



EU climate policy amid Russia's war in Ukraine:
A critical overview of key REPowerEU challenges and trajectories towards net-zero

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Introduction

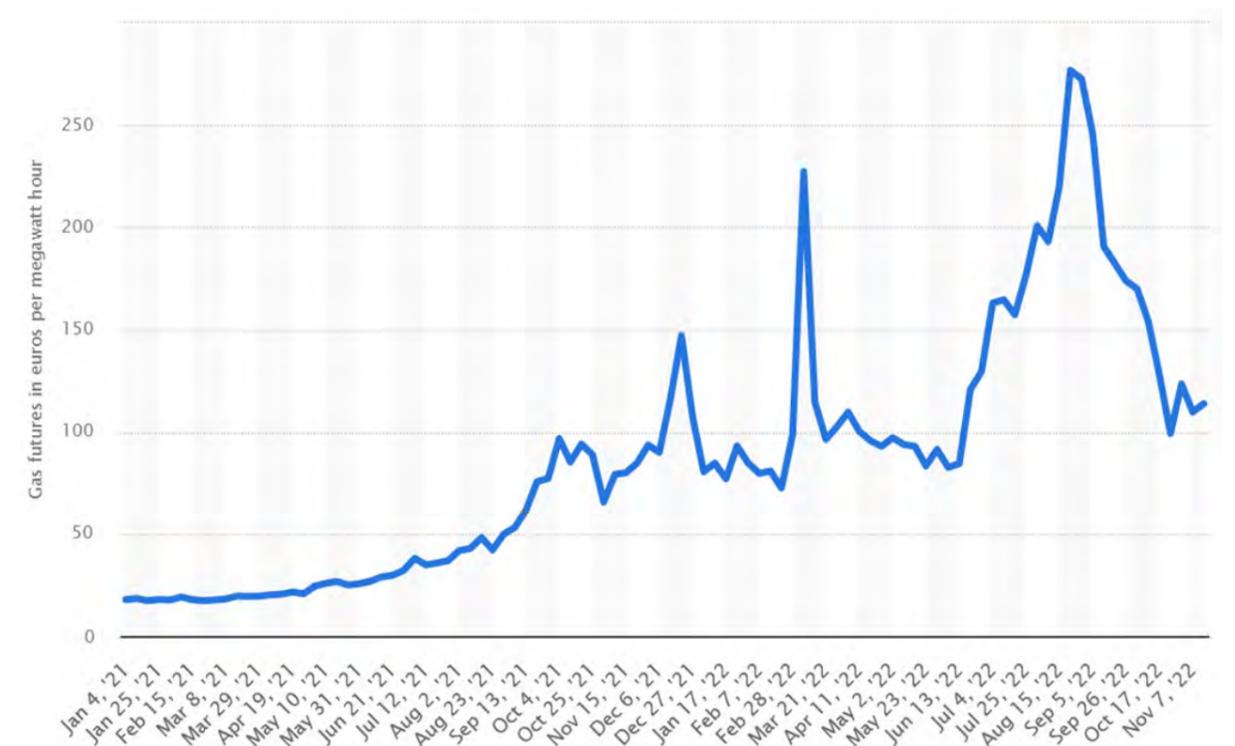
Russia's war in Ukraine has significantly impacted the European Union energy debate. Since the outbreak of the conflict, leaders across Europe have voiced alarm regarding the EU's energy security and independence. The balance between the three pillars of the EU energy policy – sustainability, security, and affordability – has consequently been altered. While sustainability issues garnered more attention following the ratification of the Paris Agreement in 2015, recent events have compelled a shift to energy security and affordability concerns. This pivot, in fact, began in October 2021 (see fig.1 below) as energy prices surged due to the post-COVID19 economic recovery, growing international demand, and supply

constraints. At that time, Russia started reducing the volumes of oil and gas it was exporting to Europe to the minimum amount stipulated by contract, thereby further contributing to energy market volatility. EU natural gas prices - the main source of the overall spike in energy prices – had indeed already soared 450% in October 2021 compared to January 2021.¹

The unfolding geopolitical and geoeconomic tensions threaten the EU's ability to import sufficient volumes of energy resources at affordable prices. These developments, that said, need not necessarily lead to the deprioritization of the sustainability angle of the EU's energy policy. In the aftermath of Russia's February 24th invasion



Figure 1. Dutch TTF gas futures at the beginning of each week from January 4, 2021 to November 14, 2022 (in euros per megawatt hour)



Source: Statista²

¹ Liboreiro J., et al., 'Why Europe's energy prices are soaring and could get much worse'. 28 October 2021, <https://www.euronews.com/my-europe/2021/10/28/why-europe-s-energy-prices-are-soaring-and-could-get-much-worse>
² Statista, 'Weekly Dutch TTF gas futures', <https://www.statista.com/statistics/1267202/weekly-dutch-ttf-gas-futures/>

of Ukraine, the EU Commission introduced a comprehensive plan, REPowerEU, to drastically reduce the dependence of the bloc on Moscow's energy resources by strengthening energy efficiency, accelerating the build-out of renewable energy, and prioritizing greenhouse gas emissions reductions.³ All told, the conflict in Ukraine and the current energy crisis could, in fact, potentially further accelerate implementation of a more sustainable energy policy in Europe. Though the energy debate pendulum has switched from sustainability to security and affordability topics, the three dimensions are continuing to be reconciled with one another towards the aim of developing a greener EU energy system.

The REPowerEU plan is testament to the EU determination to seize this critical historical moment to advance dual goals focused on eliminating the continent's reliance on Russian hydrocarbons and expediting the attainment of green targets. This policy brief critically analyses some of the key challenges the European Union, nevertheless, is facing as it seeks to reduce the role of Russian natural gas in its energy mix through two key alternatives as envisioned by REPowerEU: coal and renewable energy sources. It also assesses where the EU stands on its trajectory towards achieving green targets, differentiating between the external and internal dimensions. An interesting picture emerges when these two levels are isolated: the European Union climate policy measures are insufficient and incompatible with the 1.5°C global climate target.

Challenges of REPowerEU: boosting the burning of coal VS renewable energy

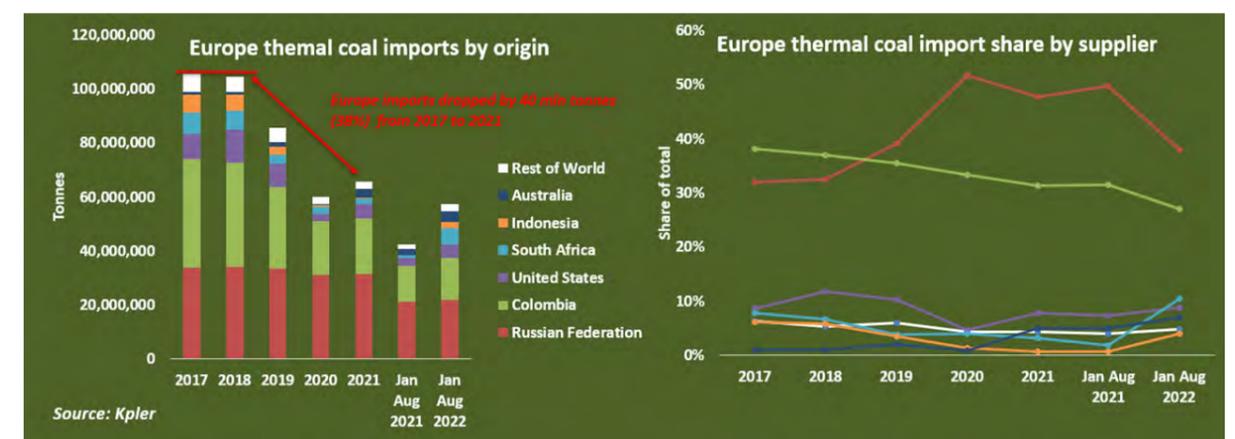
Following the Kremlin's unprovoked attack on Ukraine, the EU introduced a set of measures to diversify its energy resources away from Russia and speed up the green transition. The REPowerEU plan represents the most comprehensive initiative towards achieving these aims. Among relevant measures, renewable energy production targets were increased from 40% to 45% by 2030 and energy efficiency goals bumped up from 9% to 13%.

The rapid reduction in gas imports from Moscow envisioned by REPowerEU and now accelerated by Russia's regular cuts to gas exports to Europe⁴ undoubtedly comes with challenges. The success of this process rests on two pillars: increased use of coal in the short term and a more rapid rollout of renewable energy over the medium to long term. Both preconditions necessitate deeper analysis to better

understand the major challenges posed and their potential implications for EU climate policy.

In the short term, EU success in putting an end to the bloc's reliance on Russia for natural gas will depend on substantial reductions in gas-fired electricity production by burning more coal.⁵ Several Member States, including Germany, Romania, and Italy have already decided to postpone the planned shutdown of coal power plants to address the energy crisis and consumer needs.⁶ Despite a surge in coal prices, they still provide a price advantage compared to record-high gas prices. This dynamic has contributed to a 35% jump in Europe's coal imports in January-August 2022 compared to the same period in 2021, accounting for 9.5% of global thermal coal imports.⁷ This represents Europe's highest total share of the coal trade since 2018. The Russian gas hole and

Figure 2. European thermal coal imports



Source: Kpler

³ European Commission, 'REPowerEU: A plan to rapidly reduce dependence on Russian fossil fuels and fast forward the green transition', 10 May 2022, https://ec.europa.eu/commission/presscorner/detail/en/IP_22_3131

⁴ Meredith S., 'Russia has cut off gas supplies to Europe indefinitely. Here's what you need to know', 6 September 2022, <https://www.cnn.com/2022/09/06/energy-crisis-why-has-russia-cut-off-gas-supplies-to-europe.html>

⁵ Michael Lau, et al., 'Pathways to European Independence from Russian Natural Gas', 8 July 2022, <https://zenodo.org/record/6811676#.Y3TOP-TMI2x>

⁶ Balkan Green Energy News, 'Europe switching on coal plants amid energy crisis', 2022, <https://balkangreenenergynews.com/europe-switching-on-coal-plants-amid-energy-crisis/>

⁷ Koh A., et al., 'Europe Snaps Up Coal From Abroad to Fill Gap Left by Russia', 5 July 2022, <https://www.bloomberg.com/news/articles/2022-07-05/coal-imports-pour-into-energy-starved-europe-from-around-globe>

efforts to close it, in other words, are reversing a multi-year trend beginning in 2017 that saw progressive drops in EU coal imports, as illustrated in the graph below.

Since the resumption of energy trade with Russia is not a foreseeable option, European industries will continue to face a tight and exorbitantly priced gas market that will press them to rely more on coal and/or reduce consumption. The higher use of coal, however, should be viewed only as a one-off emergency measure and short term solution that is unlikely to significantly impact the EU's progress towards attaining its climate goals. This claim is backed by preliminary analyses finding that a temporary increase in the burning of coal will not impede the EU from reaching its coal phase-out 2030 target.⁸ The elevated reliance on coal for electricity production, in particular,

is not expected to detrimentally impact Europe's recent progress in significantly lowering its GHG emissions contributions - lower gas demand will rather offset any emissions that come from increased coal combustion, as visualized in the graph below.

It is indeed entirely plausible that coal will remain on schedule to be phased out by renewables within the next decade. The tentative forecasts, like the one presented above, are supported by broad consensus and political will in Europe recognizing the need to wean the continent off fossil fuels and extricate it from future energy security crises. The EU, however, will be challenged to effectively communicate information on the delicate topic of increased coal usage to avoid jeopardizing its climate leader status. The bloc's decision to resort to the burning of coal, notably, has been defined as a "temporary" stop-gap

but further important details have not been specified including, for instance, the quantity of coal volumes that will be tolerated every year until 2030. These details need to be clarified and clearly communicated, both domestically and externally, if the EU wishes to preserve its climate leader status.

In the medium term, the ability of the EU to end its dependency on Russian natural gas will be linked to its capacity to accelerate renewable energy deployment. The REPowerEU scheme itself promises to offset the majority of Russian gas – about two thirds – through greater use of RES. The set goal puts the EU on a path to reaching 1236 GW of renewable energy generation by 2030, thereby raising the previous target established by the Renewable Energy Directive from 40% to 45%.¹⁰

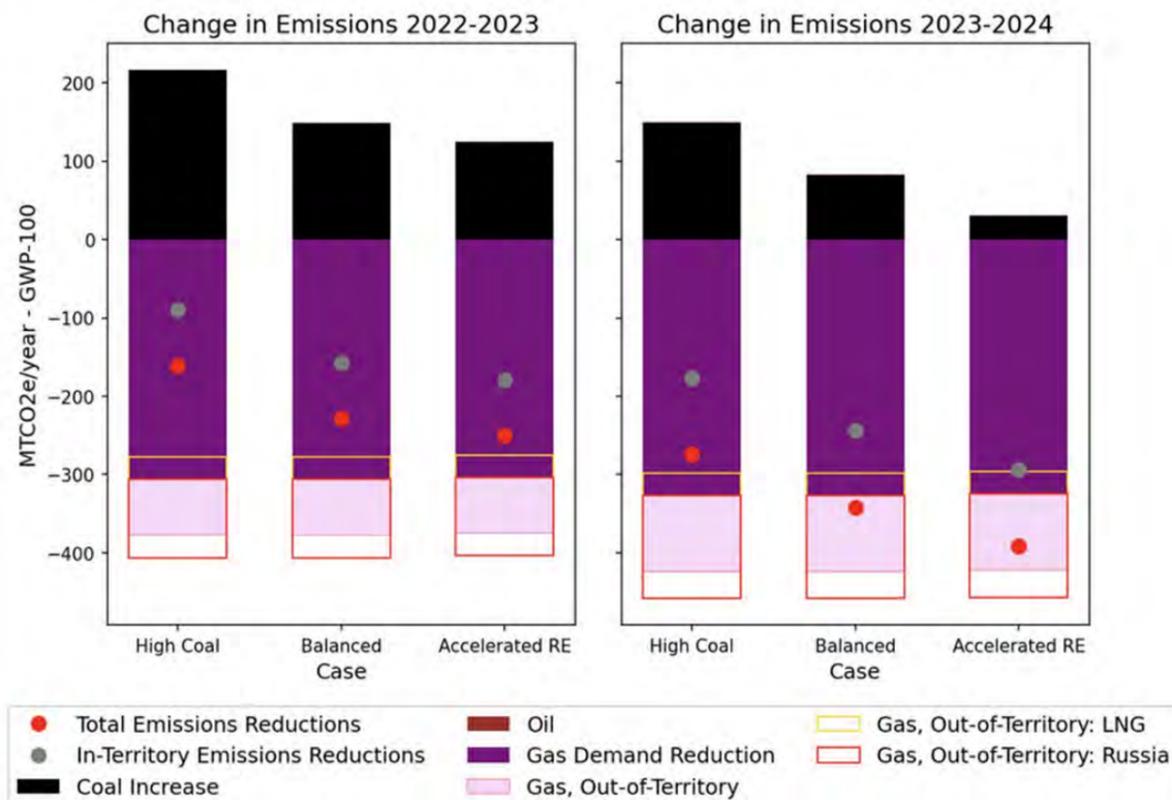
The increased role of renewables, however, poses two major challenges. This move, firstly, will require considerable upgrades to the EU energy network.¹¹ In its current design, the network is fit for continuous and centralized power generation but not substantial usage of intermittent and diffuse energy sources. Moreover, interconnections between neighbouring countries will need to be enhanced and expanded. These greater ambitions, secondly, will necessitate the creation of significant storage capacities: according to the European Association for Storage of Energy (EASE), the EU will need 108 GW of electricity storage by 2030 (compared to 40 GW of available capacity in 2020) to reach the 45% renewable energy target¹². Yet the REPowerEU plan fails to sketch out concrete steps and an accurate timeline covering the above-mentioned issues.

It is likely that hydrogen will play an important role as the EU ramps up its renewable energy production. The EU has pledged more than €21 billion in the coming years for hydrogen to foster the decarbonisation of the so-called "hard to abate sectors" that are difficult

to electrify and more energy-intensive industries.¹³ The already ambitious 2020 "Hydrogen Strategy" has been further bolstered by the REPowerEU plan, which sets out to quadruple the green hydrogen supply target and use much of the renewable energy potential to produce it. In light of the lofty targets, a significant part of the new renewable energy capacity will, therefore, need to be allocated to the production of green hydrogen. This will require policy makers and stakeholders to carefully plan new energy installations within the EU. These installations will have to be planned along the following axes: i) the Mediterranean corridor will be aimed at harnessing the enormous green energy production potential of North African countries; ii) the North Sea area and Ukraine (the latter though will depend heavily on the evolution of the conflict). To reach the new goals of 20 million tonnes of green hydrogen in the EU (half produced internally and half imported), substantial investments in infrastructure will also be necessary. The construction of pipelines capable of carrying hydrogen will require a significant overhaul of existing infrastructure, with estimated costs averaging between 28 and 38 billion euros for EU gas pipelines and another 6-11 billion euros for storage systems¹⁴.

The REPowerEU sends a clear signal concerning where the EU stands on its green commitments - it aspires to more swiftly implement all "Fit for 55" legislative proposals. The EU also seeks to achieve higher targets for renewable energy to address any shortfalls that will come from its more robust and rapid reduction in gas consumption, as a transitional fuel, than initially planned. Numerous challenges, however, stem from (mis)communication on the increased use of coal - these risk jeopardizing the EU's climate leader status. Another barrier concerns a lack of practical steps and a detailed data-informed timeline regarding investments and technical upgrades in the EU energy system.

Figure 3. Emission projections according to different coal burning scenarios



Source: Zero Lab⁹

8 Brown S., 'Coal is not making a comeback: Europe plans limited increase', 13 July 2022, <https://ember-climate.org/insights/research/coal-is-not-making-a-comeback/>

<https://www.woodmac.com/press-releases/14-increase-in-european-coal-demand-to-be-short-term-trend/>

9 Michael Lau, et al., 'Pathways to European Independence from Russian Natural Gas', 8 July 2022, <https://zenodo.org/record/6811676#.Y3TOP-TMI2x>

10 European Commission, 'REPowerEU: affordable, secure and sustainable energy for Europe',

https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/repowereu-affordable-secure-and-sustainable-energy-europe_en

11 Frieden D., et al., 'Collective self-consumption and energy communities: Trends and challenges in the transposition of the EU framework', December 2020, https://www.google.com/url?sa=t&rt=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKewilf-xgbP7AhVc_rsiHQ4QA7UQFn0EC0QAQ&url=https%3A%2F%2Fwww.rescoop.eu%2Fuploads%2Fdownloads%2Fcollective-self-consumption-and-energy-communities.-Trends-and-challenges-in-the-transposition-of-the-EU-framework.pdf&usg=AOvVaw3iQTVpaw03edMbUZMryMK

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13 European Commission, 'Key actions of the EU Hydrogen Strategy'

https://energy.ec.europa.eu/topics/energy-systems-integration/hydrogen/key-actions-eu-hydrogen-strategy_en

14 European Commission, 'REPowerEU: affordable, secure and sustainable energy for Europe',

https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/repowereu-affordable-secure-and-sustainable-energy-europe_en

EU climate policy and progress towards international and domestic green targets: two different pictures

The temporary increase in coal usage is not projected to delay the EU GHG emission reduction goals and the revised REPowerEU renewable energy targets, even with some issues left unaddressed by the EU. This moment, in fact, represents an unprecedented opportunity to accelerate the sustainable transition against a backdrop where data shows that EU progress towards international climate commitments is still insufficient. While the bloc has upped its climate targets to reducing emissions by at least 55% by 2030, a substantial step forward, the EU actually needs to reduce its domestic emissions by at least 62% to do its part to keep the global temperature rise at 1.5°C.¹⁵ The REPowerEU plans, at present, to increase the share of renewable to 45% and cut final energy consumption to 750 Mtoe by 2030 will only reduce emissions by 56-57% excluding LULUCF (or between 58-60% including LULUCF).¹⁶ It is also important to note that these proposed stepped up emissions reduction targets in the REPowerEU plan are not yet reflected in international climate pledges since the EU did not submit an updated NDC before COP27. This delay may also undermine the EU's position as a leader in climate action.

The internal dimension to the EU's path towards reaching climate neutrality by 2050, meanwhile, will depend on the ability (and willingness) of Member States to align their policies with EU-wide ones. While the goals put forward in the European Commission's REPowerEU plan would result in

emissions reductions between 56-57% below 1990 by 2030, current national policies would only lead to 36-47% emissions cuts.¹⁷ Member States, therefore, need to adopt additional measures that go beyond the ones dictated by the EU. Areas of particular concern include the planned phase-out of coal by 2030 and gas soon afterwards, especially considering that some Member States have been lobbying for EU funds to go to the development of gas infrastructure.

¹⁵ AirClim, 'The EU too must revisit its 2030 climate pledge', May 2022, <https://www.airclim.org/sites/default/files/documents/23-airclim-briefing-eu-too-must-revisit-2030-climate-pledge.pdf>
<https://www.climate-transparency.org/wp-content/uploads/2021/10/CT2021EuropeanUnion.pdf>

¹⁶ Ibid

¹⁷ Climate Action Tracker, 'EU Net Zero Targets', <https://climateactiontracker.org/countries/eu/net-zero-targets/>

Policy recommendations

This report, heeding the EU's climate plans, recent events, and the challenges faced in meeting these ambitions, puts forward the following policy recommendations:

- An emphasis must be placed on addressing needed investments related to upgrading the EU energy network and infrastructure. Governments, planning divisions, and regulators should **simplify permitting processes for renewables** to speed up project implementation and enable low-carbon suppliers to come online quickly. Governments would also be prudent to intensify their efforts to ensure that energy infrastructure boasts the flexibility necessary to support variable power generation and substantial shares of renewable energy production. Decisions on energy infrastructure, moreover, need to take into account climate neutrality targets to avoid carbon lock-in effects.
- The EU's green leader credentials could be jeopardized by increased thermal coal imports – the most of any other region in 2022. The bloc can protect its credibility, though, by **improving its communication strategies at home and abroad and explaining the turn to coal** through substantiated data, roadmaps, and information about the specific volumes of coal use that will be tolerated through 2030 to avoid impacting its GHG emission reduction targets. The EU Commission's statements indicating that "some of the existing coal capacities might be used longer than initially expected" risk creating market confusion and threatening the Union's credibility as climate leader if they continue to be left unspecified.
- **The EU should increase its GHG emissions reduction target to at least 62%** (excl. LULUCF) below 1990 levels. Such a move would entail adopting additional policies to reach this goal and significantly increasing support for climate action in developing countries and the least developed countries compatible with the 1.5°C goal.
- Even if the EU wishes to remain on track for its domestic 55% emission reduction target by 2030, there is an urgent **need to narrow the gap between EU-level and national targets**. EU Member States should adopt more ambitious 2030 targets for renewable energy and energy efficiency, factoring in the phase-out of coal.

Conclusion

The Ukraine war has created a new paradigm for Europe's energy and climate policy, as governments scurry to end their historical reliance on Russian fossil fuels. The answer lies in moving greener and faster. But this transition also must heed renewed concerns about energy security and affordability. While the "Fit for 55" legislative package saw the EU focus exclusively on the "sustainability" pillar of the equation, the REPowerEU plan has integrated this component with the "affordability/competitiveness" goals. Rather than looking at the three pillars of the EU energy policy as competing parts, the bloc is bridging them to foster a new sustainable, secure, and affordable energy system across the continent.

Despite the challenges and costs, the Russian invasion of Ukraine is unlikely to alter the EU's commitment to decarbonization. Some increased reliance on coal is inevitable and will not impact GHG emission reduction goals. The energy transition is rather more likely to be accelerated by incentives to ramp up renewable energy generation and calls for the EU to adopt more ambitious long-term policies. At the same time, it is also now clear that, despite claims to the contrary, this transition will be costly. The success of the EU's energy transition will largely depend on Member State domestic politics and the progress of governments towards narrowing the gap between EU wide and national targets.





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