional jobs each year in 2017-2030. In addition, the NECP analyses the professions that will be affected most by the energy transition, how these can be re-skilled, and the jobs ‘of the future.’




On **energy poverty**, Italy reports the number of households affected and lists several existing measures to reduce energy poverty as well as future ones that are going to be implemented. However, the plan does not set any specific and measurable objective for 2030 and only includes an estimate of a slight reduction of the incidence of energy poverty as a projection of existing trends.

There are **several examples of good practice** in the final plan, in particular the confirmed phase-out of coal from electricity generation by 2025, the ambitious goals on electromobility, the comprehensive overviews of investment needs and energy subsidies.

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

	National targets and contributions	Latest available data	2020	2030	Assessment of 2030 ambition level
	Binding target for greenhouse gas emissions compared to 2005 under the Effort Sharing Regulation (ESR) (%)	-18	-13	-33	As in ESR
	National target/contribution for renewable energy:	17.8%	17%	30%	Sufficiently ambitious

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.

	Share of energy from renewable sources in gross final consumption of energy (%)				(29% is the result of RES formula)
	National contribution for energy efficiency:				
	Primary energy consumption (Mtoe)	147.2	158	125.1	Sufficient
	Final energy consumption (Mtoe)	116.5	124	103.8	Sufficient
	Level of electricity interconnectivity (%)	8.8%	8%	10%	n.a.

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

2. FINALISATION OF THE PLAN AND CONSIDERATION OF COMMISSION RECOMMENDATIONS

Preparation and submission of the final plan

Italy **notified** its final NECP to the Commission on 31 December 2019.

Alongside its final NECP, Italy notified a table indicating the sections of the NECP addressing the Commission's recommendations.

Italy organised an online **public consultation**, which ran from 20 March to 5 May 2019, to gather comments and proposals, particularly on the measures identified in the draft NECP. The main outcomes of the consultation are briefly described in the final NECP. The NECP also describes briefly how these comments have been taken into account. However, there is no summary of how these comments have been taken into account. In addition, dedicated thematic experts groups met. A **strategic environmental assessment** (SEA) was also carried out on the NECP under Directive 2001/42/EC.

Consideration of Commission recommendations

In June 2019, the Commission issued nine recommendations to Italy in view of the finalisation of its NECP⁶. Annex II to this staff working document provides a detailed account on how the different elements of Commission recommendations have been reflected in the final NECP. Overall, the final NECP **largely addresses** most of the Commission recommendations. The main changes introduced in the final plan are the following:

On **renewables**, Italy **largely addressed** the recommendation to improve sectoral objectives for renewables and to strengthen policies and measures. Compared to its draft NECP, Italy has slightly increased the share of renewables in the heating and cooling sector and in the transport sector (22% by 2030). The latter is particularly ambitious and well above the EU target of 14%. The final NECP also reports new measures to promote local energy communities, self-

⁶ Commission Recommendation of 18 June 2019 on the draft integrated national energy and climate plan of Italy covering the period 2021-2030, C/2019/4412.

consumption and administrative simplification. However, those policies might not be enough to achieve the proposed level of ambition particularly beyond 2022.

On **energy efficiency**, Italy **partially addressed** the recommendation to update and scale up energy efficiency policies and measures. Both contributions for primary energy and final energy consumption remained in line with the values included in the draft NECP, are considered as sufficient to achieve the EU level target for 2030. The plan includes most of the required information on the measures needed to achieve the energy savings targets, including for buildings. Some measures are lacking detail on how the instruments will be upgraded or reformed. On buildings, the information provided has much improved. Most of the mandatory elements on the long-term renovation strategy have been provided, for instance on indicative milestones for 2030 and an estimation of expected energy savings. The long-term renovation strategy has not been submitted yet.

On **energy security**, Italy **partially addressed** the recommendation to outline the measures supporting the energy security objectives and to clarify the role of gas. In particular, Italy detailed measures and indicators on flexibility, particularly taking into account diversification, demand response and storage. However, the NECP still misses specific targets or timelines. The plan also gives limited explanation about the regional context when assessing resource adequacy in the electricity sector, the impacts of the capacity remuneration mechanisms and the phase-out of coal-fired power plants in terms of consumers prices.

Linked to the **internal energy market**, Italy **partially addressed** the recommendation to set clear objectives, milestones and timelines. The final plan includes additional objectives, policies and measures linked to both the wholesale and retail market but lacks measurable and robust key performance indicators. It promotes sector integration, better integration of renewables, and favours the active role and the protection of prosumers and consumers.

On **research, innovation and competitiveness**, Italy **did not address** the recommendation to clarify the national objectives and funding targets. The final NECPs misses specific and quantified objectives. The links with SET plan priorities remain weak. And the competitiveness angle is underdeveloped.

Italy **partially addressed** the recommendation to strengthen **regional cooperation**. Several actions have been undertaken to reinforce regional dialogues, particularly across the Mediterranean. However, exchanges with France, Germany and Switzerland on the priorities of the NECP are not reported. Specific initiatives/deliverables that have been identified remain limited.

Italy **largely addressed** the recommendation to list actions undertaken and plans to **phase-out energy subsidies**, in particular for fossil fuels. A comprehensive and quantitative catalogue of environmentally harmful (as well as favourable) subsidies has been included, and steps to phase-out the harmful subsidies are described, including the creation of a new commission tasked with eliminating environmentally harmful subsidies. At this stage specific subsidies to be phased out have yet to be identified.

Italy **fully addressed** the recommendation to complement the **analysis on air quality and air pollutants emission**. Emission reduction projections for relevant air pollutants have been included followed by a list of measures aiming to contribute to improved air quality. Explanations on the linkages between air and climate plans analysis are provided.

Italy **partially addressed** the recommendation to better integrate **just and fair transition aspects**. The NECP announces the creation of a new institution/observatory to monitor and develop a national strategy on the fight against energy poverty, but specific targets have yet to be established.

Links with the European Semester

In the context of the European Semester framework for the coordination of economic policies across the EU and of the country report 2019⁷, Italy received country-specific recommendation⁸ on climate and energy indicated that Italy should “focus investment-related economic policy in research and innovation and in the quality of (sustainable) infrastructure, taking into account regional disparities”. However, identifying financing needs and securing the necessary funding will be key to deliver on Italy’s energy and climate objectives. In the 2020 country report⁹ adopted on 20 February 2020, the Commission found that Italy has already reached its 2020 targets on greenhouse gas emissions reduction, renewable energy and energy efficiency.

Due to the COVID-19 crisis, the European Semester country-specific recommendations for 2020 addressed Member States’ responses to the pandemic and made recommendations to foster economic recovery. In particular, they focused on the need to start mature public investment projects as soon as possible and promote private investment, including through relevant reforms, notably in the digital and green sectors. In this context, Italy received a country-specific recommendation¹⁰ stressing the importance of focusing investment on ‘the green and digital transition, in particular on clean and efficient production and use of energy, research and innovation, sustainable public transport [...]’ The 2020 Semester Country Report found that energy efficiency of buildings, climate adaptation, prevention of hydrogeological and seismic risks, and water and waste management in some regions remain a challenge, together with air quality and sustainable mobility. Investing in environmental sustainability could be an opportunity for growth.

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

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

⁸ Recommendation for a Council Recommendation on the 2019 National Reform Programme of Italy and delivering a Council opinion on the 2019 Stability Programme of Italy, COM(2019) 512 final.

⁹ Commission staff working document, Country Report Italy 2020, SWD/2020/511 final.

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

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

Decarbonisation

Greenhouse gas emissions and removals

The NECP confirms Italy's 2030 non-ETS target of -33% below 2005 under the Effort Sharing Regulation and provides the estimated absolute numbers of the target for 2025 (243 Mt CO₂eq) and 2030 (221 Mt CO₂eq). It also estimates the cumulative additional reduction effort of 142 Mt CO₂eq, in relation to the existing policies and measures projection between 2021 and 2030. On the basis of information in the NECP, with planned policies and measures (WAM scenario), Italy would achieve 34.6% reductions in the ESR sectors in 2030 compared to 2005. Annual emission allocation budgets are only presented for 2025 and 2030. For the EU ETS sector, the EU-wide target of -43% compared to 2005 is applied, but under the WAM scenario the NECP shows an overachievement, assessing the reduction to -55.9%. There is no indication on whether Italy expects to generate credits from the LULUCF sector and whether it would use them to comply with the ESR. Italy has also a quantitative target for further emission reduction in the building sector. In the civil sector (residential and tertiary), the reduction in emissions for 2030 compared with 2005 in the scenario for the NECP totals approximately 35 MtCO₂eq.

Overall, policies are consistent with national targets. The final NECP is well developed, sets targets, trajectories are often provided along with an indication of the technology and the sector contributing to targets. However, the analysis of the decarbonisation dimension contains some shortcomings. The lack of data, including the unclear assumptions behind the impacts of policies and measures, makes it difficult to evaluate if the GHG emission reductions will be fully achieved.

For transport, the final plan identifies a broad range of measures, including incentives to modal shift, promotion of public transport, mandatory blending of alternative fuels and improved urban mobility planning requirements. Electromobility and the underpinning charging infrastructure is supported by fiscal incentives, mandatory minimum shares in public procurement, and funding to deploy publicly accessible charging points. Almost six million electrically powered vehicles are expected to be in circulation by 2030.

GHG projections for agriculture indicate emissions would remain stable with existing and planned policies. Planned policies in the agricultural and LULUCF sectors focus on animal husbandry waste management, investment and target for biogas, sequestration in agricultural soil and forestry, a programme for tree planting, potential payments for carbon sequestration in forests and arable lands. The plan refers to the common agricultural policy and preparation of a consolidated law on forests and a new national forest strategy. Relevant policies and measures are not very detailed or specific.

The final NECP confirms the objective of gradually phasing-out coal for electricity generation by 2025 in favour of an electricity mix based on a growing renewable energy share and, for the remainder, gas. This objective is conditional on the related infrastructure development and it is expected to take into consideration the social impact.

The NECP seems consistent with the national adaptation strategy (NAS). The NECP identifies the objectives of Italy's NAS for the energy sector, and refers to the ongoing preparation of the national adaptation plan. Specific measures to achieve NAS's overall objectives are presented for

the energy sector, grouped in various areas, including physical vulnerability, operation vulnerability, impacts on demand (addressing energy demand and agriculture). The NECP provides a list of project and actions to increase resilience as well as budgets. More information could be provided on the goals and strategies in the health and agriculture sectors.

As of 1 September 2020, Italy has not notified its national long-term strategy to the Commission as required under Article 15 of the Governance Regulation.

Renewable energy

The national contribution to the 2030 EU renewable energy target is specified in the plan. The **renewables share** is set at 30% in gross final consumption of energy in 2030. This is considered sufficiently ambitious as it is above the share of 29% by 2030 that results from the formula in Annex II of the Governance Regulation. The indicative trajectory to reach the 30% contribution in 2030 has been slightly updated, including specific reference points for 2022 (renewables share of 21%), 2025 (23%) and 2027 (26%). These reference points are just below the trajectory indicated in the Governance Regulation.

In the **electricity** sector, renewable energy generation is projected to reach almost 55% in 2030 (compared to 34.1% in 2017), with solar power becoming the main source of renewable electricity (52GW of installed capacity), ahead of the current main source which is hydropower (19.3 GW of installed capacity). Wind power capacity and electricity share will be roughly doubled by 2030 compared to 2017 (19.3 GW, of which 0.9 GW offshore). The number and type of policies might not be enough to achieve targets; particularly beyond 2022 where measures have yet to be budgeted and approved. Planned capacities are generally described but are not split between new capacities and repowering.

For **heating and cooling**, the ambition of the final plan has been slightly increased compared to the draft plan – to a share of 33.9% by 2030 (compared to 20.9 in 2020 – a 13% increase). In absolute terms, consumption from renewables is expected to surpass 15 Mtoe in the heating and cooling sector, an increase which is primarily linked to the increase in renewable energy provided by heat pumps (more than a doubling from 2.6 Mtoe in 2017 to 5.7 Mtoe in 2030). The plan states that the principal instruments to promote the renewables consumption in heating are often integrated with those for energy efficiency and are already operational. However, these measures are not assessed in terms of contribution to the renewable target in heating and cooling. There is also no calendar underpinning the annual increase of renewable heating and cooling for the 2021-2030 period.

In the **transport sector**, the share of renewable energy has been slightly increased compared to the draft plan, to reach 22% by 2030. The main measures are to promote advanced biomethane, and introduce a mandatory quota for the consumption of conventional and advanced biofuels by 2030. Other measures aim for increased energy efficiency and an increase of renewable electricity use in road and rail. Multipliers are included in the calculation of this trajectory as set out in Articles 25-27 of Directive 2018/2001. The renewable transport target is challenging but policies seem to be in place to support such an increase of renewable in this sector. The plan includes a description of 19 measures, including support to advanced biofuel, penetration of Electric Vehicles (EV) and modal shift to increase efficiency. Infrastructure policies are also consistent with this target and budget and policies are in place to create an EV and alternative fuels network.

Energy efficiency

Italy's national contribution for energy efficiency in 2030 is 125.1 Mtoe for primary energy and 103.8 Mtoe for final energy consumption. Italy has not made changes to the levels set out in the final plan compared to the draft plan. Also more generally, few changes have been made in comparison to the draft plan, except the assessment of the expected impacts of the planned policies and measures. Italy presents the **cumulative savings** to be achieved under Article 7 of the Energy Efficiency Directive¹¹ with a cumulative amount of 50 977 ktoe for the entire 2021-2030 period, which has been correctly calculated and the measures provided for are consistent with it. The expected savings of the measures in relation to Article 7 were provided together with other elements required, which were described in a dedicated separate document accompanying the plan.

Italy sets out nine main measures to achieve the energy efficiency goals and the plan provides information on all of them. These measures are mainly a continuation of the policy architecture already in place, but it is planned to step them up or in some cases to reform them. Some new elements can be seen in the measures on sustainable mobility and in the National Fund for Energy Efficiency, which has been approved in 2014 but will be fully implemented only in the coming years.

The expected savings from those measures is consistent with the target proposed and it is well reflected in the scenario with additional measures (WAM), which is the basis used by Italy for to calculate its 2030 goal. On that basis, the measures seem sufficient if properly implemented and upgraded. The largest impacts are attributed to the tax deduction mechanism for building renovation and the white certificate scheme, which are both already well established instruments in Italy. In addition, also the measures affecting the transport sector will have an important role. For the sectors affected, it is expected that the savings will be achieved mostly in the residential sector (35%) and transport (27%), followed by the commercial (25%) and industry (13%).

On energy efficiency in buildings, Italy showed a sufficient level of ambition. In this context, the measures and actions envisaged by Italy are realistic. The plan mentions that the exact number of buildings to be renovated will be determined in the long-term renovation strategy. However, for most of the measures, a clear timetable for their implementation is missing and there is no estimation of wider benefits. In the final NECP, Italy is planning the renovation of 130 mainly non-residential public buildings to nearly zero-energy buildings (NZEB) standards in 2020 (there are currently 1 400 NZEB across the country) and to accelerate the annual deep renovation rate to 0.7% for residential and to 2.9% for non-residential (hospitals excluded) buildings.

Energy security

Maintaining high levels of security of energy supply is a priority of the Italian NECP in view of the ongoing transformation of the energy system that points towards an objective of 55% renewable **electricity** and increasing shares of domestic renewable energy. When considering risks, the plan does not fully take into account the **plans of the other connected Member States** or the specific risks of isolated territories such as Sicily or Sardinia, even though the plan states that the decarbonisation objective is posing a number of problems as regards managing the security.

¹¹ 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.

Italy aims to reduce the level of dependency from 77.7% in 2016 to 75.6% in 2030 and to 74.6% in 2040 and in terms of electricity storage to increase gradually available capacity, in particular 1 000 MW by 2023 and 6 000 MW in addition to 4 000 MW distributed storage by 2030.

On **diversification of sources**, the plan stresses the importance of renewables integration and gas diversification mainly by optimising the use of existing infrastructure and further developing the LNG market and renewable gases. The NECP details the specific projects which are required to meet the electricity interconnection target, to improve gas security of supply and diversification of resources. However, no specific key performance indicators are defined for the gas sector even though it is considered of vital importance for the national energy system.

On the transition from traditional fuels to renewable sources, Italy confirms the intention to phase-out coal by 2025 in its final NECP. On **oil**, the plan focuses on measures to reduce the consumption of fossil fuels and boost bio-refineries, biofuels and storage. On **gas**, the plan has a good level of description with a extensive list of policies and measures such as updating preventive, emergency and defence plans, upgrading transmission and gas storage network, diversifying gas supply or promoting LNG in maritime transport and ports.

On **electricity**, the plan identifies the need for updating the emergency plan in line with the risk-preparedness regulation and support measures regarding flexibility and resilience of the system. It provides a detailed description of the new capacity market, as well as the need for storage capacity and demand response. However, the plan gives little consideration to the regional context when assessing resource adequacy in the electricity sector. Information is lacking on the impacts of the new capacity market and the phase-out of coal-fired power plants on consumer prices. The plan envisages significant further measures and investments to reach 6 000 MW of **storage** and EUR 36.2 billion of distribution and transmission network. It mentions renewable gas, demand response and storage as key technologies to improve security of energy supply.

The plan considers **cybersecurity** and cross-border coordination in the energy sector, but does not specify measures.

The planned policies and measures are considered credible in relation to achieving the objectives, because it provides a complete picture of the needs to ensure the security of energy supply. A further assessment will be needed to specify the **particularities in the islands**. The plan makes sufficient links with the **emergency plans** for gas, electricity and oil, provided for by the applicable sectoral rules.

Internal energy market

Italy sets an **interconnectivity level** of 10% for 2030. However, the plan does not provide clarity on whether Italy intends to meet the EU electricity level of 15% by 2030. The plan lists current projects of common interest (PCIs) aimed at increasing interconnectivity.

Given the electricity sector target of 55% renewable electricity in 2030 and the planned phase-out of coal from electricity generation, a brief overview of the different sources of **flexibility** that is needed to integrate the rising share of renewable energy into the electricity system is provided. The plan relies on increased flexibility through existing thermoelectric production facilities and, above all, by increasing market participation of new flexible resources such as aggregation, demand response and new storage systems. The ‘uptake of consumption and efficient consumption management systems’ is explicitly mentioned as a priority objective for future energy infrastructure needs and could be seen as a demand-side approach. However, it lacks

specificity, demonstrating a lack of strategic attention to the potential of demand-side measures as an alternative to supply side developments.

The plan provides an overview of current **market conditions** for gas and electricity, including levels of competition and liquidity of markets. The final plan includes policy objectives and measures related to the internal energy market. For example, removing price distortions or including measures to ensure the non-discriminatory participation of new market entrants and the different flexibility sources (e.g. demand response and storage) in the energy markets and deploying second generation smart metering systems. On the retail market, the plan refers to (i) completing the liberalisation of the market by introducing measures to phase-out the regulated price system for households and small businesses, and (ii) promoting the active role of consumers. However, no specific objectives on competition development are set (e.g. current-projected switching rates, Herfindahl-Hirschman Index (HHI)). Those measures are considered credible in achieving the objectives and are in line with implementing the clean energy package, , although they have been postponed several times. However, there is a lack of clear objectives, milestones and timelines to deliver the envisaged reforms and measures.

According to its NECP, Italy is considering to introduce a mandatory quota for renewable gases (including hydrogen) and to establish enabling rules for injection of hydrogen into existing natural gas infrastructures. It is expected to build a 'hybrid' electricity-gas energy system, which can boost the use of alternative fuels in the transport sector. The plan forecasts reaching around 1% of the renewable target for the transport sector through the direct use of hydrogen in cars, buses, trucks, trains, and possibly sea transport.

On **energy poverty**, the final NECP still lacks a specific target but reports both the number of households currently affected (about 8.6% or 2.2 million households, in 2016), and the expected reduction by 2030 (1% reduction representing about 230 000 fewer households in energy poverty compared to 2016). These policies and measures are considered credible in achieving the target, as they focus on both supporting consumers in energy poverty through social bonuses and promoting energy efficiency solutions in buildings.

Research, innovation and competitiveness

The plan identifies relevant areas for **research and innovation** priorities in 2030 and 2050. These mostly relate to renewables (in particular photovoltaics, concentrating solar power, and energy from the sea), storage (including hydrogen, power to gas), the integration of renewables within the energy system, the devices for the security of the electrical system, e-mobility, bio-refineries, materials processes and systems for the energy efficiency in the industry and in buildings.

The identified energy research and innovation priorities and objectives are ambitious and require a substantial increase in R&I investments. The final NECP confirms the target of doubling the public funds for research in clean energy, from EUR 222 million in 2013 to EUR 444 million in 2021. Italy undertook this commitment under the mission innovation initiative, launched as the technology leg of the Paris Agreement. In light of the progress made by Italy as illustrated in the 2020 Mission Innovation country report, it appears very ambitious and challenging to maintain the commitment taken.

There is an increasing alignment of the Italian energy research and innovation objectives with the R&I priorities identified with the **strategic energy technology (SET) plan**. Energy efficiency, renewables, grid transmission, distribution and storage, and hydrogen and fuel cells are the research and innovation energy sectors absorbing most of the clean energy research funds.

On **competitiveness**, emphasis is put on developing an industrial renewable energy sector in Italy. Given its growing relationship with the renewable supply chain, Italy also wants to support the production chain of digital architecture and automation systems linked to network services. Other sectors specifically mentioned as targeted in terms of objectives for national competitiveness and developing perspectives in foreign markets are (i) the circular economy, (ii) geothermal energy, (iii) liquefied petroleum gases and methane, (iv) the bioethanol sector, (v) the production of batteries and electrochemicals, and (vi) photovoltaics. In terms of policies and measures, the NECP mostly describes a large number of funds to support research, incentives to engage the private sector and small and medium enterprises in research and innovation, and support them in modernising operations and increasing competitiveness. In addition, the NECP illustrates the establishment of ‘energy cluster’ public private partnerships. The national plan for industry 4.0 offers a range of support instruments to address the increasing digitalisation of the energy sector.

4. COHERENCE, POLICY INTERACTIONS AND INVESTMENTS

The policies presented in the NECP seem generally in line with the set objectives. Interactions are generally described, for example it is mentioned that energy efficiency and renewable will impact on energy security positively but might impact on the interconnectivity level (the high renewable share) negatively. The NECP also illustrates to a certain extent the **interlinkages** between energy security and decarbonisation goals. The NECP aims at encouraging the production of renewable gas to inject to the network and, in future, to adopt for all final uses, including electricity generation. Overall, the plan recognises existing interactions between renewables and energy efficiency policies and GHGs. However the plan does not include a detailed assessment of such interactions at the level of single policies and measures. Overall, the quantitative impact of renewables and energy efficiency policies on GHG targets is unclear. Main negative interactions identified concern the production of bio-generated heat to reduce GHG and the intention to set tougher emissions requirements for heat installations. Italy has not provided information on how positive interactions may be maximised or negative ones mitigated.

Consistent with Italy’s national adaptation strategy, the NECP also details in the energy security dimension how the energy sector could be affected by climate change and includes the measures that could be taken to address such risks. Information is lacking on adaptation co-benefits and trade-offs for energy efficiency, such as in the thermal management of buildings.

On **investment needs**, Italy has provided information on the expected incremental investment needs across sectors and a consolidated quantitative assessment of their macroeconomic impacts. The overall assessment of investment needs is estimated to represent EUR 1 194 billion for 2017-2030, mainly for the transport sector – EUR 759 billion, followed by the residential sector with EUR 180 billion. The additional overall investment effort with respect to the investment needs under current policies over the considered period amounts to EUR 186 billion. However, the plan does not provide clear details on the methodology applied to calculate investment needs. The NECP includes a partial assessment of expenditure and funding sources and provides information about the financing of different policy areas, covering both existing and new policies (national as well as EU public funds). On the European Regional Development Fund and Cohesion Fund investments, the plan notes that in 2021-2027, priority will be given to investments in line with implementing the NECP. The plan does not identify risk factors, and does not develop a strategy to close the investment gap.

A description of existing **energy subsidies**, in particular for fossil fuels, is included. The plan appears to be in line with internationally used definitions. In the plan, energy subsidies are to be understood in the broadest sense, including direct incentives, exemptions, tax reductions and discounts, tax relief and implicit subsidies. The plan refers to the fact that Italy has been subject to a peer review by the G20 producing a report on fossil fuel subsidies in 2018. A timeline to phase-out energy subsidies, in particular fossil fuel subsidies, is not mentioned in the final plan.

On **just and fair transition**, the plan provides a thorough and good analysis of the socioeconomic impact, with a focus on the phase-out of coal and possible impacts on occupation and skills. Necessary funding will be covered from EU ETS quotas (through a ‘Fund for vocational retraining in areas in which coal-fired power plants are located’) from 2020 to 2024. In addition, the NECP contains an analysis of professions that will be mostly affected by the energy transition, how these can be re-skilled, and which are the jobs ‘of the future.’

The final NECP provides information and analysis on **air quality and air emissions policy**, stating that both air and climate plans use a consistent methodology. While the NECP provides sufficient insurance that it has analysed the air impacts of its policies and measures, the extent to which the policies and measures presented in the NECP are reflected in the National Air Pollution Control Program (NAPCP)¹² is less clear.

The **circular economy** and its potential for GHG emissions reduction is well integrated, but not quantified. The synergies and trade-offs between energy, climate and other environmental issues such as biodiversity are acknowledged, but their interactions could be further developed. Further quantification efforts would be welcome in future NECPs, in line with the most recent scientific evidence.

While energy efficiency actions are well developed and described as a priority in the plan, the application of the **energy efficiency first principle** in itself is not addressed directly in the NECP. However, certain measures imply a priority for energy efficiency among other criteria. For instance, in the energy security dimension, priority is given to increased efficiency as a means to reduce energy import dependency. The development of demand-based mechanisms is also considered in parallel to grid interventions. In the context of the coal phase out, in the internal energy market dimension the increasing role of gas and renewables in power generation does not seem to take much into account demand-base actions as alternatives to supply measures.

In line with the goals of the **clean energy for EU islands initiative**, Italy has already started a pilot a project to promote renewable penetration smaller islands not connected with the main network. In this context, the specific targets for covering consumption with locally generated renewable energy and specific incentives, have been established.

The final version of the plan fully complies with **data transparency** requirements and with the use of European statistics.

¹² NAPCP had to be submitted by 01/04/2019 under Directive (EU) 2016/2284 on the reduction of national emissions of certain atmospheric pollutants

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

Italy needs to swiftly proceed with implementing its final integrated national energy and climate plan as notified to the Commission on 31 December 2019. This section provides some guidance to Italy for the implementation phase.

This section also addresses the link between the final plan and the recovery efforts from after the COVID-19 crisis, by pointing at possible priority climate and energy policy measures Italy could consider when developing its national recovery and resilience plan in the context of the Recovery and Resilience Facility¹³.

Guidance on the implementation of the national energy and climate plan

In the plan, Italy plans additional measures which would lead to greenhouse gas emissions reductions in effort sharing sectors of -34.6% by 2030, compared to 2005, which go beyond the -33% target in the Effort Sharing Regulation.

The Italian contribution to the EU 2030 renewables target is sufficiently ambitious when compared to the share resulting from the formula in Annex II of the Governance Regulation. Similarly, the Italian contribution to the 2030 energy efficiency target is assessed to be sufficient. Italy's plan leaves however still scope to further develop and strengthen policies and measures on both renewables and energy efficiency as to contribute more to the EU climate and energy targets and strengthen the green transition.

On **renewables**, Italy committed to increase the share of renewables in gross final energy consumption to 30% in 2030 and would necessitate additional policies and measures. Implementing new initiatives to overcome administrative burden would be important for the swift implementation of the measures. Italy might consider tapping into the potential of other new sources and technologies. The NECP already aims at encouraging the production of renewable gas to be injected into the network and to be used, in future, for all final uses, including electricity generation. Further steps could also be taken to preserve existing renewable energy production by promoting, revamping and repowering previous installations, in particular existing wind power plants. Italy could also leverage on existing pilot projects to explore innovative offshore energy across the Mediterranean.

On **energy efficiency**, it is important that the main identified instruments and policy measures are quickly implemented to avoid any delay that could put at risk achievement of the expected energy savings and overall objectives. Italy is invited to further develop practical application of the energy efficiency first principle in climate and energy planning. Achieving the ambitious contribution could be supported by making use of funding dedicated to green transition to finance

¹³ On 17 September 2020, the Commission has put forward the Annual Sustainable Growth Strategy 2021 (COM(2020) 575 final), as well as guidance intended to help Member States prepare and present their recovery and resilience plans in a coherent way, without prejudice to the negotiations on the proposal for a Regulation on the Recovery and Resilience Facility in the European Parliament and the Council (Commission Staff Working Document. Guidance to Member States – Recovery and resilience plans, SWD (2020) 205 final).

energy efficiency policy and by developing instruments which would be sustainable over time from the financial point of view.

Improving energy efficiency in buildings has much potential for speeding up energy savings and contributing to the recovery of the economy after the COVID-19 pandemic. Building on the momentum of the **Renovation Wave** initiative¹⁴, there is scope for Italy to intensify efforts to improve the energy performance of the existing building stock with specific measures, targets and actions. Italy might also consider further improvements the new tax credit for restorations and energy saving (the ‘ecobonus’) and further redirect public support towards the renovation of public and private buildings through increased public funding and by leveraging EU and national budgets with private money in smart and innovative mechanisms that could combine grants, lending, guarantees and loan subsidies. Italy is expected to provide a robust and comprehensive long-term renovation strategy, in line with Article 2a of the Energy Performance of Buildings Directive. The long-term renovation strategy requires the definition of a roadmap for decarbonisation by 2050 with ambitious milestones for 2030 and 2040 and 2050, measurable progress indicators, expected energy and wider benefits, measures and actions to renovate the building stock, and a solid finance component with mechanisms for mobilising public and private investment.

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

On **energy security**, Italy would benefit from further developing key performance indicators to improve security of energy supply and diversification of resources, as well as further develop the information on the regional context when assessing resource adequacy in the electricity sector. Likewise, Italy is invited to further assess the particularities of islands on security of supply, as well as further assess the impacts on prices of the new capacity market and the phase-out of coal-fired power plants. Italy might also want to further develop specific measures supporting cybersecurity.

On the **internal energy market**, Italy would benefit from setting-up a dedicated roadmap and a clear timetable to deliver on the reforms and measures envisaged in the final plan, such as removing price distortions, ensure the non-discriminatory participation of new market entrants or phasing-out regulated prices, which has been postponed a certain number of times.

Italy would benefit from defining clear indicators to track achievement of milestones towards its **research and innovation and competitiveness** objectives. Over time, the gathering of granular research, innovation and competitiveness data will be useful to strengthen this process. Italy

¹⁴ Communication ‘A Renovation Wave for Europe – greening our buildings, creating jobs, improving lives’, COM(2020)662 and SWD(2020)550.

would benefit from exploring further the links between the policies and measures to be put in place for the different sectors and the competitiveness objectives.

Italy estimates that, between 2017 and 2030, EUR 183 billion in cumulative **additional investment** are needed compared to the current policies scenario to address the objectives set out by the plan. While economic activity was already weak at the time the NECP was finalised, the COVID-19 outbreak and associated measures have triggered a considerable economic slowdown in Italy. The start of mature public investment projects supporting the green transition can have an important role to play in contributing to the economic recovery. Forward-looking stable policy frameworks are important to guide businesses' and households' investment decisions and incentivise investment also in the private sector.

Italy is invited to continue ongoing efforts on **regional cooperation** with a view to intensifying exchanges and initiatives that will facilitate the implementation of its national energy and climate plan, in particular for relevant cross-border issues. Italy would also benefit from stepping up regional cooperation with neighbouring countries, in particular by promoting renewable and sustainable projects across the Mediterranean and by further exploring the possibilities within the clean energy for EU islands initiative to advance the clean energy transition on its islands¹⁵. Italy is also invited to better exploit the potential of the **multilevel climate and energy dialogues** to actively engage and discuss with regional and local authorities, social partners, civil society organisations, business community, investors and other relevant stakeholders and to discuss with them the different scenarios envisaged for its energy and climate policies.

Italy is invited to extend and update the identification and reporting on **energy subsidies** and intensify action to phase them out, in particular for fossil fuels. The green transition in Italy would receive a further boost from rapid phase-out of the fossil fuel subsidies identified in the NECP and recent Commission analyses. This would involve the further development and implementation of specific plans with associated timelines, coupled with measures to mitigate the risk of households' energy poverty.

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

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

¹⁵ In this context, the Commission will help address related issues in a strategic manner in its upcoming Strategy for Offshore Renewable Energy by identifying key actions in the area of maritime planning, upscaling technologies, and a new approach to infrastructure planning and offshore renewables capacity building.

Green Deal. At the EU level, funding will be available for Italy from the Innovation Fund, and will also be based on revenues from the auctioning of allowances under the EU emissions trading system.

Link to the recovery from the COVID-19 crisis

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

In the context of the Recovery and Resilience Facility, which is expected to be operational on 1 January 2021, **the final plan constitutes a strong basis for Italy to design climate and energy-related aspects of its national recovery and resilience plan**, and to deliver on broader European Green Deal objectives.

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

In addition, **the Commission strongly encourages Member States to include in their recovery and resilience plans investment and reforms in a number of 'flagship' areas**¹⁶. In particular, the 'Power up', 'Renovate' and 'Recharge and refuel' flagships are directly related to energy and climate action and to the contents of the final national energy and climate plans. Measures under the 'Reskill and upskill' flagship are also essential to foster the climate and energy transition in all Member States.

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

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

- Measures and investments to promote energy efficiency of buildings; measures and investments to decarbonise the power sector, in particular by boosting renewable electricity production, reducing the role of natural gas and increasing the role of renewable gas, as outlined in the NECP, while continuing the planned phase out of coal by 2025, and upgrading energy infrastructures; measures and investment to support

¹⁶ Cf. Annual Sustainable Growth Strategy 2021 (COM(2020) 575 final), pp. 9-12.

circular economy; reviewing taxes and subsidies to make them consistent with the green transition, while taking into account redistributive aspects;

- Measures and investments to develop sustainable transport, including infrastructure;
- Measures promoting climate change adaptation, including to ensure the climate-proofing of existing and future infrastructures.

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

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

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

Programme	Amount	Comments
Cohesion policy funds (ERDF, ESF+, Cohesion Fund)	42.1	In current prices. Includes funding for European territorial cooperation (ETC). Does not include amounts transferred to the Connecting Europe Facility.
Common agricultural policy – European Agricultural Fund for Rural Development, and direct payments from the European Agricultural Guarantee Fund.	35.1	In current prices. Commitments under the multi-annual financial framework.
Recovery and Resilience Facility	65.5	In 2018 prices. Indicative grants envelope, sum of 2021-2022 and estimated 2023 commitments. Based on the Commission’s summer 2020 GDP forecasts.
Just Transition Fund	0.9	In 2018 prices. Commitments both under the multi-annual financial framework (MFF) and Next Generation EU.
ETS auction revenue	9.6	Indicative: average of actual 2018 and 2019 auction revenue, multiplied by seven. The amounts in 2021 to 2027 will depend on the quantity and price of auctioned allowances.

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

Programme	Amount	Comments
Horizon Europe	91.0	In current prices. Includes Next Generation EU credits.
InvestEU	9.1	In current prices. Commitments both under the multi-annual financial framework (MFF) and Next Generation EU. Includes the InvestEU fund (budgetary guarantee to public and private investment) and the advisory hub (technical advice). Does not consider appropriations available to beneficiaries through implementing partners, such as the European Investment Bank.
Connecting Europe Facility <ul style="list-style-type: none"> • Transport • Energy 	24.1 5.8	In current prices. The commitment for transport includes the contribution transferred from the Cohesion Fund. Excludes Connecting Europe Facility Military Mobility funding for dual use infrastructure.
Recovery and Resilience Facility	360.0	In 2018 prices. Non-allocated commitments for loans. Loans for each Member State will not exceed 6.8% of its gross national income.
Technical Support Instrument	0.9	In current prices.
Programme for Environment and Climate Action (LIFE)	5.4	In current prices.
European Agricultural Fund for Rural Development	8.2	In current prices. Commitments under Next Generation EU.
Innovation Fund	7.0	Approximation: 7/10 of the allocations of ETS allowances to provide revenue to the Innovation Fund for 2021-2030 and assuming a carbon price of EUR 20 per tonne.

Note to both tables

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

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

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

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

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

Recommendations		Assessment
Decarbonisation – GHG	No recommendation.	n.a.
Decarbonisation - renewables	<p>Underpin the welcomed level of ambition of Italy's 30% renewable energy share for 2030 as contribution to the Union's 2030 target for renewable energy by detailed and quantified policies and measures that are in line with the obligations requested in Directive (EU) 2018/2001 of the European Parliament and of the Council (8), to enable a timely and cost-effective achievement of this contribution.</p> <p>Increase the level of ambition of renewables in the heating and cooling sector to meet the indicative target included in Article 23 of Directive (EU) 2018/2001.</p> <p>Put forward measures to meet the transport target in Article 25 of Directive (EU) 2018/2001.</p> <p>Reduce the complexity and regulatory uncertainty and provide additional details on the enabling frameworks for renewable self-consumption and renewable energy communities, in line with Articles 21 and 22 of Directive (EU) 2018/2001.</p>	<p>-</p> <p>Due to the lack of information at policy level it is difficult to see whether the targets might be achieved, as the policies which are evaluated are not achieving targets. The number and type of policies might not be enough to achieve targets, particularly after 2022 where measures have yet to be budgeted and approved.</p> <p>Compared to the draft plan, the ambition towards renewables in the heating and cooling sector has been slightly increased to a share of 33.9% by 2030 (compared to 20.9 in 2020 – a 13% increase).</p> <p>In the transport sector, the share of renewable energy has been slightly increased compared to the draft plan, to reach 22% by 2030. The main measures are to promote biomethane and introduce a mandatory quota for the consumption of conventional and advanced biofuels by 2030.</p> <p>The plan to adopt new standards to make it possible to implement direct lines, active customers, citizen energy communities and closed-off distribution systems, self-consumption of energy from renewable sources and renewable energy communities. The final NECP further describes measures to promote local energy communities, self-consumption and administrative simplification.</p> <p>The final NECP does not present significant improvements compared to the draft NECP and the goals under Articles 5 and 7 of the Energy Efficiency Directive are confirmed with minor changes. However, additional details including on the impacts of the planned measures are provided in the Article 7 notification accompanying the plan.</p>
Energy efficiency	As regards energy efficiency, ensure that the key policy instruments illustrated in the draft integrated national energy and climate plan would still deliver adequate savings in the period 2021-2030.	Partially addressed

	<p>Adequately reflect the envisaged updates and improvements to existing support schemes in the final integrated national energy and climate plan and in the following progress reports. Scale them up significantly to allow for the achievement of the indicated energy savings goals.</p> <p>Given the significant untapped potential, continue to work on strengthening energy efficiency measures for buildings (for new and existing public and private buildings) and in transport.</p>	Partially addressed	<p>More details were provided on the measures planned to achieve the energy efficiency goal. However, a clear explanation on how the instruments would be reformed and scaled up is missing.</p>
Energy security	<p>Specify the measures supporting the energy security objectives on diversification and reduction of energy dependency, including measures ensuring flexibility.</p> <p>Take into account the regional context and the actual potential of the interconnectors and of the generation capacities in the neighbouring countries when assessing resource adequacy in the electricity sector.</p> <p>Clarify to what extent the development expected in the gas sector is compatible with the stated decarbonisation goals and the envisaged phase-out of coal-fired thermolectric plants.</p>	Partially addressed	<p>The NECP contains an extensive description of current and planned policies and measures for buildings. However, it lacks sufficient detail on the timetable for the implementation and duration of both existing and additional measures. Additional measures have been announced – and in some cases already adopted – to strengthen energy efficiency in transport, including funding measures for the renewal of public fleets, obligations for public fleets to ensure a minimum share of electric and plug-in hybrid vehicles, as well as incentives for modal shift of freight transport and renewal of private vehicle fleets. The information on buildings in the NECP is much improved. The long-term renovation strategy has not been submitted yet.</p> <p>When considering risks, the plan does not fully take into account the plans of the other connected Member States or the specific risks of isolated territories, such as Sicily or Sardinia.</p> <p>The plan mentions the need for coordinated actions carried out by European countries but gives a limited explanation about the regional context when assessing whether resource is sufficient.</p> <p>The plan takes into account the phase-out of coal-fired power stations by gas-fuelled power stations to ensure system stability.</p>
Internal energy market	<p>Set clear objectives, milestones and timelines to deliver on the envisaged reforms in the energy markets, notably in the wholesale natural gas markets and in the operation of both the electricity and natural gas retail markets.</p>	Partially addressed	<p>The plan provides a sufficient overview of current market conditions for gas and electricity, including levels of competition and liquidity of markets. Forward-looking objectives and targets for strengthening market integration are still needed, particularly for wholesale natural gas markets and the phase-out of electricity regulated prices.</p>

Research innovation and competitiveness	<p>Clarify the national objectives and funding targets in research, innovation and competitiveness, specifically related to the Energy Union, to be achieved between 2021 and 2030, so that they are readily measurable and fit for purpose to support the implementation of targets in the other dimensions of the integrated national energy and climate plan.</p> <p>Underpin such objectives with specific and adequate policies and measures, including those to be developed in cooperation with other Member States, such as the strategic energy technology plan.</p>	Not addressed	<p>The final NECP provides more information on the forward-looking analysis and on the way to approach to time horizon 2030 and 2050. It is still not specific on how the envisaged research and innovation resources are allocated to the different research priorities that are presented. The objectives on competitiveness objectives are barely mentioned.</p> <p>In general, the plan provides information on a number of funding instruments for the R&I implementation. However, the relationship between policies and measures (e.g. funding instruments) and research and innovation objectives is quite loose. The cooperation with the SET plan is only broadly addressed.</p>
Investments and funding sources	No recommendation.	n.a.	
Regional cooperation	<p>Carry out consultations with neighbouring countries and within the Central and South-Eastern Europe Gas Connectivity (CESEC) High-Level Group in view of the finalisation of the integrated national energy and climate plan.</p>	Partially addressed	<p>The NECP illustrates preliminary cooperation with the neighbouring countries on Central and South-Eastern Europe Gas Connectivity (CESEC) that allowed to identify some possible lines of cooperation including cooperation on alternative fuels in the transport sector, on RES and on energy efficiency. However, specific outcomes that are expected from such cooperation are still to be developed. Moreover, cooperation with neighbours such as France, Germany and Switzerland is not reported.</p>
Energy subsidies	List actions undertaken and plans to phase-out energy subsidies, in particular for fossil fuels.	Largely addressed	<p>The final NECP illustrates several initiatives aimed at strengthening cooperation in the Adriatic including a new Memorandum of Understanding between Italy and Greece to promote industrial partnerships focusing on sustainability and on the diversification and security of energy supplies. The NECP also refers to further initiatives for a better coordination of new projects and infrastructure in the Adriatic. However, those remain to be defined in detail.</p> <p>Actions and plans to phase-out (fossil) energy subsidies are described in the plan, but they are not fully developed yet. The 2020 Budget Law provides that, by 31 January 2020, a Commission will be set up within the Ministry of the Environment and Protection of Natural Resources</p>

			and the Sea to study and draw up proposals for ecological transition and for the reduction of environmentally damaging subsidies. A clear timeline to phase-out subsidies appears to be missing. The NECP suggests that some actions to reform subsidies require agreement at European or global level.
Air quality	Complement the analysis of the interactions with air quality and air emissions policy, including from a quantitative perspective.	Fully addressed	Emission reduction projections for relevant air pollutants have been reported both for the 'with existing measures' and 'with additional measures' scenario for 2020 and 2030, followed by a list of measures aiming to contribute to improved air quality. Explanations on the links between air and climate plans analysis are provided.
Just transition and energy poverty	Integrate just and fair transition aspects better, notably by providing more details on social, employment, skills, income distribution impacts of planned objectives, policies and measures, including for carbon-intensive and industrial regions.	Partially addressed	Italy has provided a detailed description of the possible impact of the transition on employment, although measures proposed to deal with this impact do not emerge. The NECP tackles skills' needs effectively through an analysis of professions that will be mostly affected by the energy transition, how these can be re-skilled, and which are the jobs 'of the future.' The section dedicated to the social impact (e.g. distributional effects) is rather limited. The plan also includes on the social impacts of the phase-out of coal, and Italy has established a dedicated fund for the conversion of employment using ETS auction revenues.
	Complete the approach to addressing energy poverty issues by including specific measurable targets, and details on the financial resources for the implementation of the described policies as required by the Regulation (EU) 2018/1999.	Partially addressed	The policies and measures addressing energy poverty are considered credible, but the plan does not include specific measurable targets and details on the financial resources to implement the policies and measures.