IAI PAPERS 22 | 23 - SEPTEMBER 2022

ISSN 2610-9603 | ISBN 978-88-9368-262-6

Istituto Affari Internazionali

Powering Change. Italian and EU Energy Transition in Times of War

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ABSTRACT

The war in Ukraine has severely affected the Italian – and the wider European – energy ecosystem, forcing Rome (and Brussels), to reduce dependence on Russian energy yet at the same time continue the green transition. Short- and medium-term strategies have been adopted to move away from Moscow-supplied gas and to curb overall demand. Nevertheless, reconciling security and sustainability objectives remains a key challenge for the EU. In the run-up to COP27, the UN climate conference to be held in November 2022, the long-term sustainability of new energy deals between EU countries and climate-vulnerable developing countries will be under the spotlight. The affordability of energy is also a crucial concern, prompting a wide set of European measures that aim to contain rising prices and explore various options for intervention in energy markets. In this regard, Italy's actions have been notable, both domestically, with ad hoc measures, and at the European level.

keywords

Italy | European Union | Energy security | Climate change

Powering Change.
Italian and EU Energy Transition in Times of War

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Introduction

The war in Ukraine has laid bare the complex reality of EU energy governance and its three pillars, energy security, affordability and environmental sustainability, which have become increasingly difficult to balance. In recent years, especially following the 2015 Paris Climate Agreement, the EU has prioritised the sustainability component of its energy governance, as shown by the adoption of the European Green Deal and by the prominence given to green transition within the NextGenerationEU fund. This post-pandemic momentum for sustainability continued until Russian tanks crossed into Ukrainian territory on 24 February 2022.

Prior to the outbreak of this conflict, the spike in gas prices in the second half of 2021 had already shifted the debate from sustainability to affordability concerns, with rising costs rapidly becoming politicised and the social sustainability of the green transition being questioned in several EU member states, such as Italy and France. With the start of the war and Russia's weaponisation of energy resources, security and affordability concerns have become top priorities for policymakers. In this context, where each of the three pillars has become an urgent challenge, the question arises whether the EU can succeed in reconciling its climate commitments with energy security concerns and whether the Ukraine war will act as an accelerator for the unfolding of a socially just energy transition – or will hamper it.

Natural gas, which constitutes the main transitional fuel necessary to pursue EU climate ambitions, is the critical issue in the EU–Russia energy divorce: the identification of alternative supplies is challenging. The EU's gas infrastructure is

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Paper produced in the framework of the project "Osservatorio IAI-ISPI sulla politica estera italiana". This paper has benefited from the financial support of the Policy Planning Unit of the Italian Ministry of Foreign Affairs and International Cooperation pursuant to art. 23-bis of Presidential Decree 18/1967. The views expressed in this report are solely those of the authors and do not necessarily reflect the views of the IAI, ISPI or the Italian Ministry of Foreign Affairs and International Cooperation.

ISSN 2610-9603 | ISBN 978-88-9368-262-6

also a weak area as it is characterised by a largely mono-directional (east to west) fixed system of pipelines, a network that is unable to transport large quantities of liquefied natural gas (LNG) and has limited regasification capacity in most countries.

Italy is in a particularly vulnerable position because natural gas represents 40 per cent of its energy mix, compared with 17 per cent in France and 26 per cent in Germany.[1] Moreover, among EU countries Italy has a long history of reliance on Russian energy, seen in the last decade as the best alternative to lower national production and reduced imports from North Africa (traditionally Rome's main supplier), following the Arab uprisings of 2011. The Italian government has been at the forefront of the European quest for alternative suppliers, signing agreements with several Mediterranean and African countries, and Rome has been able to secure steady supplies of gas –both via pipeline and LNG – for the coming years. Italy still faces a complex scenario in terms of renewables deployment and energy affordability in the short run.

An analysis of the current Italian situation provides a clearer picture of the opportunities and risks of the government's strategy. The Russian invasion of Ukraine has been significant in terms of gas prices, prompting European countries and institutions to consider different measures to deal with rising energy costs – with mixed success. At the same time, reconciling energy security and decarbonisation objectives represents one of Italy's biggest challenges, as the response to the current crisis might hamper the energy transition both at home and in key energy partner countries.

1. Looking for alternatives: The Italian struggle to decouple from Russia

Italy holds a unique position in EU gas markets. On the one hand, it is one of the member states that most depends on Russian gas: in 2021, it imported 29 billion cubic metres (bcm) from Russia, which accounted for around 40 per cent of gas imports in a country where 50 per cent of power generation is produced by gas power plants.[2] On the other hand, Italy is better positioned to diversify away from Russia than other EU countries. It has direct infrastructural connections with Algeria through the Transmed pipeline (21 bcm in 2021; potential capacity of 27 bcm), with Libya through the Greenstream pipeline (3.2 bcm in 2021; at full capacity), with Azerbaijan through the Trans-Adriatic Pipeline (TAP, 6.8 bcm in 2021; potential capacity of 8.5 bcm with the current set-up). Italy is also linked to the North European gas market through the Transitgas pipeline, which connects

[1] ISPI DataLab, "Crisi energetica: l'Italia è diversa?", in *ISPI Focus & Fact Checking*, 16 February 2022, https://www.ispionline.it/it/node/33404.

[2] Website of the Italian Ministry of Ecological Transition-Directorate General for Infrastructure and Security: *Natural Gas*, https://dgsaie.mise.gov.it/gas_naturale_importazioni.php?lang=en_US.

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the country with the German and French networks that transport gas from Norway, the Netherlands, Denmark and the United Kingdom through Switzerland (2.2 bcm in 2021; potential capacity of 12 bcm). In addition, Italy has three LNG regasification terminals, one onshore (Panigaglia) and two offshore (Adriatic LNG in Porto Levante and OLT offshore LNG Livorno), which supplied 9.8 bcm in 2021 and have a potential capacity of 16 bcm.[3] However, increasing supply from each of these options to replace Russian gas entails challenges. Examples include growing domestic demand and low investment levels in Algeria, political instability in Libya and the tight global LNG market, where major exporters such as Qatar have limited spare capacity and exports are already booked through long-term contracts.[4]

In March 2022, the Italian Minister for Energy Transition, Roberto Cingolani, outlined all the short-term and long-term options that could allow Italy to cut its energy dependence on Russia. He announced that, following the outbreak of the conflict, there have been diplomatic missions to producing countries, including Qatar, Algeria, Angola and the Democratic Republic of Congo, and that these sources could collectively provide 20 bcm per year through short-term and medium-term solutions. Other markets have also been considered to increase LNG supply, including Mozambique, Nigeria and Egypt, where gas is mostly managed by Italy's energy giant Eni, as well as the United States.[5] Cingolani also announced that national production of gas from existing extraction sites would be increased by 2.2 bcm to alleviate the burden of increasing costs on national enterprises (current national production is around 4 bcm).[6]

One of the short-term options is rapidly increasing the TAP's capacity by 1.5 bcm, yet this is conditional on increased production in Azerbaijan. Another possibility is maximising the use of existing LNG terminals, which would provide an additional 6 bcm per year. Finally, in case of emergency, the possibility of increasing power production from existing coal power stations (expected to be phased out in 2025) could be considered. In June 2022, the Italian Comitato tecnico di emergenza e monitoraggio del sistema gas naturale, an emergency technical committee tasked with monitoring the gas system, approved the purchase of coal in preparation for the potential implementation of this plan in light of the Russian coal embargo that has been adopted by the EU and entered into force in August 2022.[7]

[3] Italian Senate, "Informativa del Ministro della transizione ecologica sui recenti ulteriori rincari del costo dell'energia e sulle misure del Governo per contrastarne gli effetti e conseguente discussione", in *Resoconto stenografico 414a seduta*, 16 March 2022, p. 7, https://www.senato.it/service/PDF/PDFServer/BGT/1343136.pdf.

[4] Margherita Bianchi and Pier Paolo Raimondi, "Russian Energy Exports and the Conflict in Ukraine: What Options for Italy and the EU?", in *IAI Commentaries*, No. 22|13 (March 2022), https://www.iai.it/en/node/14859.

[5] Italian Parliament-Joint Committee for the Security of the Republic (COPASIR), *Relazione sulle conseguenze del conflitto tra Russia e Ucraina nell'ambito della sicurezza energetica*, 27 April 2022, p. 4-6, https://www.senato.it/service/PDF/PDFServer/BGT/1348494.pdf.

[6] Italian Senate, "Informativa del Ministro della transizione ecologica...", cit., p. 13; Italian Parliament-COPASIR, *Relazione sulle conseguenze del conflitto tra Russia e Ucraina...*, cit., p. 4.

[7] "Gas, MITE: non necessario livello di allerta. Via ad acquisti carbone", in *La Stampa*, 21 June 2022,

ISSN 2610-9603 | ISBN 978-88-9368-262-6

As for long-term measures, the government is considering the possibility of doubling the TAP pipeline capacity through infrastructural interventions in Albania and Greece, which would take between forty-five and sixty-five months and would provide a total supply of 20 bcm per year. Increasing supply through new offshore and onshore regasification terminals is another option. Renting offshore floating terminals is a quicker and more flexible solution, requiring twelve to sixteen months, and would lead to 16 to 24 bcm of total supply. Increasing imports through onshore LNG regasification would entail more complex infrastructural interventions, requiring from thirty-six to forty-eight months for implementation and providing an estimated additional supply of 20 bcm per year.[8] Finally, Italy has shown interest in gas reserves in the Eastern Mediterranean, with ongoing discussions, for instance with Egypt and Israel, to increase supplies through LNG – although the position of the government on the planned EastMed pipeline, which is expected to transport gas through Cyprus and Greece, is still cautious. After his visit to Israel in June 2022, Prime Minister Mario Draghi confirmed the government's intention to cooperate with countries in the region to diversify away from Russian gas, but did not mention the EastMed project.[9]

The Italian strategy to end gas dependence on Russia started to unfold in April 2022 with one of its most important deals. Prime Minister Draghi and Algeria's President Abdelmadjid Tebboune signed a memorandum of understanding to strengthen energy cooperation; this was followed by several agreements between energy companies Eni and Sonatrach. These deals will increase gas exports to Italy and foresee an accelerated development of gas fields in Algeria, leading to an additional 3 bcm in the short term and another 6 bcm by 2023, split between LNG and gas. The Italy–Algeria intergovernmental summit in July scaled up plans, announcing an additional 4 bcm to be supplied in 2022 and reiterated commitments to develop clean energy.[10] These agreements make Algeria the main Italian gas supplier, with approximately 30 bcm per year.[11]

In April 2022, Eni also signed an agreement with Egypt to increase gas production and exports through LNG, which will reach 3 bcm by 2022.[12] As stated by Minister

https://finanza.lastampa.it/News/2022/06/21/gas-mite-non-necessario-livello-di-allerta-via-ad-acquisti-carbone/MTc5XzIwMjItMDYtMjFfVExC.

[8] Italian Senate, "Informativa del Ministro della transizione ecologica...", cit., p. 12; Italian Parliament-COPASIR, *Relazione sulle conseguenze del conflitto tra Russia e Ucraina...*, cit., p. 13.

[9] Vanessa Ricciardi, "Draghi in Israele non si sbilancia sul gasdotto EastMed mentre Eni punta sul Gnl", in *Domani*, 14 June 2022, https://www.editorialedomani.it/politica/mondo/draghi-israele-gasdotto-eastmed-eni-gnl-k09k3h65.

[10] Carlo Marroni, "Gas, Draghi: 'Algeria diventato il nostro primo fornitore'", in *Il Sole 24 Ore*, 18 July 2022, https://www.ilsole24ore.com/art/gas-draghi-algeria-diventato-nostro-primo-fornitore-AEL40EnB.

[11] Ibid.

[12] Eni, *Eni and EGAS Agree to Increase Egypt's Gas Production and Supply*, 13 April 2022, https://www.eni.com/en-IT/media/press-release/2022/04/eni-and-egas-agree-increase-egypt-s-gas-production-and-supply.html.

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Cingolani in June 2022, through agreements with six African countries Italy has managed to secure new gas supplies that will amount to 25 bcm by 2024 to replace the 29 bcm imported from Russia.[13]

Strengthening the "African route" is in fact a core aspect of the Italian diversification strategy. Rome is looking towards Africa not only because of the existing direct infrastructural connections, but also in consideration of the increased strategic importance that the Mediterranean corridor has gained for the EU as a consequence of Russia's invasion of Ukraine. Focusing on developing the African route will lead to a significant comparative advantage for Italy. Given its natural position as a bridge between the Mediterranean region and the EU and its energy assets on the continent, Italy can become a main entry point for gas and a hub for its distribution in European markets, with the additional prospect of evolving into a hydrogen and renewable energy hub as the EU progresses with its climate neutrality commitments.

While addressing its strategic objectives and the urgent need to diversify away from Russia, Italy has to maintain its decarbonisation trajectory. It is crucial to frame the short-term response to the crisis within the objectives of the Green Deal and the European Climate Law, which made climate-neutrality by 2050 a legally binding target and set the intermediate target of 55 per cent emissions reduction by 2030. Therefore, looking into how Italy is reconciling its short-term needs with long-term climate objectives is one of the most interesting aspects to be analysed.

2. The quest for an affordable transition

Decoupling the energy supply from Russia is affecting the very core of Italian and EU energy policies. Beyond the necessity to reduce dependence on Moscow, it remains crucial to ensure that the transition away from Russia and away from fossil fuels can be carried out affordably. An equitable transition cannot leave households and firms with rocketing energy bills, and thus the necessity for support measures from public authorities. However, the price spike triggered by the conflict and the subsequent Western sanctions have put significant pressure on the affordability pillar of the European energy strategy. In a continent that still intends to phase-out coal and nuclear plants, rising gas prices – the bridge fuel towards renewables – represent a new obstacle. While higher fossil fuel costs would represent an incentive to invest in renewables, the commodity boom that is affecting minerals and rare earths used in green energy technologies may well invalidate the financial premise for shifting away from fossil fuels to renewables. Finally, energy transition affordability is also undermined by rising interest rates; these massively constrain the ability of governments to borrow necessary financial resources.

[13] "Gas, Cingolani: 'Indipendenti da Russia dal secondo semestre 2024'", in *La Stampa*, 6 June 2022, https://finanza.lastampa.it/News/2022/06/06/gas-cingolani-indipendenti-da-russia-dal-secondo-semestre-2024-/NTFfMjAyMi0wNi0wNl9UTEI.

IAI PAPERS 22 | 23 - SEPTEMBER 2022 ISSN 2610-9603 | ISBN 978-88-9368-262-6

3. Pay more, get less

While the war and the European response to it are often associated with increasing energy prices, the full picture is more complex. Prices of the main global energy commodities (crude oil, natural gas and coal) and raw materials (including metals and rare earths) were already steadily rising from spring 2021, primarily because of the rapid post-pandemic recovery. Undoubtedly, however, fossil fuels prices also increased because the Russian military build-up on Ukraine's border created significant uncertainties. The Kremlin's energy choices – in hindsight clearly made with the prospect of the invasion in mind – contributed to tightening energy markets, especially in Europe. In the summer to autumn period of 2021, Russia limited its volumes to the minimum levels prescribed by contracts. As a result, gas prices rose to levels that had not been seen over the previous decade: Dutch TTF Futures reached a first record on 5 October 2021, at 107 euro per megawatt-hour (MWh).[14] The actual invasion of Ukraine led to another hike, especially for natural gas, with the Dutch TTF Futures reaching an all-time high of 227 euro per MWh on 7 March 2022. Despite the lack of sanctions that specifically targeted gas, the EU's measures led to both a Russian reduction in gas transfers and threats that supplies would be completely halted, which kept prices high.

Gas supply was further reduced between May and June 2022, with Russia halting deliveries to Poland, Bulgaria, Finland, the Netherlands and Denmark. Additionally, on 14 June Russia announced a 40 per cent reduction of supply via the Nord Stream 1 pipeline, primarily affecting Germany, as well as via Ukraine the following day,[15] this time hitting Italy and Austria. These decisions were taken when supply constraints were already increasing owing to the necessity to fill storage in view of the coming autumn. Furthermore, the temporary full halt of Nord Stream 1 in July, officially because of routine maintenance operations, has created further doubts about the resumption of future gas deliveries. Repeated stops throughout the summer have culminated in September with the Russian announcement that Nord Stream 1 would remain switched off until the lifting of sanctions.[16] In order to respond to lower energy supplies and limit the market disruption caused by Russian actions, the European Commission has developed the REPowerEU plan, a strategy to reduce reliance on Russia while at the same time accelerating the green transition. This scheme is based on four pillars: 1) energy savings to reduce demand (and hence contain the rise in prices); 2) a faster rollout of renewable energy capacity, increasing production targets and reducing the timeframe for

[14] Katherine Dunn, "No Signs of Stopping: Gas Prices in Europe Just Hit Another Record", in *Fortune*, 5 October 2021, https://fortune.com/2021/10/05/gas-price-crisis-europe-energy.

[15] Katrin Bennhold and Melissa Eddy, "As European Leaders Visit Kyiv, Putin Cuts Their Gas Supply", in *The New York Times*, 16 June 2022, https://www.nytimes.com/2022/06/16/world/europe/russia-gas-cuts-ukraine-germany.html.

[16] Max Sheddon, David Sheppard and Henry Foy, "Russia Switches Off Europe's Main Gas Pipeline Until Sanctions Are Lifted", in *Financial Times*, 5 September 2022, https://www.ft.com/content/2624cc0f-57b9-4142-8bc1-4141833a73dd.

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deployment; 3) a diversification of suppliers, especially for LNG; 4) a reduction of fossil fuel consumption by transport and industry, to be achieved, beyond savings and efficiency, by substitutions and electrification when possible.[17]

4. From subsidies to a price cap: Public interventions to reduce energy costs

Owing to its reliance on Russian energy, Italy is more vulnerable to price hikes because of supply shortages. It comes as no surprise that Italian households and businesses have been heavily impacted by the ongoing crisis. According to statistics from the Italian Regulatory Authority for Energy, Networks and the Environment (ARERA),[18] gas prices for an average household have risen from 73.4 euro per m^3 in the fourth quarter of 2021 to 123.62 euro in the first quarter of 2022, a staggering 87 per cent increase. Electricity prices have fared even worse, with households experiencing a 121 per cent increase over the same period: from 0.21 euro per kilowatt hour (KWh) in Q2 2021 to 0.46 euro in Q1 2022. Only after state intervention were prices curbed, albeit modestly: electricity prices in Q2 2022 have declined only by 10 per cent, the same as gas prices.

These reductions are the effect of a complex and diversified toolbox that is being employed by the Italian government. To deal with rising energy prices, Italy has adopted a twofold strategy: a reduction in the value-added tax and other duties on energy products, coupled with cash transfers to vulnerable groups (primarily low-income households) and energy-intensive industries. Those interventions will be partially paid for by a special windfall tax on energy companies – a 25 per cent one-off levy to be paid in November 2022. The Italian government expects to receive only a maximum of 11 billion euro from this tax,[19] covering barely a third of the intervention costs.

While Italian measures have concentrated on subsidies and tax cuts, other EU member states have experimented with different policy approaches. The policies of three major economies of the Eurozone partly differ in the instruments chosen, but are roughly similar in the resources allocated to cushion the impact of rising energy prices. According to the Bruegel tracker of EU national policies,[20] Italy is the second country in terms of assigned resources, shortly ahead of France (35 billion

[17] European Commission, *REPowerEU Plan* (COM/2022/230), 18 May 2022, https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52022DC0230.

[18] Italian Regulatory Authority for Energy, Networks and the Environment (ARERA) website: *Andamento del prezzo dell'energia elettrica per il consumatore domestico tipo in maggior tutela*, https://www.arera.it/it/dati/eep35.htm.

[19] "Energy Companies to Pay Italian Windfall Tax in Two Parts by November – Draft", in *Reuters*, 12 May 2022, https://www.reuters.com/article/italy-economy-windfall-tax-idINL5N2X489H.

[20] Giovanni Sgaravatti, Simone Tagliapietra and Georg Zachmann, "National Policies to Shield Consumers from Rising Energy Prices", in *Bruegel Dataset*, 10 August 2022, https://www.bruegel.org/node/7844.

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euro) and behind Germany's 43.2 billion euro. Italy has allocated a total of 37 billion euro so far, equal to 2.1 per cent of the Italian GDP. Other countries have exceeded Italy's efforts in terms of the share of GDP allocated. Greece has spent, up to 9 June 2022, 3,7 per cent of its GDP to fight energy inflation. Lithuania follows with 3.6 per cent, while Spain has spent up to 2.3 per cent of its GDP. What is remarkable about the Spanish case is that Madrid has pioneered a temporary price-cap system, limiting the price of gas to 50 euro per MWh in the first phase and later to 70 euro per MWh. This has resulted in a 40 per cent reduction in energy bills for consumers and has de facto decoupled the price of electricity from gas.[21] Portugal has adopted a similar policy with similar results. However, this policy has only been possible largely because the Iberian peninsula is an energy island within the Union: with only 2.8 per cent of its energy traded with the rest of the EU, a divergence from the pay-as-clear model in those two countries does little to disturb the common energy market.

A different price-cap system is becoming increasingly popular among some EU governments, and Italy was among the main proponents of such a measure at the Versailles informal summit and the Brussels European Council of May 2022.[22] Unlike the Iberian price cap, the Italian plan consists of a maximum price for Russian gas imported to the EU, with a ceiling above which European purchasers would not buy gas from that source. The Draghi government has sought to include a potential European price-cap system to contain the rise in energy prices, despite not adopting one at the national level. The reasons for the Italian support are twofold. First is a necessity to contain inflation, largely fuelled by energy costs. Second, a ceiling to gas prices would reduce Russian energy revenues, undermining its ability to wage war. Critically, the measure has been envisaged as EU-wide. This is because the application of a price cap in highly interconnected countries would severely disrupt the internal energy market, transforming net importers into net exporters if prices are low enough and breaking the level playing field between energy operators. The European Union Agency for the Cooperation of Energy Regulators has pointed out in its electricity market assessment of April 2022 that non-European-wide price-cap mechanisms are among the most distorting measures (the only option more disruptive being a de facto extreme segmentation of the markets – a move that would just fall short of nationalising the energy industries affected).[23] The move would probably hamper competition and innovation, especially in future technologies. Other than reducing incentives to innovate for energy producers, the price cap could also reduce incentives for

[21] Spanish Government, *Government of Spain Caps Gas Prices to Lower Electricity Bills for Households, Businesses and Industry*, 13 May 2022, https://www.lamoncloa.gob.es/lang/en/gobierno/councilministers/Paginas/2022/20220513_council-extr.aspx.

[22] Nodège Tillier and Gerben Hieminga, "Energy Price Caps Could Be a Game Changer for European Utilities", in *ING Think*, 9 June 2022, https://think.ing.com/articles/energy-price-caps-could-be-game-changers-for-european-utilities.

[23] EU Agency for the Cooperation of Energy Regulators (ACER), *Final Assessment of the EU Wholesale Electricity Market Design*, April 2022, https://www.acer.europa.eu/events-and-engagement/news/press-release-acer-publishes-its-final-assessment-eu-wholesale.

ISSN 2610-9603 | ISBN 978-88-9368-262-6

firms and households to reduce energy consumption.[24] Nonetheless, the idea of a European price cap was endorsed by the European Council on 30–31 May. While the Commission had been quite vocal in supporting this since March, the Council is not directly calling for the introduction of a price-cap mechanism. Only France, Spain, Portugal and Greece have expressed clear support for the Italian price-cap blueprint.[25] Germany and the Netherlands, among others, are much more sceptical. The possibility of introducing price-cap mechanisms was reiterated by the European Council in the 23–24 June Summit, when the Council again invited the Commission to explore measures to curb the rise in energy prices.

The increasing appeal of a price-cap mechanism, however, risks overshadowing significant doubts about its feasibility, especially in terms of its implications for public budgets. While the price-cap mechanism has an important advantage in that it detaches electricity costs from the marginal price typical of a pay-as-clear market – which has impacted the market dramatically in times of scarce supply – it also requires significant subsidies to compensate wholesale sellers for lost profits. The partial wholesale price cap adopted by France, together with the forced selling of nuclear energy from EDF to other operators at below market price, has already cost the state-owned energy giant 8.4 billion euro.[26] Any EU-wide scheme would create additional costs for member states, potentially forcing them to choose between reducing their citizens' energy bills or progressing on the path of a green transition.

Financing is indeed the major challenge not only for a price-cap mechanism, but also to the entire current set of policy interventions that aim to reduce the impact of rocketing energy prices on firms and households. To put energy actions into perspective and understand the magnitude of the expenditure involved, a comparison with the additional requirements of REPowerEU is useful. While the European Commission estimates additional investment in renewable capacity, infrastructure and efficiency will cost 210 billion euro by 2027,[27] energy support measures so far have already cost more than 221 billion euro (including Norway's 3.2 billion euro) in roughly six months.

In the search for additional financial resources to support national and EU-wide measures to contain price increases, the Commission has suggested using the EU's Emission Trading System (ETS). The sale of additional permits would bring new revenue, which could be used either to reduce the impact of energy prices or to increase investment in alternative energy sources. Such a solution is attractive,

[24] Zosia Wanat, "Why Reining in Electricity Prices Is a Lot Tougher Than It Looks", in *Politico EU*, 23 March 2022, https://www.politico.eu/?p=2035630.

[25] "France Seeks EU Gas Price Cap to Better Negotiate with Producers –Minister", in *Reuters*, 18 March 2022, https://www.reuters.com/article/urkaine-crisis-france-gas-idUKL2N2VL0X6.

[26] Jillian Ambrose, "France to Force EDF to Take €8.4bn Hit with Energy Bill Cap", in *The Guardian*, 14 January 2022, https://www.theguardian.com/p/kb37y.

[27] Simone Tagliapietra, "REPowerEU: Will EU Countries Really Make It Work?", in *Bruegel Blog*, 18 May 2022, https://www.bruegel.org/node/6606.

ISSN 2610-9603 | ISBN 978-88-9368-262-6

but it presents several problems. First, increasing the amount of ETS would de facto increase emissions from firms, making polluting easier and cheaper (prices dropped from 100 to 79 euro following the Commission's announcement of the proposal on 18 May 2022).[28] In addition, it is estimated that the ETS increase will bring about only 20 billion euro in additional revenues, a sum hardly large enough to have an impact on energy prices. In addition, the Commission's proposal risks weakening the "sustainability" pillar of the EU energy policy by allowing an increase in emissions even beyond the 2030 deadline.

Considering the limited fiscal space for further support measures, a reduction in consumption seems to be one of the main roads both to lower prices and to lower emissions within the EU, as well as an instrument to deal with lower supply from Russia. On 20 July, the Commission presented a plan, "Save gas for a safe winter", to curb gas consumption – and hence demand – in all member states by 15 per cent between August 2022 and March 2023.[29]

5. Linking the short-term response to the crisis with long-term decarbonisation objectives

Linking the short-term response to the crisis with long-term decarbonisation objectives is a very complex challenge for EU countries, yet it is non-negotiable. As stated by REPowerEU, reducing dependence on Russia requires an acceleration of the energy transition. The plan defines higher targets for energy efficiency and renewables, along with large-scale investments in hydrogen infrastructure and electricity grids. Specifically, the plan proposes to increase the binding targets in the Energy Efficiency and Renewable Energy Directives set by the Fit-for-55 package adopted by the European Commission in July 2021 to achieve the objective of 55 per cent emissions reduction by 2030. REPowerEU proposes to increase the energy efficiency target to 13 per cent (from the 9 per cent set by Fit-for-55) and the renewable energy target to 45 per cent (from 40 per cent set by Fit-for-55).[30] In this scenario, gas consumption at EU level should diminish at a faster pace than the 30 per cent reduction by 2030 envisaged by Fit-for-55 (around 116 bcm), limiting the role of gas as transitional fuel. Furthermore, REPowerEU indicates that new investments in gas infrastructures should be limited and targeted to address the needs of the next decade, without leading to carbon lock-ins or hampering the transition to a climate neutral economy.

[28] Sandbag, "RePowerEU: Fiddling with the Carbon Market puts the Climate at Risk", in *Sandbag Blog*, 30 May 2022, https://sandbag.be/?p=15059.

[29] European Commission, *Save Gas for a Safe Winter: Commission Proposes Gas Demand Reduction Plan to Prepare EU for Supply Cuts*, 20 July 2022, https://ec.europa.eu/commission/presscorner/detail/en/ip_22_4608.

[30] European Commission, *REPowerEU Plan*, cit.

ISSN 2610-9603 | ISBN 978-88-9368-262-6

The Italian government has strongly reaffirmed its commitment to implementing decarbonisation efforts, and has argued that, in facing the current crisis, pursuing energy savings and clean energy alternatives remain the main pathways. Nevertheless, efforts have so far been skewed towards replacing Russian gas "one-to-one" through the identification of alternative suppliers, while concrete measures to boost energy savings and accelerate renewables remain on the back burner.

The national energy efficiency and renewables targets need to be urgently scaled up, as the National Energy and Climate Plan (NECP) is not in line with Fit-for-55 objectives or the acceleration required by REPowerEU. Moreover, the Italian response to the energy crisis does not include a quantification of the contribution of energy efficiency, energy savings and renewables in reducing dependency on Russian gas. By not factoring-in the contribution of these components, the future demand for gas will likely be overestimated, thus creating a misleading framework for investments and a concrete risk of stranded assets, redundant gas infrastructure and lock-in of fossil fuels. Therefore, defining more ambitious targets for clean energy and efficiency and quantifying their contribution in cutting dependence on Russian gas is fundamental for Italy to design a sustainable response to the energy crisis.

Following the start of the conflict, several studies were carried out to calculate the potential contribution of scaling up renewables, efficiency and savings and to inform the government of the needed adjustments. Immediately after the outbreak of the conflict, Elettricità Futura, Italy's leading association of power companies, demanded the government to authorise 60 GW of new renewables plants by June 2022. These 60 GW are part of projects already submitted to Terna, Italy's transmission system operator, and according to Elettricità Futura they can be implemented in three years, leading to 15 bcm of gas savings per year, which is more than half of the gas imported from Russia in 2021. Moreover, Elettricità Futura's data show that production of biomethane from the organic components of municipal, industrial and agricultural waste could also provide a significant contribution.[31]

In 2021, the government announced that Italy would need to install 70–75 GW of renewables in order to fulfil the 55 per cent decarbonisation target by 2030 that has been set by the EU, meaning an average of 8 GW annually.[32] However, data from Terna and the leading environmental NGO Legambiente show that in 2021 only 1 GW of renewable energy was installed.[33] The reason is not a lack of interest from

[31] Elettricità Futura, *Risolviamo la grave crisi energetica con 60 GW di rinnovabili autorizzate entro giugno 2022*, 25 February 2022, https://www.elettricitafutura.it/News-/Comunicati-Stampa/Risolviamo-la-grave-crisi-energetica-con-60-GW-di-rinnovabili-autorizzate-entro-giugno-2022_4120.html.

[32] Italian Chamber of Deputies-Research Department, "Il PNIEC e il Piano per la transizione ecologica", in *Studi - Attività produttive. Focus*, 16 December 2021, https://temi.camera.it/leg18/post/la-proposta-italiana-di-piano-nazionale-per-l-energia-e-il-clima.html.

[33] Luca Fraioli, "Ci sono 1400 progetti di solare ed eolico: la burocrazia li blocca", in

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investors: in 2021 projects amounting to 110 GW for onshore energy and 17 GW for offshore were submitted to and approved by Terna. The bottlenecks hampering the development of these projects lie in difficult and inefficient authorisation procedures at regional and local level; for instance, it takes an average of five years to obtain the authorisation for a wind power plant.[34] Partly as a response measure to the crisis, a long-awaited law to simplify the authorisation process for renewables plants of up to 200 kW was approved in April 2022, which was a step in the right direction.[35] Nevertheless, the absence of a clear role and a scaled-up target for renewables in the Italian strategy to cut dependence on Russia remain critical weaknesses. In June 2022, an Elettricità Futura study calculated that to be in line with REPowerEU, Italy should install 85 GW of renewables by 2030 – which would require an urgent acceleration.[36]

A similar analysis to the one promoted by Elettricità Futura was published by Legambiente in March 2022. This estimated the potential contribution of efficiency measures, in particular scaled-up efficiency in buildings and the increased uptake of heat pumps. According to the study, by aligning the current NECP target for energy efficiency in buildings to the target defined by the EU Renovation Wave strategy,[37] Italy could save 3.6 bcm of gas by 2025 and 8 bcm by 2030. Similarly, scaling up the uptake of heat pumps compared with what is currently envisaged in the NECP, Italy could save 2.3 bcm by 2025 and 5 bcm by 2030. Combining these two efficiency measures, gas consumption could be reduced by 5 bcm by 2025 (compared with 1.3 bcm in the current NECP) and by 12 bcm in 2030 (compared with 3.0 bcm).[38] Thus, energy efficiency can make a substantial contribution to cutting dependence on Russian gas, yet actions in this area have not been prioritised so far.

In addition, energy savings through behavioural changes can represent the quickest and cheapest way to address the current crisis, as stated by REPowerEU. A study by ENEA, a governmental research and development agency, estimated that by reducing the heating temperature by only 1°C in Italian households, the country could save 3 bcm of gas annually.[39] Thus, the absence of a target for this

Green&Blue, 13 January 2022, https://www.greenandblue.it/2022/01/13/news/lo_stallo_delle_rinnovabili-333556730.

[34] Ibid.

[35] Italy, Law No. 34 of 17 April 2022: *Misure urgenti per il contenimento dei costi dell'energia elettrica e del gas naturale, per lo sviluppo delle energie rinnovabili e per il rilancio delle politiche industriali*, https://www.normattiva.it/uri-res/N2Ls?urn:nir:stato:legge:2022-04-27;34.

[36] Elettricità Futura, *REPowerEU in Italia: 345 miliardi di benefici economici e 470.000 nuovi occupati*, 21 June 2022, https://www.elettricitafutura.it/News-/Comunicati-Stampa/REPowerEU-in-Italia-345-miliardi-di-benefici-economici-e-470-000-nuovi-occupati_4427.html.

[37] European Commission, *Renovation Wave. The European Green Deal*, October 2020, https://op.europa.eu/s/wYK8.

[38] Elemens, *Dal gas alle rinnovabili. Scenari e benefici economici dei sistemi di riscaldamento degli edifici*, March 2022, https://www.legambiente.it/?p=21992.

[39] Jacopo Giliberto, "Caro energia, così l'Italia può risparmiare fino al 10% di gas (senza razionamenti)", in *Il Sole 24 Ore*, 10 April 2022, https://www.ilsole24ore.com/art/caro-energia-cosi-l-italia-puo-

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component and a broad awareness campaign is a key weak spot in the current Italian response, especially in light of the potential for behavioural changes to immediately reduce gas demand while investments in more structural measures are rolled out. These studies show that accelerating renewables, efficiency and energy savings can reduce dependence on Russian gas in the short-term, with significant reductions by 2025 and further decreases throughout the next decade. Therefore, these represent a structural solution that should be prioritised – as it timely cuts dependence on Russian gas while also pursuing decarbonisation objectives.

Nevertheless, securing alternative gas supplies remains critical especially in the short term when demand for gas will remain high. The current scenario therefore requires to urgently secure new gas supplies against a long-term backdrop characterised by reducing gas demand, ambitious climate objectives and increasing demand for decarbonised gas and clean molecules. On the one hand, this will require the prioritisation of flexible measures, such as maximising the capacity of existing gas infrastructures, while limiting long-term infrastructural interventions and the development of new gas fields, which are associated with a higher risk of carbon lock-ins and stranded assets. On the other hand, new contracts and investments aimed at expanding the gas sector will have to include a focus on emissions reduction and increased efficiency in the gas value chain (particularly addressing methane leaks, venting and flaring) and on making infrastructures hydrogen ready. In fact, electricity is expected to cover 53 per cent of the EU's total energy demand by 2050 in a net zero scenario, thus leaving space for decarbonised gas and clean molecules, especially in hard-to-abate sectors.[40] This approach is also in line with the European Commission's framework to "decarbonise gas markets, promote hydrogen and reduce gas methane emissions"[41] and the EU External Energy Strategy,[42] which states that additional gas supplies necessary as a result of the current situation should be coupled with investments in decarbonisation of their value chain and with climate benefits. Thus, the necessary reconfiguration of gas flows and suppliers should be taken as an opportunity to make the gas value chain more sustainable and future-proof.

Furthermore, framing the strategy to cut dependence on Russian gas within decarbonisation objectives will ensure that energy security and climate security are correctly balanced and that both are perceived as concrete priorities in the Italian strategy. Failing to prioritise renewables and efficiency in the response

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[40] European Commission, *A Clean Planet for All. A European Strategic Long-term Vision for a Prosperous, Modern, Competitive and Climate Neutral Economy* (COM/2018/773), 28 November 2018, https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52018DC0773.

[41] European Commission, *Commission Proposes New EU Framework to Decarbonise Gas Markets, Promote Hydrogen and Reduce Methane Emissions*, 15 December 2021, https://ec.europa.eu/commission/presscorner/detail/en/ip_21_6682.

[42] European Commission, *EU External Energy Engagement in a Changing World* (JOIN/2022/23), 18 May 2022, https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52022JC0023.

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to the crisis will likely lead to carbon lock-ins both for Italy and for its new gas suppliers, leading to the detrimental effects of temperature increase beyond 1.5°C.

During the summer of 2022, Italy has recorded worryingly high temperatures. Five northern regions have declared a state of emergency due to severe drought, which has led to the allocation of 36.5 billion euro in emergency funds. Drought is having serious consequences on rice production, hydroelectric power and drinking-water supplies, while high temperatures have contributed to a glacier collapse in the Dolomites, which killed eleven people and injured many more.[43] Therefore, it is essential to understand climate change as a pressing security threat when making short- and long-term decisions to replace Russian gas. This should be identified as particularly relevant considering the increased climate vulnerability of the Mediterranean and Sub-Saharan regions, which include both Italy and the countries identified as key alternative gas suppliers.[44]

Algeria in particular has become a critical partner for Italy both in the short and long term, given the potential for future cooperation in the hydrogen and renewables sectors. This partnership represents an opportunity to design a model of cooperation with new gas suppliers that addresses short-term energy security needs while supporting the energy transition in partner countries, thereby minimising the risk of carbon lock-ins. Before Russia's invasion of Ukraine, the fossil fuels sector in Algeria was already expected to undergo significant expansion, as Algerian oil company Sonatrach announced the intention to invest 40 billion US dollars by 2026 in exploration, extraction and production.[45] With the war and the consequent increasing demand for gas from Europe, these investments will likely be scaled up. However, as the EU's demand for gas will decrease as a result of decarbonisation policies, these investments risk not being repaid. In addition, an expansion of the oil and gas sectors will reduce both resources and political interest in clean energy alternatives, with the risk of tying the future of Algeria to fossil fuels.

Today fossil fuels revenues in Algeria already represent over 90 per cent of export revenues, 68 per cent of which comes from Europe.[46] Therefore, further strengthening reliance on gas revenues by increasing exports to the EU will expose the country to the impacts of price volatility and shrinking foreign markets, with a concrete risk of exacerbating socioeconomic and political instability. At the same time, considering the increased climate vulnerability of the Mediterranean region, a delayed transition to clean energy represents a risk for stability. In this scenario,

[43] "Drought Emergency Declared in Northern Italy", in *BBC News*, 5 July 2022, https://www.bbc.com/news/world-europe-62046165.

[44] UNEP/MAP website: *Climate Change in the Mediterranean*, https://www.unep.org/unepmap/node/20387.

[45] "Algeria: Sonatrach to Invest $40bn over Five Years", in *Africanews*, 4 January 2022, https://www.africanews.com/2022/01/04/algeria-sonatrach-to-invest-40bn-over-five-years.

[46] World Bank, "Algeria", in *Macro Poverty Outlook for Middle East and North Africa*, April 2022, p. 1-3, https://www.worldbank.org/en/publication/macro-poverty-outlook/mpo_mena.

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the EU and particularly Italy, through measures aimed at reducing dependency on Russian gas in the short term, risk creating new energy dependency patterns with a region that might become highly unstable.

Several measures could be undertaken to mitigate these risks and to ensure the long-term sustainability of the Italy–Algeria partnership. In particular, investing in gas value chain efficiency tackling flaring and on an accelerated deployment of renewables is key. According to the World Bank, Algeria has the fifth highest rate in the world for gas flaring, with volumes totalling 9.3 bcm in 2020.[47] Tackling this issue would significantly increase available gas supplies for export and domestic use without expanding gas production and developing new gas fields, which are associated with a higher risk of carbon lock-in. For comparison, the gas volumes recovered from flaring would represent approximately one-third (9 bcm) of the expected gas exports from Algeria to Italy in 2023 (expected to reach 30 bcm in 2023). Nevertheless, reducing flaring was not explicitly mentioned in cooperation agreements between the two countries, which is a significant shortcoming.

Despite their vast potential, renewables are severely underdeveloped in Algeria. According to the latest International Energy Agency (IEA) data, the share of renewables in the country's power generation accounted for just 1 per cent in 2019.[48] An accelerated deployment of renewables would address the growing internal energy demand while freeing up natural gas for exports, which would respond to the increased Italian and European demand for gas in the medium term. Thus, measures to scale-up renewables and tackle gas flaring will increase available gas supplies from Algeria while limiting the need for long-term expansion of the gas sector, which poses risks of carbon lock-ins.

Supporting the development of renewables would also help to diversify the country's economic structure and create new jobs that could shelter Algeria's economy from the consequences of decreasing fossil fuels revenues in the medium and long term as a result of European decarbonisation policies. Thus, prioritising the rapid development of renewables will ultimately contribute to lowering the risk of political, economic and social instability brought about by climate change and the dependence on fossil fuel revenues, with positive effects for Algeria's development and for the EU's long-term security.

Nevertheless, as throughout the MENA region, renewables in Algeria are currently hampered by significant political, legislative, market and infrastructural bottlenecks which would require adequate reforms to boost investments. Italy could play a role in supporting the country to undertake these key reforms. Prime Minister Draghi has stated that the partnership with Algiers includes renewables and local job creation in the sector, while also establishing cooperation on fourteen other areas

[47] World Bank, *Global Gas Flaring Tracker Report*, April 2021, p. 12, https://www.worldbank.org/en/topic/extractiveindustries/publication/global-gas-flaring-tracker-report.

[48] International Energy Agency (IEA) website: *Algeria*, https://www.iea.org/countries/algeria.

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from industrial development to justice and social affairs, all aimed at reinforcing stability.[49] Even if there are few specifics yet about actions and objectives, this represents a step in the right direction.

Finally, the timely deployment of renewables will be critical for the development of green hydrogen in Algeria, which is a key strategic interest for Italy. Thus, by prioritising renewables Italy will also pursue the creation of a green energy Mediterranean corridor in which it will be a key player. Future cooperation on hydrogen was mentioned as part of the cooperation agreements, which is promising even if the specifics are not yet clear.[50]

In the run-up to COP27, the annual UN climate conference (6–18 November 2022), it will be essential for the EU to demonstrate that its response to the current crisis and the need to diversify away from Russia will not hamper the energy transition of new energy partners, in particular developing and climate-vulnerable countries. This is especially relevant as the upcoming COP27 will take place in Africa and is expected to draw increased attention to developing economies and their requests for financial and technical support from Annex II countries (developed economies). Therefore, demonstrating the long-term sustainability of new energy partnerships will be critical. In particular, the Italian strategy and its strengthened energy cooperation with African countries will be in the spotlight given Italy's strategic position connecting the African and European continents in relation to short-term and long-term energy needs.

Conclusion

In the current crisis, Italy and Europe are prioritising the identification of alternative gas suppliers, raising concerns over the congruence of these measures with long-term decarbonisation objectives. The necessity to quickly replace Russian gas has led Italy to focus on strengthening the so-called African route, building upon existing gas infrastructures and strategic objectives to develop a Mediterranean energy corridor between African and the EU in which Italy will play a central role. Thanks to agreements with six African countries, Minister Cingolani announced in June 2022 that Italy had been able to secure supplies that would replace Russian gas almost entirely by 2024.

Despite the fact that provisions for renewables and green hydrogen have been included in the main deal, with Algeria, the primary focus remains on securing new gas supplies to replace Russian imports. This approach threatens the attainment

[49] Italian Government, *Prime Minister Draghi's Press Statement at the Fourth Italy-Algeria Intergovernmental Summit*, 18 July 2022, https://www.governo.it/en/node/20292.

[50] "Gas, Draghi firma l'accordo con l'Algeria: 3 milioni di metri cubi subito", in *La Stampa*, 12 April 2022, https://finanza.lastampa.it/News/2022/04/12/gas-draghi-firma-laccordo-con-lalgeria-3-milioni-di-metri-cubi-subito/MV8yMDIyLTA0LTEyX1RMQg.

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of the objectives of the Green Deal and the strategy set out by REPowerEU, especially if the contribution of energy efficiency, savings and renewable energy in reducing dependence on Russian gas is not factored in soon. This could lead to overestimating the future demand for gas, thus creating a misleading framework for investment and a concrete risk of stranded assets, redundant gas infrastructure and carbon lock-ins. This aspect is particularly problematic in light of the upcoming COP27, at which it will be crucial for EU countries to demonstrate the long-term sustainability of their response to the current crisis, in particular concerning new energy partnerships with developing countries that cannot afford delaying pursuit of their climate objectives.

Furthermore, for Italy there is a risk that Russian energy dependence will be replaced by over-reliance on other energy partners in the Mediterranean region, which would present several geopolitical challenges. Prioritising the timely deployment of renewables and decarbonisation of the gas value chain in partner countries could provide mutual benefits in terms of security. Indeed, unrestrained climate change and overdependence on fossil fuel revenues are among the main risk factors for political, economic and social instability for partner countries in the Mediterranean.

Concerning the affordability of energy supplies, European and national measures to contain energy costs have had mixed results despite the vast amount of allocated resources. A potential solution to shield economic actors from the impact of the war would be the price cap that was endorsed by the European Council summits in May and June 2022. However, this move represents only the first step, the next one being an agreement on the implementation of such a measure at European level, preferably before winter 2022. Costs remain the main issue for national and European interventions in energy markets, however: in the last nine months, to contain energy prices European countries have spent more than would be necessary to reach the REPowerEU objectives by 2027. An excessive focus on energy affordability thus risks derailing the resources required for the green transition and would be financially unsustainable.

The EU, and especially Italy, need to carefully balance immediate needs and medium-term objectives, making sure that responses to sudden emergencies do not impair the planned energy transition. While the Russia–Ukraine war has struck the EU at a very sensitive time, the inability to correctly respond to current challenges risks shattering the long-term vision of a climate neutral and socially fair EU.

Updated 15 September 2022

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