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NATIONAL ENERGY AND CLIMATE PLAN ANALYSIS: ITALY

CHARLOTTE LIEBRECHT & RAPHAEL HANOTEAUX

For a transition that sets us on both a smooth and ambitious path to secure the EU's climate and REPowerEU goals, the National Energy and Climate Plans (NECPs) must detail a comprehensive gas consumption reduction strategy, complete with actionable milestones.

To this effect, E3G assesses whether the NECPs support a smooth transition of the gas sector against six benchmarks. Meeting these benchmarks will ensure that the EU and its member states reduce their vulnerability to supply shortages and that infrastructure plans support the European Green Deal.

Assessment of Italy's NECP: Summary

With 29.9%, the 2023 Italian NECP projects a steeper gas demand reduction trajectory to 2030 than its previous NECP had.¹ However, this figure slightly trails the EU-wide reductions expected under the Green Deal; it lags significantly behind what was implied by the REPowerEU pledge and what is needed for a path aligned with climate neutrality.

Given Italy is the EU's second largest gas consumer, its ambition level must be corrected upwards to keep open the option to deliver REPowerEU and a climate-aligned trajectory.

¹ European Commission, July 2023, **Italy - Draft Updated NECP 2021-2030**



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In addition, in order to secure an orderly transition, the following aspects need strengthening:

- > Long-term contracts need to be aligned with the gas demand trajectory.
- > No long-term contract should extend beyond 2049, meaning one such contract should be reviewed.
- > A new plan needs to be agreed to phase out **all** fossil gas subsidies, instead of the current plan to phase out only 40%.
- > A plan has to be made to address low utilisation rates for gas infrastructure, projected to 3% for liquified natural gas (LNG) terminals by 2030.

An overview of how Italy's draft 2023 NECP performs against the six benchmarks explained in our main briefing note is given in Table 1. The details on each benchmark are set out in the main section of this analysis.

Detailed assessment against the six benchmarks

1. Aligning national gas consumption with the overall EU trajectory

As stated in point 1.1 of the European Commission's guidance on NECPs, "the draft updated national plans should reflect this increase of ambition. Member States should fully embed the new and revised energy and climate targets included in the Fit for 55 and the REPowerEU proposals even though the legislative process for adoption is not yet concluded."

Under the scenario with additional measures (WAM), Italy plans for 49.7 bcm of gas in gross inland consumption by 2030, which is a 29.9% decrease compared to 2019 (Figure 1).² This represents an increase in ambition compared to the 2019 NECP which planned for a 19.7% decrease in gas gross inland consumption by 2030.³

² 2019 gas consumption: 70.9 bcm gas gross inland consumption and 38.4 bcm in gas final energy consumption: [p.320f]. European Commission, July 2023, **Italy - Draft Updated NECP 2021-2030**.

³ Italy, December 2019, **Integrated National Energy and Climate Plan (PDF)**. In this 2019 NECP, p.296, Italy planned for 56.9 bcm in gas gross inland consumption and 32.9 bcm in gas final energy consumption with a reference year of 2019 in the WAM scenario.



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Table 1: Rating Italy's draft 2023 NECP against E3G's six benchmarks – overview.

Benchmark	Key take-away	Rating
1. Aligning national gas consumption with overall EU trajectory.	The 2023 NCEP trajectory of a 29.9% reduction by 2030 is more ambitious than that of 2019. It aligns with the Fit for 55 package, but still falls short of the anticipated 52% reduction targeted by REPowerEU.	Data only
2a. Assessing the feasibility and scale of gas networks to be decommissioned.	The proposal for adoption of renewable gases is relatively low; alongside it stands a 29.9% reduction in fossil gas consumption. Taking these two together, it is difficult to envision how Italy can avoid unprofitable infrastructure and stranded assets, particularly at the distribution level.	No data
2b. Preparing the gas network for a reduction in fossil gas use.	The significant drop in gas consumption anticipated is not being met with an equal consideration of its impact on gas networks. This raises concerns about underutilised infrastructure and the risk of stranded assets.	No data
3. Planning the phase-out of fossil gas subsidies.	About 20% (€1bn) of fossil fuel subsidies were dedicated to fossil gas. Over 40% of Italy's 2021 fossil fuel subsidies lack a clear end date, with some extending past 2030; this potentially disincentivises energy efficiency and renewable energy investments.	Data only
4. Assessing the potential for renewable gas development.	Italy's plan shows ambitious targets in biomethane and hydrogen production and consumption. However, the proposal to blend hydrogen with fossil gas raises doubts about whether renewable gas is being prioritised where it adds the most value.	Data only
5. Assessing and addressing the social and economic impact of gas consumption decrease.	Italy is exploring the NECP scenario for economic growth and job creation, yet it lacks clear policies and measures to support the anticipated transition in skills and employment.	Data only
6. Phasing out long-term gas contracts in line with declining fossil gas use and climate targets.	The NECP fails to address the efficient phasing out of long-term gas contracts in line with demand developments. In Italy's case, there is even a contract covering 1.4 billion cubic meters (bcm)/year, or 3% of Italian gas use in 2030, that extends beyond the specified end date of 2049 as per the gas package.	Data only



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Gas consumption projections in the Italy draft NECP

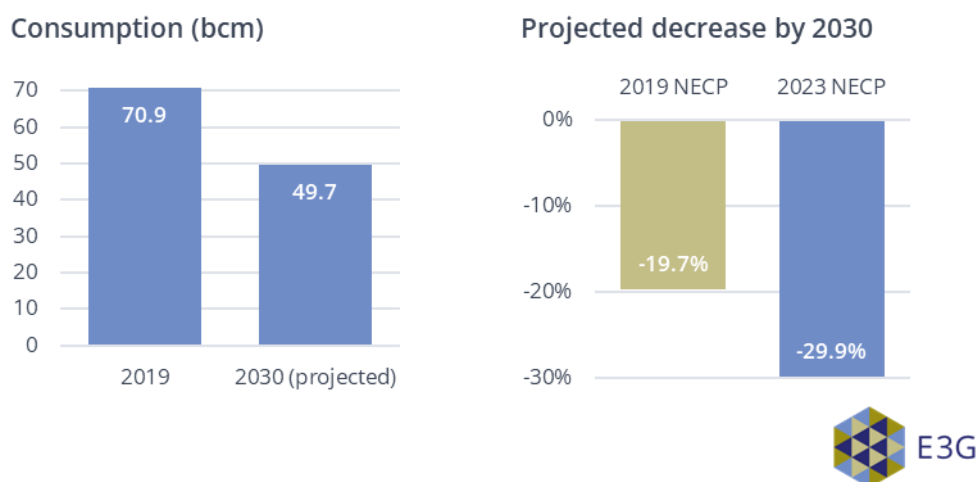


Figure 1: Italy's draft 2023 NECP shows an increase in ambition in reducing gas usage. This is true both compared to the 2019 baseline and to the target in its 2019 NECP.

To put this into perspective, a study by Agora and ECCO concludes that fossil gas use in Italy can be halved by 2030 (with 2018 as the year of reference, down to approximately 32.3 bcm) and phased out by 2050 with structural demand measures only.⁴ Italy's proposed gas consumption pathway is therefore barely in line with the average gas demand decrease expected from implementing the Fit for 55 package (-33%) and far from the one expected from implementing the REPowerEU plan (52%) by 2030. And despite the general ambition to reduce total quantities of consumed fossil gas, Italy seeks to explore new gas discoveries in the Eastern Mediterranean.⁵

Italy's share of fossil gas consumption is above the EU average: its 40% of energy consumption, compared to the EU27's 23% in 2021, makes it the bloc's second largest gas consumer. However, between August 2022 and February 2023, Italy was able to decrease its gas use by 19% relative to the last five-year average, showing its ability to deliver substantial gas demand decrease.

⁴ The study by Agora and ECCO presents a national decarbonisation pathway until 2050, with fossil gas phase-out by 2050 at the latest and Russian gas phase-out as quickly as possible (by 2027).

⁵ European Commission, July 2023, *Italy - Draft Updated NECP 2021-2030*, p.43



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To align with EU goals, Italy needs to accelerate its efforts to reduce gas consumption, particularly by implementing structural demand measures. As set out by the European Commission in their country-specific recommendations as part of the European Semester, such measures for Italy involve promoting energy efficiency; in particular incentive schemes targeted at the residential, commercial and corporate sectors.⁶ Other measures include transitioning to cleaner energy sources and enhancing efficiency efforts.

2a. Assessing the feasibility and scale of gas networks to be decommissioned

Although not in the European Commission's NECP guidelines, understanding the future utilisation of the distribution network and its eventual decommissioning is crucial to plan for the expected decrease in gas use.

It is difficult to envision how Italy can avoid the emergence of unprofitable infrastructure and stranded assets, particularly at the distribution level, considering the stated 29.9% reduction in fossil gas usage and the relatively low adoption of renewable gases (see benchmark 4). **This means that Italy will soon need to proactively evaluate which segments of its gas network should be decommissioned and which should be retained.**

2b. Preparing the gas network for a reduction in fossil gas use

Point 1.2 of the European Commission's guidance for the NECP, "Increase energy security and affordability, towards a more resilient Energy Union", specifies that "Member States are encouraged to reflect progress and planning on the infrastructure projects that are identified as significant to meet the European Green Deal and the REPowerEU objectives." This is especially important in the context of an expected gas demand reduction, where infrastructure networks will have to adapt and in certain cases downsize to enable an orderly transition.

Italy's LNG supply currently covers about 20% of domestic gas needs.⁷ The NECP plans to diversify and increase this supply, potentially doubling annual LNG capacity by an additional of 13 bcm. That includes up to 3.5 bcm from Egypt, 1.4 bcm from Qatar, 4.6 bcm from Congo, and an additional 3–3.5 bcm from

⁶ European Commission, 2023, **Commission Staff Working Document: Assessment of the draft updated National Energy and Climate Plan of Italy**

⁷ European Commission, July 2023, **Italy - Draft Updated NECP 2021-2030**, p.259



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ongoing negotiations with countries like Angola, Indonesia, Mozambique and Nigeria.⁸

New LNG import terminals are planned in Sicily, Calabria and Sardinia. Existing plant upgrades will contribute another 5 bcm. Pipeline routes are expected to increase delivery by 10 bcm/year, including the TAP pipeline from Azerbaijan.⁹ Plans for more LNG storage are underway, with 15 currently in process of being authorised.

Italy seeks to increase its energy security by diversifying suppliers to match current demand instead of prioritising measures to reduce it. Italy has the fourth-largest installed LNG capacity. It is projected to have the lowest LNG utilisation rate among the EU and UK, by 2030, at just 3%. This highlights the significant risk of the expansion of LNG capacities ending up being stranded assets.

3. Planning the phase-out of fossil gas subsidies out

Point 1.1 of the NECP guidance specifies that “the updated plans should reflect the international developments related to the Paris Agreement, in particular the process set out by the Glasgow Climate Pact for raising mitigation ambition. This contains several decisions on energy and climate planning, including [...] the phasing out of fossil fuel subsidies, and the consideration of further actions to reduce non-CO₂ emissions, including methane, by 2030.”

With €5bn, Italy ranked third in absolute fossil fuel subsidies in 2021, after France and Germany.¹⁰ In relative terms, Italy’s share of fossil fuel subsidies of GDP was 0.25% in 2021, which is below the EU average of 0.35%.¹¹ **About 20% (€1bn) of fossil fuel subsidies went to gas subsidies, which again is less than the EU average of 27%.**

⁸ European Commission, July 2023, **Italy - Draft Updated NECP 2021-2030**, p.259

⁹ European Commission, July 2023, **Italy - Draft Updated NECP 2021-2030**, p.261

¹⁰ European Commission, Directorate-General for Energy, Bon-Mardion, J., Casteleyn, M., Queenan, J. et al., 2023, **Study on energy subsidies and other government interventions in the European Union – Final report – 2023 edition**, p.26=

¹¹ European Commission, Directorate-General for Energy, Bon-Mardion, J., Casteleyn, M., Queenan, J. et al., 2023, **Study on energy subsidies and other government interventions in the European Union – Final report – 2023 edition**, p.28



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Italy intends to phase out inefficient fossil fuel subsidies by 2025 or earlier, in line with the G20 and G7 commitments; it also plans to reform its energy taxation system to align with the EU's Fit for 55 package and the REPowerEU plan.

However, more than 40% of fossil fuel subsidies in Italy that were in place in 2021 have no defined end date or an end date after 2030, according to the latest report on energy subsidies in the EU published in October 2023.¹² The report stresses that, while the increase in fossil fuel subsidies in 2022 was justified to support consumers during the energy crisis, the continuation of these in the medium term bears the risk of disincentivising energy efficiency and renewable energy investments.

4. Realistically assessing the potential for renewable gas development

The European Commission guidance states that “in their updated NECPs, Member States are encouraged to integrate a component on sustainable biogas and biomethane production and use, assessing the national potentials and defining trajectories to reach those by 2030 and 2050.”

Binding targets under the finalised Renewable Energy Directive require Italy to use around 0.25 Mt/year of renewable hydrogen by 2030; according to the NECP, about 80% of this will be produced in Italy and 20% will be imported.¹³

The NECP aims at a 2% penetration of hydrogen as carrier in meeting final energy demand by 2030. This is supported by the target to install 5 GW of electrolyzers in that timeframe and to reach a national production of around 0.7 Mt/year of renewable hydrogen, well above the hydrogen demand stated in the NECP.¹⁴ This discrepancy between production and demand targets might indicate that Italy plans to use hydrogen for other uses than industry and transport which is not further explained.

The NECP states that renewable hydrogen will account for 42% of the total use of hydrogen in industry in 2030.¹⁵ The plan projects the development and implementation of green, but above all blue hydrogen production processes, facilitating the construction of carbon capture, usage, and storage (CCUS)

¹² European Commission, 2023 Report on Energy Subsidies in the EU, p.15, [EUR-Lex - 52023DC0651 - EN - EUR-Lex \(europa.eu\)](#)

¹³ European Commission, July 2023, [Italy - Draft Updated NECP 2021-2030](#), p.88

¹⁴ European Commission, July 2023, [Italy - Draft Updated NECP 2021-2030](#), p.195.

¹⁵ European Commission, July 2023, [Italy - Draft Updated NECP 2021-2030](#), p.16.



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facilities and refineries.^{16,17} The supply of renewable hydrogen is planned to come from Southern Italy and imports from North African countries which are already connected to the Italian gas grid.¹⁸

Biomethane provision is also planned to increase but will still not be comparable in quantity to fossil gas. Biomethane is mostly set to be injected into the national gas grid to be used for heating, whereas hydrogen will be prioritised in the hard-to-abate sectors, which seems to be in line with European policy paths.¹⁹

However, Italy aims to blend renewable gases into the gas grid, as well as specifically blending increasing amounts of hydrogen with fossil gas. This would lead to an expected 0.33 Mt of hydrogen being used for heating in 2030, despite the proven limited benefits of blending hydrogen with fossil gas to decarbonise consumption.²⁰

5. Assessing and addressing the social and economic impact of gas consumption decrease

Member states are supposed to “strengthen planning within the NECPs to ensure a fair and just transition, mitigating social and employment impacts, tackling labour and skills shortages, reducing energy poverty, and ensuring affordable access to essential services for all.”

Italy has adopted a Territorial Just Transition Plan to access the EU’s Just Transition Fund, which aims to support regions and territories facing socio-economic challenges resulting from the energy transition. The plan focuses on two areas: Taranto in Apulia and Sulcis Iglesiente in Sardinia, which are affected by the phase-out of coal and the decarbonisation of steel production. It includes measures for economic diversification, job creation, retraining, environmental restoration, renewable energy development and social inclusion.

Italy has set up an information system on skills, employment and professional needs to analyse the future skills requirements in the energy sector, based on

¹⁶ Green refers here to renewable hydrogen and blue to hydrogen produced with fossil gas and CCUS.

¹⁷ European Commission, July 2023, **Italy - Draft Updated NECP 2021-2030**, p.262

¹⁸ European Commission, July 2023, **Italy - Draft Updated NECP 2021-2030**, p.118

¹⁹ European Commission, July 2023, **Italy - Draft Updated NECP 2021-2030**, p.80: “the total national production of biogas for thermal and electrical purposes and biomethane for combustion and use in transport will amount to around 5 Mtoe [should it be ‘Mt’?] in 2030.”

²⁰ European Commission, July 2023, **Italy - Draft Updated NECP 2021-2030**, p.153. See E3G, 2021, **Hydrogen factsheet: Blending**



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the current institutional and regulatory guidelines. It is yet to be confirmed whether this assessment will consider the impact of phasing down gas across the economy.

Italy focuses on identifying the skills and jobs most relevant to and transformed by the energy transition, as well as the retraining needed. Should this assessment cover the impact of reduced fossil gas consumption, it could provide the opportunity to establish policies and measures to support the transition.

6. Phasing out long-term gas contracts in line with declining fossil gas use and climate targets

Although not in the Commission's guidelines, a consolidated view of the long-term contracts of the main EU gas consumers would enable a comparison between the EU's expected gas volumes and its climate commitments.

Italy has a variety of contracts with external suppliers:

- > Long-term contracts with multiple gas suppliers, notably Algeria, Azerbaijan, Libya, Norway, Qatar and Russia. Two thirds of its existing contracts span more than 20 years.²¹
- > In October 2023, Eni signed another deal with Qatar for 1.4 bcm/year, starting in 2026 and lasting 27 years, until 2053.

The NECP does not mention measures to phase-out long-term gas contracts. However, the latest contract with Qatar appears to be in breach of the 2049 end date of long-term gas contracts as recently agreed in the revision of the EU Gas Directive.²²

²¹ Istituto Affari Internazionali (IAI), 2022, **Natural Gas in Italy: Features and Perspectives in Light of Russia's War in Ukraine (PDF)**, p.19

²² European Parliament, Revision of the EU Gas Directive, February 2024, **Carriages preview | Legislative Train Schedule (europa.eu)**



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About E3G

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