

Perspectives for Italy-Germany Energy Cooperation amid Energy Security and Transition

by Alessio Sangiorgio and Pier Paolo Raimondi



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ABSTRACT

Italy and Germany share important similarities in their energy sectors, facing multiple challenges, first and foremost the impact of the energy crisis and its effect on transition efforts. Similarly, changing political contexts at the national and European levels creates new obstacles for climate ambitions, raising the need for bilateral dialogue and common solutions. The two countries' economies are also closely interconnected, increasing the need for joint action on industrial decarbonisation and cross-border interconnections. A coordinated response in tackling the challenges of energy security, competitiveness and sustainability is needed and may yield positive results for both countries and the European Union.

Italy | Germany | Energy cooperation | Infrastructures | FDI

keywords

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Introduction

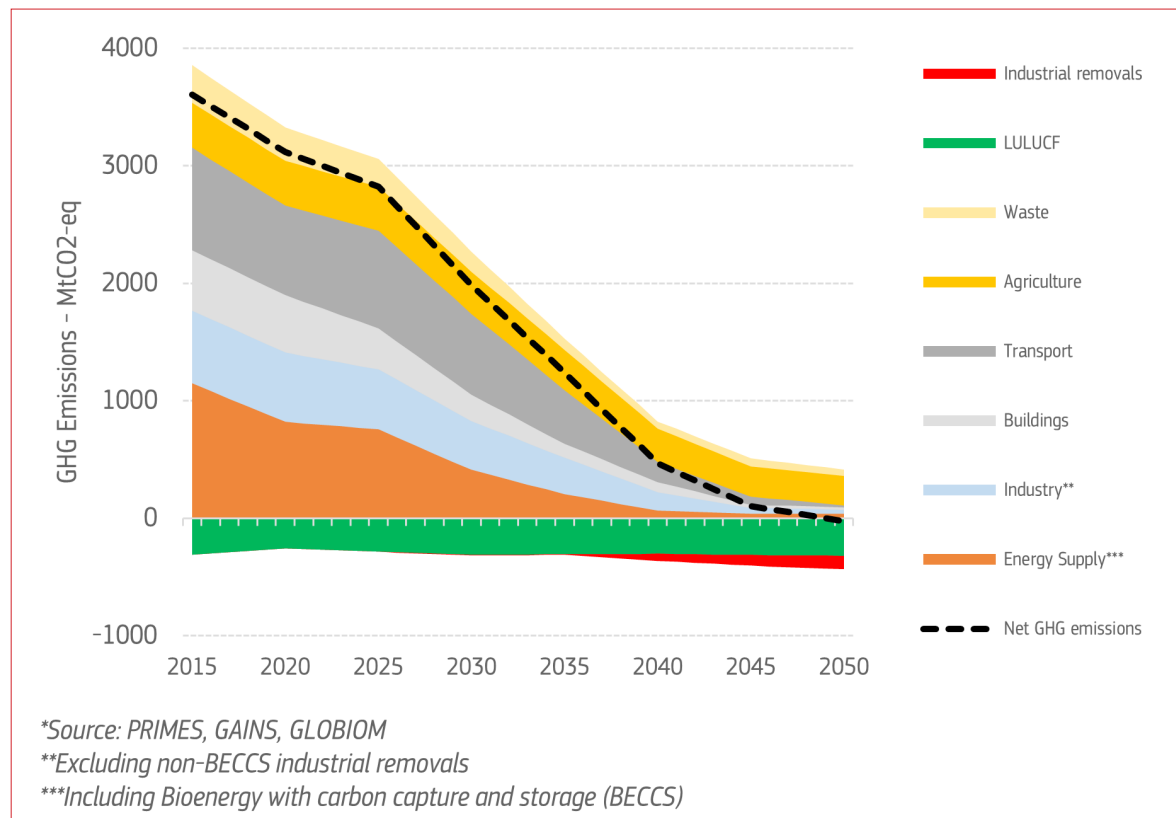
Climate policy and the energy transition have become a top priority for the European Union (EU). Since 1990, the EU has been built a comprehensive and well-structured regulatory framework through a combination of measures, targets and market-based solutions, such as the European Emission Trading System. A further acceleration in the path to emissions reduction occurred in December 2019, when the European Commission launched the European Green Deal. Since then, numerous pieces of legislation have been adopted to address the multiple aspects of the energy transition. The different milestones and developments were shaped not only by growing political commitment and scientific awareness, but also by external shocks. Since 2019, multiple crises (i.e., Covid-19, energy crisis and deteriorating geopolitical landscape) have severely hit the EU, causing massive transformations of the socioeconomic, political and energy landscape in the EU and abroad. Notwithstanding this polycrisis, the EU has reiterated its commitment towards the net-zero trajectory through the “Fit for 55” package in July 2021 and then the REPowerEU Plan in May 2022. Through the European Climate Law, the EU also wrote into law the European Green Deal and set the intermediary target of reducing net greenhouse gas emissions (GHG) by at least 55 per cent by 2030 relative to 1990 levels. Furthermore, in February 2024, the Commission presented its impact assessment for a 2040 climate target aimed at reducing net GHG by 90 per cent by 2040¹ in line with the recommendations of the European Scientific Advisory Board on Climate Change (figure 1). The Commission’s impact assessment underlines the technological and financial feasibility of the 90 per cent target.

¹ Relative to 1990 levels.

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Figure 1 | Greenhouse gas emissions in the period 2015–2050



Source: European Commission DG for Climate Action website: *2040 Climate Target*, https://climate.ec.europa.eu/node/1707_en.

At the same time, multiple crises have affected the international context and energy markets, challenging the key distinctive features of the EU: open trade, comparative advantages as well as market competition and integration. The loss of Russian piped gas over the period 2022–2023 exacerbated the spike in energy prices, leading to higher prices compared to other world regions and a loss of competitiveness. Particularly, European energy-intensive industries face new challenges due to high energy costs and higher carbon prices. Additionally, the EU has been facing a worsening geopolitical context, with rising US-China rivalry and global industrial competition, which has induced European governments to reconsider industrial competitiveness and security regarding both existing industries and clean energy technologies. The Green Deal Industrial Plan (GDIP) and the upcoming Clean Industrial Deal² combine the envisaged response to these two challenges.

² Ursula von der Leyen, *Europe's Choice. Political Guidelines for the Next European Commission 2024-2029*, Strasbourg, 18 July 2024, https://commission.europa.eu/media/58570_en.

The GDIP aims at enhancing Europe's competitiveness and security of supply in terms of clean energy technologies and critical raw materials. The EU has put forward two main pieces of legislation, the Net-Zero Industry Act (NZIA) and the Critical Raw Materials Act (CRMA), in order to address excessive overdependence and risks. The newly re-elected European Commission President, Ursula von der Leyen, has promised to present within her first hundred days in office a Clean Industrial Deal aimed at sustaining the decarbonisation of industries while protecting and enhancing their competitiveness.

European decarbonisation is entering into a new phase), in which economic security and industrial competitiveness are merging with climate objectives. Furthermore, the social and industrial dimensions of the transition have gained newfound relevance as governments need to design measures to obtain politico-economic support in order to achieve climate neutrality. While climate policy has been enhanced at the European level, challenges reverberate at the national level, where the implementation of climate policies is made. Indeed, member states now are called to deliver climate targets and balance geopolitical and socioeconomic risks.

To achieve these targets and ambitions, Europe needs to revise and adjust its strengths, such as the single market, to unleash its full economic potential to regain competitiveness as outlined by the two reports written by former Italian prime ministers Enrico Letta³ and Mario Draghi.⁴ In doing so, cooperative and coordinated measures are essential to achieve common goals. Otherwise, the risk would be market and political fragmentation and inefficient climate protection measures.

Given the relevance of member state coordination in the implementation of EU climate policies, a focus on the potential for collaboration between Italy and Germany, two extremely salient countries for the European political, economic and energy landscape, can deliver important insights. With the signing of the Italian-German Action Plan in November 2023, Rome and Berlin acknowledged the importance of coordinating in a variety of domains, including environmentally sustainable economic growth and climate protection.

Coordination and cooperative measures at the bilateral and European level would be beneficial not only for themselves but could ensure an energy transition that considers the necessities of both Northern and Southern Europe. Cooperation should take various dimensions, from strengthening common regulatory frameworks to transborder infrastructure development, from coordinating industrial policies to joint mechanisms for financing the transition. Both countries also need to address political and institutional challenges that may inhibit domestic and common action in the energy sector.

³ Enrico Letta, *Much More than a Market*, April 2024, <https://www.consilium.europa.eu/media/ny3j24sm/much-more-than-a-market-report-by-enrico-letta.pdf>.

⁴ Mario Draghi, *The Future of European Competitiveness*, September 2024, https://commission.europa.eu/node/32880_en.

Box 1 | The state-of-the-art of the energy sector in Germany and Italy

Italy and Germany are major energy consumers (136 and 246 million tonnes of oil equivalent in 2023, respectively) due to their large population and economy. Furthermore, they are important manufacturing countries, with several energy-intensive industries, such as steel, cement, glass, refineries and metallurgy.

Table 1 | Main economic indicators for Italy and Germany in 2023

	Italy	Germany	EU
Population (in million)	59.0	84.4	448.8
Population (as a share of the EU)	13	19	/
GDP (in trillions of euros)	2.13	4.2	17.35
GDP (as a share of the EU)	12.3	24.2	/
GDP per capita (in thousand of euros)	36.18	49.62	38.7
Energy consumption (in million tonnes of oil equivalent)	136	246	1,258
GHG emissions (in million tonnes of CO ₂ equivalent)	395	784	3,588
RES (as a share of power generation)	34.3	39.4	39.4

Sources: Authors' elaboration on Eurostat, IMF, IEA data.

Fossil fuels still play a relevant role in both countries' energy mixes (figure 2). In 2023, 77.9 per cent of Germany's total energy supply was provided by fossil fuels (34.2 per cent oil, 26.0 per cent natural gas and 17.7 per cent coal). The corresponding percentage for Italy is 79.3 per cent (37.5 per cent oil, 38.1 per cent natural gas and 3.7 per cent coal). These high levels of fossil fuel use are mainly due to hard-to-electrify sectors, as heavy industries, transportation and heating. Furthermore, the two countries are also two of the largest gas markets in the EU: Germany consumed 86 billion cubic meters (bcm) and Italy 62 bcm in 2023. However, high energy import dependency has exposed these countries to price volatility and security of supply concerns since mid-2021.

Despite these similarities, the two countries' energy sectors differ in terms of relevance of energy sources, as is visible in the respective electricity generation (figure 3). In 2023, almost half of electricity in Germany was generated by fossil fuels (44.6 per cent), while renewables covered the other half. Coal still accounts for 26.6 per cent and gas for 17 per cent. Renewable-generated electricity was covered by wind (27 per cent), solar (11.8 per cent), biofuels (7.7 per cent) and hydropower (4.5 per cent). Lastly, Germany reduced its nuclear power generation from 170 TWh in 2000 to 7.2 TWh in 2023, accounting for 1.4 per cent – which later completely phased out in April 2024 when the last three

plants closed down. As efforts for coal phase-out continue (by 2038),⁵ each energy source's contribution will change with a higher renewable share.

Figure 2 | Total energy supplies in Germany and Italy, 2023

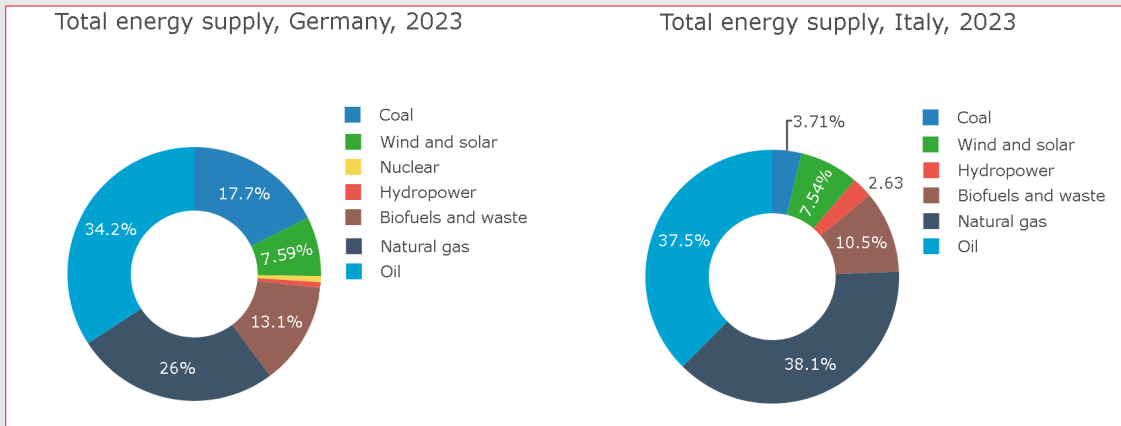
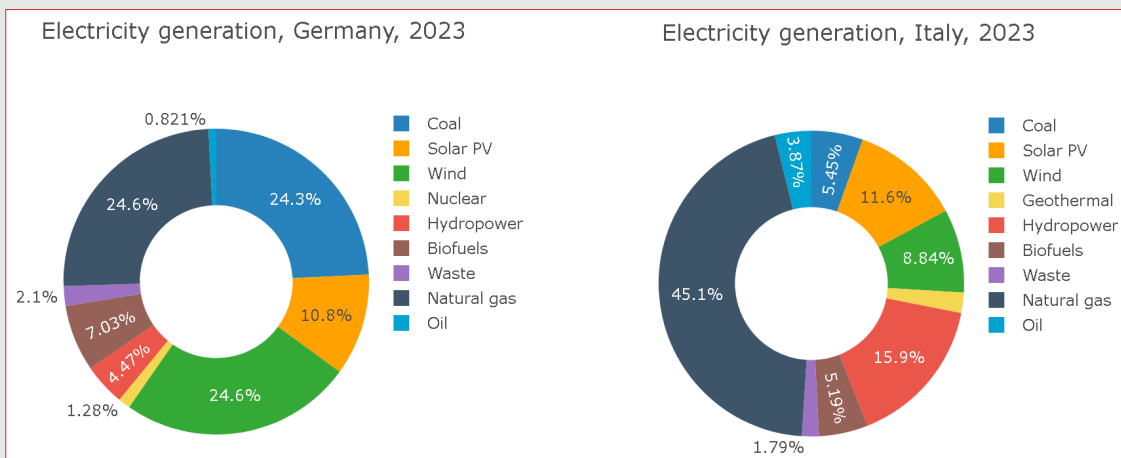


Figure 3 | Electricity generation mix in Germany and Italy, 2023



Source: Authors' elaboration on IEA data.

Similarly, Italy depends on fossil fuels for 49 per cent of its electricity production; however, it is less diversified than Germany. Italy's electricity generation is highly skewed towards natural gas (45.0 per cent) even after the natural gas supply shock of 2021, followed by coal (5.4 per cent). In its renewable electricity generation, hydro plays a higher role (15.9 per cent), followed by solar (11.6 per cent), wind (8.8 per cent) and biofuels (5.2 per cent). Following Russia's war against Ukraine, Italy has started to reconsider the role of nuclear power despite two referenda banning it in 1987 and 2011.

⁵ Sören Amelgan, "German Government Says No New Law Planned to Ensure Coal Exit Earlier than 2038", in *Clean Energy Wire*, 10 July 2024, <https://www.cleanenergywire.org/node/13649>.

1. A changing political context

In recent years, the energy transition in both countries has been driven by different political factors. In Italy, the evolution of the European climate and energy legislative framework has positively influenced national efforts as well, especially from receptive governments that showed support for the transition, such as the one headed by Prime Minister Draghi (2021-2022). In Germany, the main political driver for increasing climate ambition can be attributed to a more domestic driver, such as the rise of the Greens, which translated into increased implementation of green policies since the party entered a coalition government with the Liberal Free Democrats (FDP) and the Social Democrat Party (SPD) at the end of 2021.⁶

However, the political drivers of the energy transition have lost steam recently, reflecting changes in the national, European and international context. The most prominent among these changes are the impact of the energy crisis caused by the Russian invasion of Ukraine and the consequent European decoupling from Russian gas. In Italy, the right-wing coalition headed by Prime Minister Giorgia Meloni (in power since September 2022) has shown less enthusiasm for the transition than its predecessor, focusing instead on energy security; in Germany, internal fighting in the governing coalition has affected the pace of reforms necessary for decarbonisation. At the same time, voters have shown growing concern about the cost of the transition.⁷

Defining just and inclusive transition strategies has proved difficult, due to Italy's high unemployment and static job market, and Germany's weakening performance in traditionally strong sectors, such as the automotive industry.⁸ Green backlash coupled with discontent with socioeconomic performance were among the main factors at play in the German regional elections of 2024, in which the far-right Alternative for Germany (AfD) gained significant ground, becoming the largest party in Saxony and the second largest in Thuringia and Brandenburg.⁹ These

⁶ Max Münchmeyer and Pier Paolo Raimondi, "Between Security and Transition: Prospects for German-Italian Energy Cooperation", in *IAI Commentaries*, No. 23|66 (December 2023), p. 2, <https://www.iai.it/en/node/17912>.

⁷ Barbara Tasch, "Cost of Going Green Sparks Backlash from Europe's Voters", in *BBC News*, 5 June 2024, <https://www.bbc.com/news/articles/c4nneg6252eo>; Stefano Ghinoi and Bodo Steiner, "The Political Debate on Climate Change in Italy: A Discourse Network Analysis", in *Politics and Governance*, Vol. 8, No. 2 (2020), p. 215-228, <https://doi.org/10.17645/pag.v8i2.2577>.

⁸ Gaetano Basso et al., "The Green Transition and the Italian Labour Market", in *Questioni di Economia e Finanza*, No. 811 (October 2023), <https://www.bancaditalia.it/pubblicazioni/qef/2023-0811>; "German Economy Shrinks in Final Quarter of 2023", in *Deutsche Welle*, 30 January 2024, <https://www.dw.com/en/a-68119861>; Matthew Karnitschnig, "Germany's Rude Economic Awakening", in *Politico Europe*, 19 September 2024, <https://www.politico.eu/?p=5395104>.

⁹ "Germany: Thuringia and Saxony Elections Propel Far-right AfD", in *Deutsche Welle*, 2 September 2024, <https://www.dw.com/en/a-70106147>; "Far-right Gains in East Germany Could Deal Blow to Economy", in *Deutsche Welle*, 23 September 2024, <https://www.dw.com/en/a-70295769>; "Europe's Green Backlash", in *Financial Times*, 11 June 2024, <https://www.ft.com/content/eb9ea439-47e0-417d-a035-9a61109d4c44>; AfD, *Europawahlprogramm 2024*, 14 June 2023, <https://www.afd.de/europawahlprogramm2024>.

results raise questions about the influence of anti-green parties on energy and climate ambitions and on what governance, institutional or political approaches can counteract it. In the German context, this is necessary when dealing with the AfD, which has been the main antagonist of the German *Energiewende* and the Green Deal. The party has called for the rollback of climate measures, an exit from the Paris Agreement and the reversing of the country's coal phase-out. However, criticism and opposition towards the green agenda are gaining relevance throughout the entire political spectrum; the newly formed left-wing Sahra Wagenknecht Alliance (BSW), which came out third in the Thuringia and Saxony elections, has also denounced the country's clean-energy push as cause of deindustrialisation.¹⁰

In Italy, on the other hand, while the right-wing coalition has acknowledged the necessity of climate action at the European level, the Meloni government remains opposed to many initiatives of the Green Deal, calling for a change of its "ideological approach".¹¹ Indeed, the government has argued in favour of reaching climate and energy targets, while pursuing a "technology neutrality" approach, for which regulation should not focus on favouring specific technology, but rather allowing the market to determine the most efficient solutions to reach the established outcomes. The proposals for the reintroduction of nuclear power in the country's energy mix and growing support for carbon capture and storage (CCS) solutions are being described by the coalition as tools to fight the climate crisis, while also preserving economic competitiveness.¹²

This position reflects an effort to maximise national benefits, such as NextGenerationEU funds, rather than changes in political priorities. Indeed, when European legislation touches on Italy's national interests, such as in the automotive sector,¹³ the coalition's attitude remains antagonistic, with the government calling for a review of the ban on sales of internal combustion engine cars expected for 2035.¹⁴

In addition to political challenges, both countries face difficulties in adequately implementing energy and climate policies due to the specific characteristics of their governance frameworks, as energy competencies are shared between the

¹⁰ James Angelos, "Is Germany's Rising Superstar So Far Left She's Far Right?", in *Politico Europe*, 26 August 2024, <https://www.politico.eu/?p=5266185>.

¹¹ Amy Kazmin, "Combustion Engine Ban Threatens 'Grave Crisis' for Europe, Italy Says", in *Financial Times*, 25 September 2024, <https://www.ft.com/content/5e7af8b4-d9cb-467b-a938-5e3e76db83da>; Alessia Peretti, "Italy's Meloni Vows to Revise 'Disastrous' EU Green Deal", in *Euractiv*, 19 September 2024, <https://www.euractiv.com/?p=2145909>.

¹² Celestina Dominelli, "Eni-Snam, primo progetto di cattura e stoccaggio CO₂ in Italia", in *Il Sole 24 Ore*, 3 September 2024, <https://www.ilsole24ore.com/art/eni-snam-parte-cattura-e-stoccaggio-dell-anidride-carbonica-AFIVOegD>; Italian Government, *President Meloni's Speech at Italian Scientists Association Event 'La scienza al centro dello Stato'*, 5 April 2024, <https://www.governo.it/en/node/25395>.

¹³ Amy Kazmin, "Combustion Engine Ban Threatens 'Grave Crisis' for Europe, Italy Says", cit.

¹⁴ Ibid.

national and subnational levels.¹⁵

In Germany, while the federal government proposes energy legislation to the Bundestag (the federal lower house), the *Länder* (the regional states) shape policies through their representation in the Bundesrat (the federal upper house). However, while *Länder*'s conditional support makes it possible to avoid political impasse in the Bundesrat, it also may lead to downplaying climate ambitions.¹⁶ For example, the German Building Energy Act requires heating systems installed in new buildings to be powered by at least 65 per cent renewable energy, but it allows flexibility for different *Länder* to decide on the deadline.¹⁷ While Germany's federalism promotes regional engagement, it has also led to a notable divergence in energy and climate matters among *Länder*; something that could be further exacerbated in the case of the rise of far-right (and anti-green) parties at the local level. Some regions have reached high levels of renewable capacity driven by local government, while others traditionally reliant on coal have lagged behind.

The Italian division of authority remains unclear. Negotiations with regions are frequent, but they are held in forums, such as the State-Regions Conference and the Unified Conference, which are often limited to an advisory and coordination role.¹⁸ Despite attempts to regulate the relationship between central and regional authorities, a more streamlined governance has yet to be produced, and its absence can be seen in ordinary legislation. For example, the Legislative Decree for Suitable Areas, the legislation that should establish the rules to classify areas as acceptable for renewable installations, delegates to regional authorities the definition of these criteria. This will create asymmetries between different geographical and political contexts and complicate decision-making for private investors left to navigate a fragmented regulatory framework.¹⁹ Regional disparities will hinder reaching national targets and waste the renewable potential of some of the most suitable regions – such as Apulia, Sicily, Sardinia and Basilicata.²⁰ The case of the strict criteria recently set by the Sardinian regional government exemplifies this risk

¹⁵ In the case of Italy, since the 2001 constitutional reform. See: Jacopo Di Gesù, "Il riparto di competenze tra Stato e Regioni in materia di energia dal primo regionalismo alla clausola di asimmetria", in *Italian Papers on Federalism*, No. 2/2020 (2020), <https://www.ipof.it/?p=1401>.

¹⁶ "German Lawmakers Pass Heating Law that Divided Government", in *Deutsche Welle*, 8 September 2023, <https://www.dw.com/en/a-66757316>.

¹⁷ Nikolaus J. Kurmayer, "Germany Adopts Watered-down Fossil Boiler Ban for 2028", in *Euractiv*, 8 September 2023, <https://www.euractiv.com/?p=1974225>.

¹⁸ Luca Dell'Atti, "La Conferenza Stato-Regioni: vizi e virtù di un organo 'a geometria variabile'", in *Rivista AIC*, No. 2/2016 (May 2016), <https://www.rivistaaic.it/it/rivista/ultimi-contributi-pubblicati/luca-dell-atti/la-conferenza-stato-regioni-vizi-e-virt-di-un-organo-a-geometria-variabile>.

¹⁹ Italian Ministry of the Environment, *Disciplina per l'individuazione di superfici e aree idonee per l'installazione di impianti a fonti rinnovabili*, 21 giugno 2024, https://www.gazzettaufficiale.it/atto/serie_generale/caricaDettaglioAtto/originario?atto.dataPubblicazioneGazzetta=2024-07-02&atto.codiceRedazionale=24A03360.

²⁰ Terna, *Evoluzione rinnovabile. Piano di sviluppo 2021*, 2021, https://download.terna.it/terna/Evoluzione_Rinnovabile_8d940b10dc3be39.pdf.

with the consequent halt of many projects under construction.²¹

In addition, energy governance in Italy presents ambiguities at the ministerial level. Different ministries share overlapping competencies, such as the Ministry of the Environment and Energy Security (MASE), the Ministry of Agriculture (MASAF) and even the Ministry of Culture (MIC).²² Regulatory uncertainty has often led to inefficiencies in project development.²³ A more centralised framework connecting economic and energy issues, modelled on the German Federal Ministry for Economic Affairs and Climate Action (BMWK), would be fruitful.²⁴

2. An adequate regulatory framework for domestic implementation and bilateral cooperation

The challenges mentioned in the previous section raise doubts over the capacity of current regulatory frameworks to ensure the attainment of energy and climate objectives, which both Italy and Germany have increased in their updated National Energy and Climate Plans (NECPs). By 2030, Germany aims to generate at least 80 per cent of its gross electricity demand and 42.5 per cent of gross final energy consumption from renewable sources.²⁵ To do so, renewable capacity, currently at around 170 GW, should be increased to 360 GW; the larger component should be covered by solar (215 GW) followed by wind (145 GW, divided between 115 GW onshore and 30 GW offshore).²⁶ Italy wants to increase its renewable share up to 63.4 per cent of its electricity demand and 39.4 per cent of its final consumption by 2030. Italy aims to reach 131 GW of installed capacity by 2030 – from the current 61 GW – with contributions from solar (79 GW), wind (28.1 GW of which 2 GW offshore), hydro (19.4 GW), bioenergy (3.2 GW) and geothermal (1 GW).²⁷

Driven by the energy crisis, European governments have been working on reducing and removing permitting procedures as also outlined in the REPowerEU Plan. As a consequence, Italy has experienced some positive developments in terms of

²¹ Stefania Del Bianco, "La Sardegna è la prima Regione a presentare la Legge Aree Idonee", in *Rinnovabili*, 20 September 2024, <https://www.rinnovabili.it/?p=313994>.

²² Katuscia Eroè (ed.), *Scacco matto alle rinnovabili 2024*, Legambiente, February 2024, <https://www.legambiente.it/?p=20816>.

²³ Ibid.

²⁴ Kerstine Appunn, "The Design of Germany's New Govt: A Climate "Super Ministry" for the Greens", in *Clean Energy Wire*, 6 December 2021, <https://www.cleanenergywire.org/node/9891>.

²⁵ German Federal Ministry for Economic Affairs and Climate Action, *Update of the Integrated National Energy and Climate Plan*, August 2024, https://commission.europa.eu/node/32882_en.

²⁶ Ibid.

²⁷ Terna, *National Resource Adequacy Assessment for Italy*, May 2024, https://download.terna.it/terna/Terna_National_Resource_Adequacy_Assessment_Italy_2023_8dc7665cef6b16e.pdf; Terna website: *Statistical Publications*, <https://www.terna.it/en/electric-system/statistical-data-forecast/statistical-publications>; Italian Ministry of the Environment, *Piano nazionale integrato per l'energia e il clima*, June 2024, https://commission.europa.eu/node/32214_en.

renewable installations. Since 2022, this has improved bureaucratic slowdowns in Italy.²⁸ However, in 2024, more than 1,300 renewable energy projects are still either blocked or substantially delayed due to inadequate regulatory environment.²⁹ These slowdowns substantially increase costs and push the time horizon for expected returns, reducing investment attractiveness.³⁰

Among the most promising renewable sectors, Italy has not reached its potential in wind installation and Germany's strategies could help with improving implementation. Specifically, offshore farms are an untapped opportunity in relation to the geographical possibilities of the windy areas near Sicily and Sardinia.³¹ Out of 141 projects for offshore wind farms, only one has been completed, a facility located off the coast of Taranto, in Apulia. However, construction took about 14 years, showing how bureaucratic simplification will be essential to exploit this sector.³² Other forms of public support could mirror the 5-billion-euro credit programme managed by Germany's Public Development Bank, the *Kreditanstalt für Wiederaufbau* (KfW), which has been instrumental in the ramp-up of offshore wind.³³

Onshore wind geographical distribution, which varies widely across Italian regions, should be improved.³⁴ A regulatory framework to increase installations in a more homogenous way may be modelled after the 2022 German Onshore Wind Energy Law, under which *Länder* are required to dedicate between 1.8 and 2.2 per cent of their surface to onshore wind production (depending on characteristics like geography, population and size – and with the three *Stadtstaaten* (city-states) of Berlin, Hamburg and Bremen only having to destinate 0.5 per cent of their area).³⁵

²⁸ European Commission website: *Italy's Recovery and Resilience Plan*, https://commission.europa.eu/node/29923_en.

²⁹ Katuscia Eroe (ed.), *Scacco matto alle rinnovabili 2024*, cit.; Will Mathis, "Green Fix to Replace Russian Gas Is Stymied by Europe's Red Tape", in *Bloomberg*, 1 May 2022, <https://www.bloomberg.com/news/articles/2022-05-01/green-energy-farms-to-replace-russian-gas-slowed-by-red-tape>.

³⁰ Ibid.

³¹ The European House-Ambrosetti website: *Floating Offshore Wind Community*, <https://www.ambrosetti.eu/en/our-communities/floating-offshore-wind-community>.

³² Domenico Palmiotti, "Taranto inaugura il primo parco eolico offshore italiano e chiede di accelerare su rinnovabili", in *Il Sole 24 Ore*, 21 April 2022, <https://www.ilsole24ore.com/art/taranto-inaugura-primo-parco-eolico-offshore-italiano-e-chiede-accelerare-rinnovabili-AER2iVTB>; 4C Offshore website: *Offshore Wind Farms in Italy*, <https://www.4c offshore.com/windfarms/italy>.

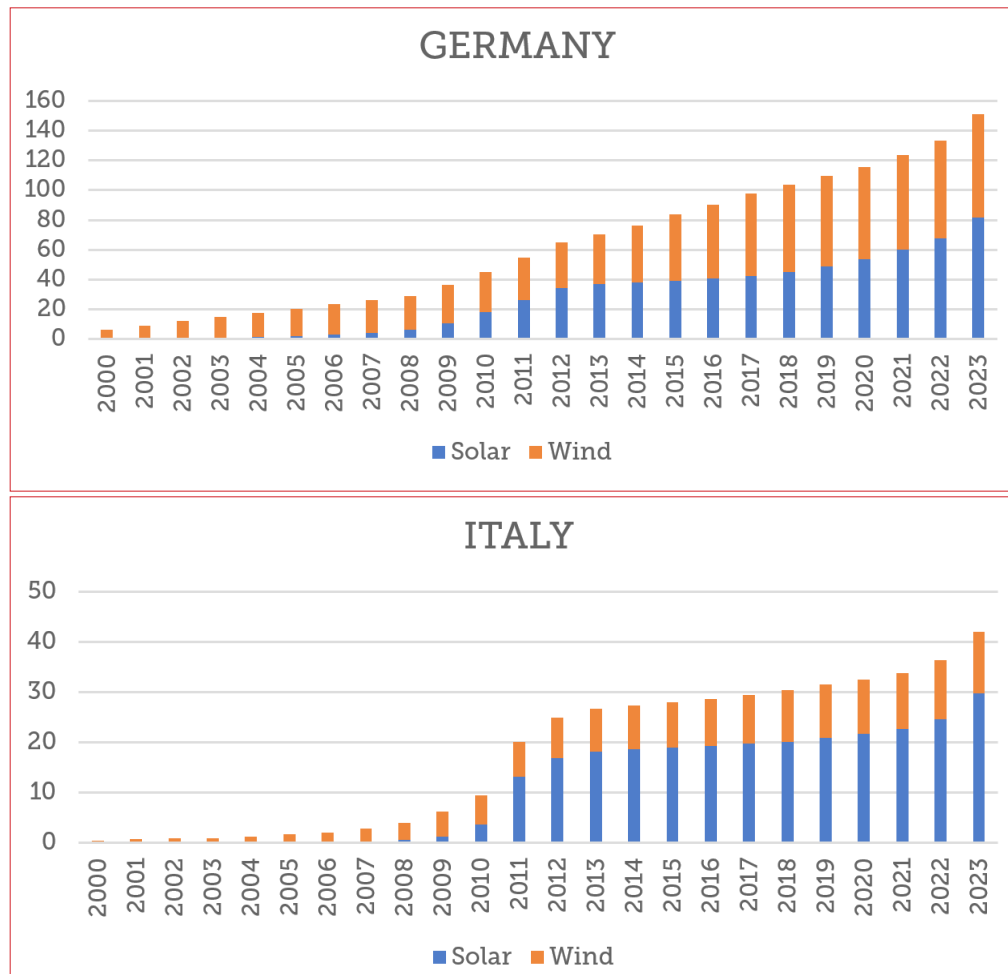
³³ International Renewable Energy Agency (IRENA), "Germany", in *30 Years of Policies for Wind Energy. Lessons from 12 Wind Energy Markets*, 2013, p. 68-75, https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2013/GWEC/GWEC_Germany.pdf; Wind Europe, *Wind Energy in Europe. 2023 Statistics and the Outlook for 2024-2030*, February 2024, <https://windeurope.org/intelligence-platform/product/wind-energy-in-europe-2023-statistics-and-the-outlook-for-2024-2030>.

³⁴ Matteo Gianni and Luca Benedetti, *Wind Energy in Italy: Recent Trends*, Presentation to the IEA Wind Task 11 Topical Expert Meeting 96: Wind Plant Decommissioning, Repowering, Recycling, Rome, 14-15 November 2019, https://www.gse.it/documenti_site/Documenti%20GSE/Studi%20e%20scenari/Wind%20energy%20in%20Italy_recent_trends_v5.pdf.

³⁵ Kerstine Appunn, "Two Percent of German Land Area for Onshore Wind by 2032 - Cabinet Approves Next Batch of Energy Transition Laws", in *Clean Energy Wire*, 15 June 2022, <https://www.cleanenergywire.org/node/10694>.

Italy could design a similar system. This could complement the Legislative Decree for Suitable Areas, which has established the regional burden-sharing quotas of GW of newly installed capacity that need to be reached to contribute to the national 2030 targets.³⁶

Figure 4 | Wind and solar installed capacity in Germany and Italy, 2000–2023, GW



Source: Author's elaboration on Energy Institute, *Statistical Review of World Energy 2024*, <https://www.energyinst.org/statistical-review>.

Regulatory frameworks will be instrumental in favouring the development of other technologies required in the energy transition, such as hydrogen. While hydrogen deployment is still in its first stages, Germany and Italy have high expectations for ramping them up to facilitate decarbonisation in sectors difficult to electrify, such as energy-intensive industries like steel.

³⁶ Italian Ministry of the Environment, *Disciplina per l'individuazione di superfici e aree idonee*, cit.

Germany has been a frontrunner in hydrogen, launching its national strategy in 2020 and expanding it in 2024 with its Green Hydrogen Import Strategy.³⁷ The initial German focus was on green or “carbon-free” hydrogen (produced through electrolysis of water, using renewable electricity), but the country is now exploring the role of blue hydrogen, obtained from fossil gas paired with carbon CCS technologies.³⁸ The National Strategy calls for a domestic electrolyser capacity of at least 10 GW by 2030 and the scale-up of hydrogen use in industrial sectors, aviation and shipping.³⁹ Germany also aims to construct the Hydrogen Core Network, a 9,700 km pipeline system for transporting hydrogen within the country.⁴⁰ To do so 3 billion euros has already been allocated and in the future the objective is to link this national network with a potential European-wide system, planned in the context of the European Hydrogen Backbone Initiative.⁴¹

By contrast, Italy still lacks an official National Hydrogen Strategy. As of today, the country has published only its Preliminary Guidelines, while the publication of the Strategy, which was expected by the summer of 2024, has been delayed. The Strategy should include support for hydrogen production and industrial conversion, allocating 450 million euros for new electrolysers and 1 billion to facilitate the conversion of hard-to-abate sectors to hydrogen use.⁴² However, these may not be enough as estimates suggest that the investment needed to achieve the domestic production of 2.27 million tonnes by 2030 that is anticipated in the preliminary guidelines of the National Hydrogen Strategy may be close to 18 billion euros.⁴³

The successful establishment of an Italian hydrogen sector is essential for Germany as well. Berlin aims to develop a fully operational and interconnected European Hydrogen System by 2030 and it will need international partners to do so. Although Germany has different options, such as importing hydrogen from Norway, Italy could play an important part, positioning itself as a hub for green

³⁷ “German Government Signs Off on Hydrogen Import Strategy”, in *Reuters*, 24 July 2024, <https://www.reuters.com/business/energy/german-government-signs-off-hydrogen-import-strategy-2024-07-24>.

³⁸ Nikolaus J. Kurmayer, “Germany Commits to ‘Blue Hydrogen’ in Updated National Strategy”, in *Euractiv*, 26 July 2023, <https://www.euractiv.com/?p=1960967>.

³⁹ Federal Ministry for Economic Affairs and Climate Action, *The National Hydrogen Strategy Update*, July 2023, <https://www.bmwk.de/Redaktion/EN/Publikationen/Energie/national-hydrogen-strategy-update.html>.

⁴⁰ Julian Atchison, “Germany Progresses Hydrogen Core Network Project”, in *Ammonia Energy Association Articles*, 2 July 2024, <https://ammoniaenergy.org/?p=28972>.

⁴¹ “EC Approves Germany’s €3bn Hydrogen Network Finance Plan”, in *Hydrogen Europe*, 21 June 2024, <https://hydrogeneurope.eu/ec-approves-germanys-e3bn-hydrogen-network-finance-plan>.

⁴² Celestina Dominelli, “Strategia nazionale sull’idrogeno: obiettivi e incentivi per lo sviluppo della filiera”, in *Il Sole 24 Ore*, 14 July 2024, <https://www.ilssole24ore.com/art/idrogeno-strategia-nazionale-sviluppo-pronta-entro-fine-luglio-AFoUvYoC>.

⁴³ Celestina Dominelli, “Idrogeno, all’Italia serviranno investimenti per 18 miliardi entro il 2030”, in *Il Sole 24 Ore*, 22 September 2024, <https://www.ilssole24ore.com/art/idrogeno-all-italia-serviranno-investimenti-18-miliardi-entro-2030-AFKngH1D>; Stefania Del Bianco, “Idrogeno, conto alla rovescia per la Strategia Nazionale”, in *Rinnovabili*, 16 July 2024, <https://www.rinnovabili.it/?p=310033>.



hydrogen to connect the renewable-rich region of the Mediterranean to central and northern Europe.⁴⁴

Realising this plan will need increased bilateral cooperation between Germany and Italy. The 2023 Italian-German Action Plan may represent a starting point. The agreement already outlines commitments for joint action on new technologies, industrial policy and international security issues. The Plan also identifies energy and climate as one of the five key areas in which to expand cooperation (Accelerating the Green Economy and Promoting Climate Protection). However, it dedicates significantly less attention and fewer implementation strategies to this area than to economic or security priorities.⁴⁵

Economic cooperation is ensured through various platforms for dialogue, including an annual Ministerial Forum between the German Federal Ministry for Economic Affairs and Climate Action (BMWK) and the Italian Ministry for Enterprise and Made in Italy (MIMIT), which comprises five thematic working groups, respectively on European legislation, industrial cooperation, digitalisation, economic security and 4.0 industry.⁴⁶ Additionally, the Plan establishes an annual Bilateral Macroeconomic Forum that brings together chief economists from the respective finance ministries. These forums, touching on these broad economic topics, could already engage with energy issues, most notably on industrial decarbonisation.⁴⁷

The absence of a bilateral interministerial forum dedicated to energy issues is a shortcoming. The establishment of an advisory working group on mobility and sustainable infrastructure, which is largely technical and lacks participation from high-level policymakers or ministerial officials, is insufficient to address broader energy coordination.⁴⁸ A solution would require the creation of an Italian-German Energy Platform, modelled on the German-Polish and Franco-German Energy Platforms.⁴⁹ These platforms foster cooperation on a range of energy challenges,

⁴⁴ Claudia Cheng, Koen van Greevenbroek and Isabelle Viole, "The Competitive Edge of Norway's Hydrogen by 2030: Socio-environmental Considerations", in *International Journal of Hydrogen Energy*, Vol. 85 (4 October 2024), p. 962-975, <https://doi.org/10.1016/j.ijhydene.2024.08.377>; Pier Paolo Raimondi and Max Münchmeyer, "From Interconnection to Integration: German-Italian Energy Relations and the SouthH2 Corridor", in *IAI Commentaries*, No. 24|03 (January 2024), <https://www.iai.it/en/node/17992>.

⁴⁵ Germany and Italy, *Piano di Azione italo-tedesco per la cooperazione strategica bilaterale e nell'Unione europea* [Action Plan to strengthen cooperation at both bilateral and European level], 22 November 2023, <https://www.governo.it/en/node/24362>; *Deutsch-italienischer Aktionsplan für strategische Zusammenarbeit auf bilateraler und EU-Ebene*, <https://www.bundesregierung.de/resource/blob/975228/2244468/dc5441c1b7497c5855a723c87ffbf3a8/2023-11-22-dtitaktionsplan-data.pdf>.

⁴⁶ Ibid.

⁴⁷ Ibid.

⁴⁸ Ibid.

⁴⁹ Federal Ministry for Economic Affairs and Climate Action, *6th Franco-German Energy Forum*, 11 October 2023, <https://www.bmwk.de/Redaktion/EN/Pressemitteilungen/2023/10/20231011-6th-franco-german-energy-forum.html>; Deutsche Energie-Agentur, *Deutsch-Polnisches*

including energy efficiency, grid interconnectivity, mobility and renewable energy development. Even without a shared border, an Italian-German Energy Platform could be highly beneficial, promoting deeper integration and coordination between the two countries. It should be primarily bilateral, but it could be designed to periodically involve third countries on specific issues – such as Austria and Switzerland to enhance cross-border connection.

3. Collaborating on industrial transformation

Italy and Germany have large manufacturing sectors and they are home to several energy-intensive industries. Their competitiveness is deeply affected by higher energy and carbon prices vis-à-vis other international players in very competitive markets.⁵⁰ Energy prices are key to restore competitiveness. Thus, countries will need to ensure enough energy supply to improve supply-demand balance.

EU governments have attempted to artificially reduce energy prices through subsidies. The EU has also relaxed its state aid rules under the Temporary Crisis and Transition Framework. Italy and Germany rank among the largest providers of state aid measures between March 2022 and the end of June 2023. They granted 39.2 billion and 72.8 billion euros respectively, which correspond to 1.3 per cent of Italy's GDP and 1.2 per cent of Germany's.⁵¹ However, these approaches do not resolve the chronic issues of higher energy prices for European companies and are hardly sustainable from a fiscal standpoint. Subsidies also lead to market distortion and fragmentation of the single market. Moreover, energy subsidies (and declining energy prices in 2023/24) have not contributed to restoring industrial production fully, requiring a new strategy.⁵²

Industries can pursue different technological solutions: electrification, hydrogen and CCS. The growing political commitment in Germany and Italy to deploying CCS technologies and hydrogen to preserve and decarbonise the domestic industries provides promising areas of cooperation.

Energiewendeforum 2024, 17 May 2024, <https://www.dena.de/infocenter/deutsch-polnisches-energiewendeforum-2024>.

⁵⁰ Philipp Jäger, "Energy-intensive Industry Should Manufacture in Europe's Most Favourable Locations", in *Jaques Delors Centre Policy Positions*, 26 February 2024, <https://www.delorscentre.eu/en/publications/detail/publication/energy-intensive-industry-should-manufacture-in-europes-most-favourable-locations>.

⁵¹ Sara Ferraro, Giuseppina Cannas and Koen van de Castele, "The Use of Crisis State Aid Measures in Response to the Russian Invasion of Ukraine (until end-June 2023)", in *Competition State Aid Briefs*, No. 1/2024 (February 2024), https://competition-policy.ec.europa.eu/document/download/22938d94-beaa-44bf-97ca-8a1785ca1a1c_en.

⁵² Akos Losz and Anne-Sophie Corbeau, "Anatomy of the European Industrial Gas Demand Drop", in *CGEP Commentaries*, March 2024, <https://www.energypolicy.columbia.edu/?p=19758>.

However, governments and firms need to address the economic barrier. These technologies require not only higher capital expenditure (CAPEX) but also higher operational expenditures (OPEX) compared to the existing fossil-fuels-based production routes.⁵³

To reduce costs, governments can leverage their economic and fiscal capabilities. For example, Germany announced in March 2024 a 4-billion-euro subsidy scheme to sustain green transformation in energy-intensive industries.⁵⁴ Italy has adopted initiatives, including the National Recovery and Resilience Plan and *Piano Transizione 5.0*, which will provide funds, also through tax credit, to develop clean energy solutions. However, all these financial instruments are expected to end in the next couple of years.

Germany and Italy should work together on the expansion of technological and infrastructure investments, the use of funds (also through the revenues of the European Emission Trading System) and joint research and innovation activities, also by leveraging extensive connections between their respective private sectors and academia. To encourage demand, they could expand the role of public procurement and work on lead markets. By doing so, they would need to work on coordinated approach also at the European level.

Italy and Germany will need to cooperate on setting robust and realistic criteria for identifying green products, such as green steel. In doing so, they will need to cooperate at the European level, while acknowledging different conditions without penalising previous efforts. Indeed, Germany produces mainly primary steel using blast furnaces, fuelled by coal or coke, and basic oxygen furnaces to turn iron ore into steel, whereas Italy produces secondary steel using electric arc furnaces, thanks to steel scrap.⁵⁵ As a result, Italy's steel sector enjoys the lowest carbon intensity among the G7 countries.

4. Enhancing cross-border interconnections

Until 2022, Germany and Italy were overdependent on Russian gas imports. The European response to Russia's invasion of Ukraine, outlined in the REPowerEU Plan, prioritised the expansion of liquefied natural gas (LNG) imports given its flexibility, and a smaller contribution from non-Russian pipeline suppliers (notably Norway, North African countries and Azerbaijan). Germany increased its reliance

⁵³ Sander de Bruyn et al., "Energy-intensive Industries. Challenges and Opportunities in Energy Transition", in *European Parliament Studies*, July 2020, <https://doi.org/10.2861/427814>.

⁵⁴ "Germany Launches Green Subsidies for Industry", in *Reuters*, 12 March 2024, <https://www.reuters.com/sustainability/sustainable-finance-reporting/germany-launches-green-subsidies-industry-2024-03-12>.

⁵⁵ Pier Paolo Raimondi, "Industrial Decarbonisation Strategies in Italy and Germany: The Case for Cooperation in Green Steel", in *IAI Commentaries*, No. 24|40 (July 2024), <https://www.iai.it/en/node/18748>.

on Norway and boosted its LNG infrastructure. This marked a paradigm shift as Berlin historically had no LNG terminals given the economic competitiveness of Russian gas. The new geopolitical context forced Germany to support the development of LNG terminals leading to a capacity of 38 bcm/y by 2024, which should double by 2028.⁵⁶

By contrast, Italy ensured alternative gas supplies through its more diversified networks and its long-lasting political and energy relations with key producers. Italy worked with the latter to maximise the use of existing underutilised infrastructure – especially in North Africa, with such countries as Algeria, Libya and Egypt. Algeria became Italy's main gas supplier in 2022.

Given the new geopolitical context and the reconfiguration of energy flows, Italy has sought to and become an energy hub and bridge between Europe's energy demand and Africa's energy supply. Italy is considering the expansion of LNG capacity, while working on its national infrastructure to allow gas volumes to flow from the South through the construction of the Adriatic pipeline, which will increase by 10 bcm the transport capacity through the South-North axis and expected to be online by late 2027.⁵⁷ Germany is already considering the option to import some volumes from North African countries, namely Algeria, in the spirit of energy diversification. Indeed, German and Algerian companies signed a deal for pipeline gas supply in February 2024 with an eye on potential hydrogen imports.⁵⁸ Furthermore, Italy and Germany signed the 2024 Solidarity Agreement for natural gas exchange during the shortage in March 2024.⁵⁹ Against this backdrop, the two countries would benefit from better coordination in terms of gas demand management and diversification strategies.

Germany and Italy are committed to expanding energy cooperation in the field of hydrogen. The two countries, along with Austria, agreed on developing the SouthH₂ Corridor, which is a 3,300 km pipeline that would transport 4 million tons of (green) hydrogen from North Africa to Germany via Italy and Austria.⁶⁰ In November 2023, the project was included in the sixth list of European Projects of Common Interest⁶¹ and in March 2024, the three countries agreed to begin work on

⁵⁶ Stuart Elliott, "Germany Sees LNG Import Capacity of 37 Bcm/year in 2024: Ministry", in *S&P Global*, 13 January 2023, <https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/natural-gas/011323-germany-sees-lng-import-capacity-of-37-bcmyear-in-2024-ministry>.

⁵⁷ Luigi Ierace, "Il rafforzamento passa dalla linea Adriatica", in *Il Sole 24 Ore*, 22 January 2024, <https://www.ilsole24ore.com/art/il-rafforzamento-passa-linea-adriatica-AFSsmPDC>.

⁵⁸ Stuart Elliott and James Burgess, "Germany's VNG to Begin Algerian Gas Imports under Mid-term Deal with Sonatrach", in *S&P Global*, 9 February 2024, <https://www.spglobal.com/commodityinsights/pt/market-insights/latest-news/natural-gas/020924-germanys-vng-to-begin-algerian-gas-imports-under-mid-term-deal-with-sonatrach>.

⁵⁹ Benjamin Wehrmann, "Italy, Germany, Switzerland Agree Gas Solidarity Transfers", in *Clean Energy Wire*, 14 March 2024, <https://www.cleanenergywire.org/node/13182>.

⁶⁰ SouthH₂ Corridor official website: <https://www.south2corridor.net>.

⁶¹ European Commission, *Commission Delegated Regulation (EU) 2024/1041 of 28 November 2023 Amending Regulation (EU) 2022/869 of the European Parliament and of the Council as regards the*

it.⁶² Other hydrogen infrastructure projects through Italy are under consideration in line with diversification routes and existing infrastructure. While energy companies and transmission system operators (TSOs) can certainly cooperate, the German and Italian governments will need to enhance their cooperation in shaping the upcoming hydrogen market and infrastructure. On this, infrastructure interconnectivity will also require market and regulatory integration. A coordinated approach to favouring and supporting hydrogen demand would allow final investment decisions in both producing and transit countries. Furthermore, bilateral cooperation would be instrumental in finalising adequate and robust methodology and standards at the European level, which is crucial for outreach activities in the hydrogen field.

Alongside the potential cooperation on gas and hydrogen infrastructure, Germany and Italy could work on the expansion of electricity grids as European countries are increasing renewable capacity. With inadequate grids, the transition risks to stall or even derail. Germany and Italy could work to enhance cross-border electricity interconnections through Austria in order to favour a better integration of their respective renewable potential (solar in the South and wind in the North). Both countries have high variable renewable potential located far from the load centres (in Germany in the South and in Italy in the North) requiring a coordinated approach to satisfy rising electricity demand. In promoting further integration through infrastructure, the two countries would deploy renewables in a cost-efficient way,⁶³ reduce price volatility and facilitate the integration of renewables in the energy system.⁶⁴

5. Strategies for capital mobilisation and financial coordination

Achieving the 2030 and 2050 net-zero targets will require substantial investments at the EU and national levels. While previous Commission estimates called for 620 billion euros of annual additional investments across the EU to meet climate objectives, calculations accounting for the increased ambitions of the Fit-for-55 initiatives show the total needed will be closer to 800 billion euros in annual additional investments.⁶⁵ Similarly, national estimates for Italy and Germany

Union List of Projects of Common Interest and Projects of Mutual Interest, http://data.europa.eu/eli/reg_del/2024/1041/oj.

⁶² Francesca Landini, Angelo Amante and Markus Wacket, "Italy, Germany, Austria Sign Cooperation Deal on Southern Hydrogen Link", in *Reuters*, 30 May 2024, <https://www.reuters.com/sustainability/climate-energy/italy-germany-austria-sign-cooperation-deal-southern-hydrogen-link-2024-05-30>.

⁶³ Elisabeth Cremona, "Breaking Borders: The Future of Europe's Electricity Is in Interconnectors", in *Ember Insights*, 14 June 2023, <https://ember-energy.org/?p=3079>.

⁶⁴ EU Agency for the Cooperation of Energy Regulators (ACER), *Transmission Capacities for Cross-zonal Trade of Electricity and Congestion Management in the EU. 2024 Market Monitoring Report*, 3 July 2024, <https://www.acer.europa.eu/node/12849>.

⁶⁵ Mario Draghi, *The Future of European Competitiveness*, cit.

called respectively for 3.5 and 5 trillion euros by 2050,⁶⁶ but as both countries are increasingly linking climate action with preserving competitiveness and manufacturing capacity the total could be even higher.⁶⁷

While costs rise, Germany and Italy show signs of public finance fatigue due to weakened economic performances and emergency spending undertaken during the Covid-19 pandemic and the energy crisis. These challenges have raised concerns about their capacity to sustain the cost of the transition in the long run without exacerbating national debt. These difficulties were highlighted during Germany's 2023 constitutional debt crisis. The Federal Constitutional Court ruled that the government's proposed 60-billion-euro climate fund violated the *Schuldenbremse*, the constitutional rule designed to cap the budget deficit at 0.35 per cent of GDP. This ruling blocked the implementation of the fund and forced the government to revise its budget, diminishing the scope of climate action investments.⁶⁸ The 2025 budget, approved after prolonged internal conflict and which reduced borrowing to 43.8 billion euros, could also face constitutional challenges due to the proposed reallocation of the unspent 4.9 billion euros previously destined to a gas price stabilisation fund, originally set up in response to the war in Ukraine.⁶⁹ Additionally, while fiscal restraint remains a high priority for Germany, its debt-to-GDP ratio reached 64 per cent in 2024.⁷⁰

Italy faces bigger problems with its national debt, much higher than Germany's. The International Monetary Fund has forecast that Italy's debt will reach 140 per cent of its GDP in 2024 and 145 per cent by 2030 if fiscal adjustments are not made.⁷¹ Additionally, concerns over the long-term sustainability of the Italian debt are growing at the European level as the country is facing an Excessive Deficit Procedure from the EU, together with six other member states.⁷²

⁶⁶ "Quanto ci costerà la transizione verso un mondo a emissioni zero? Spoiler: molto più del previsto", in *Info Data*, 11 February 2022, <https://www.infodata.ilsole24ore.com/2022/02/11/quanto-ci-costerà-la-transizione-verso-mondo-a-emissioni-zero-spoiler-molto-piu-del-previsto>; Stephan Brand and Daniel Römer, "Public Investment Required to Achieve Climate Neutrality in Germany", in *KfW Research Focus on Economics*, No. 395 (19 July 2022), https://www.kfw.de/About-KfW/Newsroom/Latest-News/News-Details_719296.html.

⁶⁷ Mario Draghi, *The Future of European competitiveness*, cit.

⁶⁸ Shahin Vallée, "Germany Has Narrowly Swerved Budget Disaster – But Its Debt Taboo Still Threatens Europe", in *The Guardian*, 13 December 2023, <https://www.theguardian.com/p/pfzhhb>.

⁶⁹ "Germany's Coalition Agrees on a Budget for 2025", in *Deutsche Welle*, 17 July 2024, <https://www.dw.com/en/a-69691427>; Jens Thurau, "German Government at Loggerheads over Budget", in *Deutsche Welle*, 6 August 2024, <https://www.dw.com/en/a-69868759>.

⁷⁰ "German Debt Ratio Likely to Rise Slightly in 2024 - Finance Ministry", in *Reuters*, 24 April 2024, <https://www.reuters.com/markets/europe/german-debt-ratio-likely-rise-slightly-2024-finance-ministry-2024-04-24>.

⁷¹ Piero Cingari, "IMF Warns Italy on High Public Debt and Urges Swift Fiscal Reforms", in *Euronews*, 21 May 2024, <https://www.euronews.com/business/2024/05/21/imf-warns-italy-on-high-public-debt-urges-swift-fiscal-reforms>.

⁷² Council of the EU, *Stability and Growth Pact: Council Launches Excessive Deficit Procedures against Seven Member States*, 26 July 2024, <https://europa.eu/!tjd4FF>.

Expenses have been cut, starting from emergency measures introduced during the energy crisis. For instance, the fuel tax cuts implemented in response to the energy price surge have not been extended. One of the main expenses of recent years, the building efficiency credit programme known as the *Superbonus*, has also been interrupted. The programme, totalling 219 billion euros over four years, has been considered massively oversized with respect to the limited results it has produced.⁷³

While the recovery funds of the NextGenerationEU have alleviated some of these preoccupations, its conclusion in 2026 poses uncertainty over plans for the medium to long term. Indeed, recovery funds have been instrumental in financing the transition in both countries, as 71.7 billion euros (37.5 per cent of the total national fund) and 12.5 billion euros (42.7 per cent) were allocated to green projects respectively in Italy and Germany.⁷⁴ Debate is growing on the possibility of a permanent EU-wide financing mechanism to replace this temporary measure. Such a mechanism could provide loans to support decarbonisation efforts while also aligning with the EU's long-term budget frameworks, giving more time to member states to plan how to use them. Capital raised through joint action would also lower borrowing costs as the EU can demonstrate a higher credit strength than any of its single member states.

Germany has opposed prolonging or reforming NextGenerationEU beyond 2026,⁷⁵ but the *Shuldenbremse* crisis and the publication of the Draghi report have sparked debates over reforming debt rules. The coalition has expressed mixed reactions to the idea of pooling debt at the EU level,⁷⁶ and Chancellor Olaf Scholz has said he opposes it.⁷⁷ In Italy, Prime Minister Meloni has endorsed the proposal of common European debt.⁷⁸

⁷³ Giuseppe Fonte and Matteo Negri, "Italy Cuts Growth Forecasts and Says Debt Set to Rise", in *Reuters*, 9 April 2024, <https://www.reuters.com/world/europe/italy-cuts-growth-forecasts-broadly-confirms-deficit-goals-2024-04-09>.

⁷⁴ Italian Government, *Recovery and Resilience Plan*, 12 January 2021, https://www.governo.it/sites/new.governo.it/files/PNRR_2021_0.pdf; Federal Ministry of Finance, *German Recovery and Resilience Plan. Draft*, January 2021, https://www.bundesfinanzministerium.de/Content/EN/Standardartikel/Press_Room/Publications/Brochures/2021-01-13-german-recovery-and-resilience-plan.html.

⁷⁵ David Bokhorst and Magnus G. Schoeller, "Managing Constraint: Frugal Opposition to European Fiscal Solidarity", in *Journal of European Public Policy*, Vol. 31, No. 10 (2024), p. 3275-3298, <https://doi.org/10.1080/13501763.2024.2332697>.

⁷⁶ Thomas Moller-Nielsen, "Draghi Report Splits German Government, Receives Pushback from Netherlands", in *Euractiv*, 10 September 2024, <https://www.euractiv.com/?p=2141466>.

⁷⁷ SPD-Bunderstagsfraktion, *Zeitenwende für Europas Industrie. Leitlinien für eine zukunftsgerichtete europäische Industriestrategie*, 12 January 2023, <https://www.spdfraktion.de/system/files/documents/position-leitlinien-zukunftsgerichtete-europaeische-industriestrategie.pdf>; Jonathan Packroff and Nicoletta Ionta, "German CDU Leader Pledges to Do 'Everything I Can' to Prevent New EU Debt", in *Euractiv*, 11 September 2024, <https://www.euractiv.com/?p=2142189>.

⁷⁸ "We Back Common Debt for EU Challenges Says Meloni", in *ANSA*, 18 April 2024, https://www.ansa.it/english/news/2024/04/18/we-back-common-debt-for-eu-challenges-says-meloni_4c2b307a-3aff-4c76-9d73-87464953aaa1.html.

Regardless of new debt instruments, dialogue between Germany and Italy on joint efforts for capital mobilisation towards the transition remain essential. The Bilateral Macroeconomic Forum, established by the 2023 Italian-German Action Plan, could be an ideal platform for coordination.⁷⁹ To maximise its effects the Forum should increase attention to the macroeconomic and financial aspects of the transition. This could be done by establishing interministerial working groups between various ministries, such as MASE, MIMIT, the Ministry of Economy and Finance (MEF), the Ministry of Infrastructure and Transport (MIT) and the Ministry of Labour and Social Policies (MLPS) from the Italian side; and the BMWK, the Ministry of Finance (BMF), the Federal Ministry for Economic Cooperation and Development (BMZ) and Federal Ministry of Labour and Social Affairs (BMAS) for Germany.

Increased interministerial collaboration in the Forum will also allow joint coordination at the European level to promote reforms of the Economic and Monetary Union (EMU) in ways that align with sustainability objectives. Similarly, Italian and German coordination will be necessary to integrate the Capital Markets Union (CMU) with the necessities of the Green Deal, facilitating large-scale cross-border investments required to meet decarbonisation goals. A more integrated CMU could be the ideal framework to encourage venture capital funds dedicated to innovative, early-stage clean technology companies.

Indeed, the role of private actors in financing the transition is another element distancing Germany, which has often approached capital mobilisation believing that the main role of the government should be to provide the regulatory framework and the ideal investment environment to foster private action, and Italy, which has traditionally relied more on public interventions to direct capital where needed, raising however questions of fiscal sustainability as many programmes end up too expensive – as the previously described *Superbonus* shows.

Still, private actors in both countries are showing interest in green finance and their role should be integrated with the efforts of public actors. *Börse Frankfurt* and *Borsa Italiana* green bond segments have reached 261 billion and 161 billion euros in total outstanding amounts with key issuers including Deutsche Hypothekbank, Commerzbank and DZ Bank in Germany, and Intesa Sanpaolo and UniCredit in Italy.⁸⁰ However, mandatory standards should be introduced to define these instruments as green to avoid so-called ‘greenwashing’. Both stock exchanges bundle them following the Green Bond Principles, the guidelines established by the International Capital Markets Association, which are however voluntary and not defined in alignment with the Green Deal. Instead, a common reference

⁷⁹ Germany and Italy, *Piano di Azione italo-tedesco*, cit.

⁸⁰ Climate Bonds Initiative, *Green Finance State of the Market - 2019 Update*, July 2019, <https://www.climatebonds.net/node/38227>; Gaetano Basso et al., “The Green Transition and the Italian Labour Market”, cit.

framework should be built upon the European Green Bond Standard (EUGBS), an EU certification that attests that bond issuers align with the taxonomy's criteria. However, the EUGBS is also voluntary. Pushing for mandatory adherence to the EUGBS for any financial instrument to be labelled as green would standardise the playing field across the EU and assure the environmental impact of investments.

6. Final policy recommendations

Since the launch of the European Green Deal, European countries have faced multiple crises (Covid-19, energy and climate prices, worsening geopolitical environment). These crises have partially induced governments to reconsider key components of the energy trilemma (security, affordability and sustainability). Nonetheless, the EU has managed to shield and enhance the European Green Deal thanks to several pieces of legislation, increasing targets for renewable and low carbon energy. Now, it's time for European member states to implement and deliver many of the regulations and achieve targets established in the past five years. Alongside the national implementation, governments can and should find ways to cooperate to accelerate the energy transformation and ensure socioeconomic growth. In this regard, a coordinated approach between Germany and Italy will play a decisive role in reaching EU climate targets given the two countries' economic, industrial and energy relevance within the EU. The 2023 Action Plan provides a clear signal of intent and acknowledgment of the need to collaborate.

In doing so, Italy and Germany should consider and work together on the following interlinked issues:

1) *A new political context requires a new approach.* Since 2019, the political context has been shaped by recent crises. This change has been evident in the recent elections, which have highlighted the rise of far-right parties as well as protectionist, nationalistic and anti-green transition rhetoric. It is crucial that each national government remains committed to climate policies in line with the European Climate Law while also counterbalancing the negative and regressive consequences. This is particularly true for both Germany and Italy although they are facing different political challenges. The two countries should work on establishing a clear and detailed roadmap for deeper political cooperation on sustainable energy development, among other priorities, building on the Action Plan.

- *Dialogue:* The 2023 German-Italian Action Plan provides a starting point, establishing bilateral forums between ministerial officials on various economic and energy issues. These forums should be expanded to include a broader range of decision-makers, such as officials from different ministries, regulatory agencies and technical experts. These dialogue platforms are essential in promoting best practices and reducing obstacles to enact bilateral efforts. Deeper dialogue is also instrumental in shaping European legislation on key issues, such as the upcoming Europe's Clean Industrial Deal or the finalisation

of the EU Carbon Border Adjustment Mechanism. Realising these initiatives will require a large amount of capital, and to mobilise this it will be necessary to strengthen dialogue with financial institutions, increasing exchange of information and addressing the financial necessities of the transition in both countries.

- *Joint initiatives:* Starting from dialogue platforms, Italy and Germany should favour partnerships among their private sectors given their deep economic integration. In this regard, joint initiatives should envisage public-private partnerships.

2) *Domestic implementation through adequate regulatory framework.* The next years will be crucial for national implementation of several energy and climate targets. Both countries submitted their National Energy and Climate Plans (NECPs) covering the period up to 2030. While Italian new installed capacity will focus on solar energy, Germany is expected to grow more in the wind sector, both onshore and offshore. This complementary nature provides opportunities for further cooperation. For example, Italy has very limited offshore installed capacity compared to its wind potential around regions such as Sardinia, Sicily and Apulia and it could benefit from cooperating with Germany's stakeholders. At the same time, each country will need to provide the right fiscal and regulatory support for clean energy deployment. Indeed, regulatory frameworks should be strengthened in both countries to reach these ambitious goals. The energy crisis provided new arguments for establishing the right regulatory framework aimed at accelerating renewable installations. Fast development of solar and wind capabilities in Germany, resulting from consistent reforms which have streamlined the expansion of renewable energy installation, should be taken as a model in Italy for designing its unified regulatory framework on renewable energy deployment. Furthermore, Italy could design a clear division of competences between the national and sub-national level as Germany has. Italy should encourage dialogue and regional coordination on energy and climate issues on appropriate forums, such as in the Regions-State Conference. At the same time, while Germany's model of federalism facilitates discussions, the divergence in climate policies among the *Länder*, particularly between regions with advanced green economies and those reliant on fossil fuels, should be addressed also from a just transition point of view. Germany should enhance federal support for climate initiatives in lagging regions to diminish the divide and promote social support to the clean energy transition. Besides national regulatory frameworks, the two countries will need to cooperate on the definition and finalisation of European regulations related to clean energy solutions, such as hydrogen and CCS.

3) *Interconnected infrastructure.* As Italy seeks to become a bridge between Europe and Africa, Germany could enhance its energy security thanks to gas volumes from the South as outlined by the 2024 Italian-German Solidarity Agreement for natural gas exchange. At the same time, the two countries will need to expand their infrastructure cooperation on clean energy infrastructure in line with EU and national climate targets. In this sense, the SouthH2 Corridor is the flagship project as recognised also by the Action Plan. There are other two hydrogen infrastructure

projects under consideration that will enhance energy security. Lastly, Germany and Italy could work on expanding electricity interconnections that will provide additional flexibility to the power system given their complementary renewable potential (solar in Italy and wind in Germany).

4) *Industry decarbonisation, competitiveness and transformation.* One of the most pressing issues will be to favour decarbonisation of the industry sector, while ensuring competitiveness and developing new industrial capabilities. Given the relevance of industry in both countries, Italy and Germany would benefit from deeper cooperation on industrial policy. They will need to collaborate on policy, regulatory, infrastructure and financial responses needed to promote competitiveness and transformation of existing industries. By leveraging the interdependencies and technical and industrial know-how, Italy and Germany could work together on designing lead markets for their industries. In this sense, the two countries should work together in shaping the upcoming European Clean Industrial Deal.

5) *Financing the energy transition.* Reaching net-zero targets by 2050 and intermediary targets in 2030 requires significant amounts of investment. Germany and Italy are dealing with fiscal challenges. Germany's constitutional limitations on new debt and Italy's chronic economic and fiscal weakness complicate their respective financial situations, emphasising the need to develop common financial solutions for the energy transition. Common financial initiatives would ensure the achievement of energy targets and industrial policy while avoiding distortion and market fragmentation among member states with different financing capabilities. Italy and Germany should foster collaboration between public and private sectors, offering incentives for green investments while also creating a clearer and transparent taxonomy and standards. Coordination on financial issues will be essential to increase market stability and attract investments. The Bilateral Macroeconomic Forum established by the Action Plan can be an effective platform to coordinate on a range of financial issues, such as pushing for a more integrated Economic and Monetary Union and Capital Market Union.

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