



Italy's Energy and Climate Policies in the Post COVID-19 Recovery

Briefing Memo

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This briefing note assesses the challenges and opportunities of the Italian National Energy and Climate Plan (NECP) and the possibility provided by the funds of the Recovery Plan to speed up the country's decarbonization.

After a contraction of 8.8% in 2020, Italy's gross domestic product (GDP) is expected to recover by approximately 4%² in 2021. The country will receive a huge contribution from the European Union (EU) Recovery Programme of 209 billion euros of which 80 billion euros will be in grants and 129 billion euros in loans. This could provide a boost to the Italian economy, which posted a limited growth in the past decades and could accelerate the clean energy transition as a substantial percentage of the Recovery Fund will be devoted to climate projects.

Italy will play a major role in global governance in 2021 as the country will chair the G20 whose members contribute to 80% of the global greenhouse emissions. Moreover, Italy will co-chair, with the United Kingdom, COP26 where parties will be invited to submit their enhanced "National Determined Commitments" to tackle climate change.

EU energy and climate objectives for 2030

EU energy and climate targets agreed for 2030 involve at least a 32% contribution of renewables, a 40% reduction of greenhouse gas (GHG) emissions and an increase in energy efficiency of 32.5%. To meet such EU energy and climate targets the Member States were required to submit NECPs covering the period 2021-2030.³

In September 2020, upon receipt of the 27 NECPs, the European Commission (EC) published its assessment of the impact of the plans.⁴ This coincided with the proposal to increase the reduction of GHG emissions to 55% by 2030. In October 2020, the EC then published an assessment of each NECP and its report on the State of the Energy Union which indicates that:

- For renewables, the commitment of the 27 Member States would result in more than 33% of renewables in final energy demand, thus above the agreed target of 32%.

- For energy efficiency, the cumulative impact provides net savings of 29.4%-29.7%. This is below the efficiency target of 32.5% and additional efforts are required.
- With an expected 41% decrease of GHG emissions, the EU is on track to exceed the 40% emissions reduction target.

The report also indicated that to meet the new 2030 climate target of a 55% reduction in GHG emissions, additional efforts will be required. To this end, the EC will propose a revision of existing legislation in 2021.

Italy's climate plan for 2030 bets on renewables & energy efficiency

According to the Italian NECP, the country is on track for its 2030 objectives. The implementation of the plan will result in a 33% reduction of GHG gas emissions not covered by the emission trading system such as transport, residential, agriculture and waste.

The plan is built on two pillars: renewables and energy efficiency complemented by the phasing out of coal by 2025.

Renewables

The first pillar of the Plan is based on renewables which, by 2030 and with 33 million tons of oil equivalent (Mtoe), will provide 30% of the gross final energy consumption.

The greatest contribution to the growth of renewables will come from the electricity sector, with a generation of 187 terawatt-hours (TWh) by 2030, that will provide 55% of the total consumption of 340 TWh.⁵ To achieve this ambitious goal, solar capacity will increase from 19 to 52 gigawatts (GW) and wind from 10 to 19 GW, mostly onshore. This impressive growth reflects a general increase of renewables deployment on a global scale, which is a consequence of considerable cost reduction in these technologies in the past few years.

The additional supply of renewable electricity will bring challenges as it would be mainly based on variable sources. To cope with them, Italy plans to increase capacity of electricity storage by 6,000 megawatts (MW) in 2030 split between hydroelectric and electrochemical production. An additional amount of 4,000 MW of distributed storage is also foreseen. It is also planned to expand interconnections, from 8.8% to 10%, through 13 new interconnectors.

The main challenges for reaching the renewables objectives will come from objections to new infrastructures by local stakeholders and regional administrations. Although such objections could eventually be overcome, they will increase time and costs for the new infrastructures.

A case in point, though in a different sector, was the construction of the Trans Adriatic gas Pipeline (TAP) from the Caspian to the South of Italy, whose final part was blocked for years on the allegations that it would destroy tourism and kill hundreds of olive trees. The project, with a transport capacity of 10 billion cubic meters (bcm) of gas per year, was

eventually completed in December 2020. Tourism in the area continued and the olive trees have been replanted but the project has been a thorny issue for more than a decade.

To cope with a potential “blockade” of new energy infrastructures Italy should make maximum use of public consultations and involve local authorities as much as possible to avoid or at least minimize the “not in my backyard” syndrome, often generated by poor understanding of the impact of new projects.

As a part of the renewables objectives the EU set a sub-target of 14% renewables transport. Italy plans to overachieve it, aiming at 22% renewables, to be obtained by a mandatory quota for advanced biofuel, alongside 4 million electric and two million hybrid vehicles. The objectives for advanced biofuels, of which three quarters (0.8 Mtoe) would be biomethane, seems attainable as Italy has the largest EU fleet of gas vehicles and a well-developed network for sales of gas for transport. Biofuels will be produced by three refineries converted into bio-refineries.

On the other hand, the target of 4 million electric vehicles is somewhat questionable since the current electric fleet is approximately 100,000 vehicles. Achieving this objective will imply sales of millions of e-vehicles and construction of a widespread network of recharging stations.

As regards hydrogen, several Italian companies are deeply engaged in this sector but the contribution of hydrogen to the renewables target in transport would be limited to 1% although a better perspective could exist beyond 2030.

Energy efficiency

The second pillar of the plan is energy efficiency, where Italy aims for a reduction of 43% for primary and 39.7% for final energy consumption. This was considered sufficiently ambitious in the Commission’s assessment and amounts to a consumption of 125 Mtoe and 103 Mtoe respectively for primary and final energy consumption by 2030.

The largest results of energy efficiency measures would derive from tax incentive schemes to foster renovation of the building stocks. Over 60% of residential buildings are more than 45 years old and were built before the first energy saving law (373/1976). This inefficient building stock represents a huge opportunity for energy saving. To grasp this opportunity legislations such as tax deduction schemes, white certificates, grants and a thermal energy account were enacted.

All these initiatives have an enormous potential which could be hindered by the amount of red tape required to qualify for the preferential fiscal treatment. Moreover, the coexistence of different support schemes add complexity to the system of incentives. All these initiatives need to be streamlined and simplified to reduce the complexity of the administrative procedures.

In 2020, Italy launched the Ecobonus scheme which allows recovery, through a preferential fiscal treatment, of 110% of the cost for improving energy efficiency of buildings. As the Ecobonus was introduced in 2020 after the submission of the NECP, its impact has

probably not yet been totally factored into the energy savings for buildings.

The support schemes for buildings are well conceived but, in order to achieve the stated objective of reducing greenhouse gas emissions from 87 to 52 million tons of CO₂ equivalent (Mt CO₂eq) in 2030, it must be ensured that the procedures to benefit from the various scheme are not too cumbersome.

The Plan includes other initiatives such as an inventory of energy subsidies to be phased out, the creation of an observatory to address energy poverty and increase of public funding for research & innovation in clean energy from 222 to 444 million euros annually.

Energy security

Italy is highly dependent on energy imports. The share of national energy demand met by imports decreased from 83% in 2010 to 78% in 2017, with a view to reducing it to 68% by 2030. The Italian mix relies on mostly imported gas and oil, largely indigenous renewables and a limited amount of imported coal which will disappear in 2025 when coal generation is phased out.

To cope with high import dependency the country has wisely built a diversified system of supply routes. Gas, the largest source, covering 40% of the energy demand, arrives in Italy through pipelines from northern Europe, Russia, Algeria, Libya, and the new TAP pipeline. This is complemented by 3 liquefied natural gas (LNG) terminals, a well-developed domestic gas network and the second largest underground gas storage in the EU with a capacity of 16 bcm. Moreover, by measure of energy efficiency and development of renewables, the country intends to reduce its gas consumption from 74 bcm in 2019 to 60 bcm by 2030.

More than 90% of the oil consumed is imported but supply routes are also diversified through pipelines from North and East Europe and several maritime oil terminals. Moreover, in the event of a supply disruption, the country could count on oil stocks which cover at least 90 days of imports, as required by EU legislation.

As indicated earlier the most critical issues as regards energy security remains with the increased amounts of variable renewables which will be produced by 2030.

It should be noted that in order to fulfil the new greenhouse gas emission target of 55% by 2030 the amount of energy provided by renewables should increase even further, bringing challenges. Although, in April 2020, in the midst of the lockdown, the country was able to handle a very high level of renewables posting 63% of variable electricity in the power generation.⁶

Challenges and opportunities for climate targets in a post COVID-19 scenario

Italy's energy and climate plan does not contain a long-term strategy to achieve climate neutrality by 2050. It indicates however that the measures and initiatives included will lead to a 64% emission reduction by 2050. Although substantial, this amount is below the EU

objective of climate neutrality by 2050 and therefore additional efforts would be needed.

Overall, the Italian plan is convincing but one critical issue for its implementation would be the fragility of the latest Italian Government whose members often have different views on the construction of strategic infrastructures; the TAP pipeline, which has been vocally opposed by Five Star Movement for years is a typical example.

Moreover, if the current coalition does not survive until the end of the mandate in 2023, a new election could give the majority in Parliament to different parties. It remains to be seen if such parties will maintain the political commitment to sustainable development and climate change of the current coalition.

The Italian NECP and NECPs of other Member States were drafted before the COVID-19 crisis. As a consequence, the opportunities provided by the huge funding of the Recovery Plan have not been taken into account.

When disbursing the funding of the Next Generation EU and the Multiannual Financial Framework, Member States should follow the European Council Decision and allocate 30% of the budget to climate related projects. The unprecedented scale of funding of the Recovery Plan, could be a catalyser to speed-up the clean energy transition in Italy as well as in other EU countries.

The impact of the Recovery Fund should therefore be factored into the upcoming revisions of the NECPs and should be instrumental in achieving the new 55% objective of reducing greenhouse gas emissions by 2030.

An additional consequence of the COVID-19 crisis to be assessed when revising NECPs are the behavioural changes induced by the pandemic. These changes will result in structural modifications of energy demand and energy mix. A widespread use of teleworking and teleconferencing will decrease demand for transport and increase demand for electricity.

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This article was written by the author in his personal capacity and does not represent the views of his formal employer.

2. "Documents tagged with GDP", Istituto Nazionale di Statistica, available at: www.istat.it.

3. "Regulation on the Governance of the Energy Union and climate action", EU/2018/1999, European Commission, available at: <https://ec.europa.eu>.

4. "An EU-wide assessment of National Energy and Climate Plans: Driving forward the green transition and promoting economic recovery through integrated energy and climate planning", COM(2020) 564 final, European Commission, available at: <https://eur-lex.europa.eu>.

5. Solar from 24 to 73 TWh, wind from 17 to 42 TWh, hydro from 46 to 49 TWh and geothermal from 6 to 7 TWh.

6. "VRE share in electricity demand in Italy, January-December 2020", IEA, available at: www.iea.org.