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The EU Energy Crisis and a New Geopolitics of Climate Transition

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Introduction

In 2022, the Russian invasion of Ukraine had a profound effect on EU energy and climate policies. The EU redesigned its approach to the geopolitics of energy security as it sought alternatives to Russian supplies with accelerated urgency. It upgraded its commitments to energy transition internally and through external actions too, whilst member states balanced these with the domestic politics of a cost-of-living crisis triggered by the war. The new era of geopolitical power had repercussions for the conceptual contours of EU approaches to energy and climate security, which were elevated to hard security issues. The article reviews the key developments in EU energy and climate policies in 2022 and notes three emerging and inter-related conceptual shifts in these: the securitization of the green transition, a more realpolitik approach to external climate actions and a rebalancing towards state intervention.

I. The 2022 Energy Crisis in Review

The energy crisis that shook European politics in 2022 started before Russia's war against Ukraine. A function of post-Covid recovery, European, North American and Asian economies had begun to revive in 2021, which brought back industrial demand for process heat and electricity. Strong economic recovery in Asia drove up liquefied natural gas (LNG) prices and meant that lower quantities were available for other consumers (IEA, 2022). Moreover, EU carbon prices picked up, which incentivized a fuel switch from coal to gas (Reuters, 2021). Other factors, such as a hot summer, brought about marginal additional demand. On the supply side, outages at LNG export facilities left global LNG markets strained even further. Russia had higher-than-usual domestic demand (TASS, 2021), whilst also deliberately going slow on filling up storage capacity in Europe over the summer (IEA, 2022). By the beginning of the heating season 2021, filling levels in European gas storage stood at 74.6%, 20% lower than the preceding year, and Gazprom-run storages were at a mere 22% (European Commission, 2022d). This brought Europe into direct competition with Asian consumer markets for alternative LNG supplies. Energy markets were tight as Europe went into 2022.

Russia's invasion and the ensuing gradual reduction of gas exports to Europe dramatically aggravated this situation. From July to September 2022, Russian pipeline gas exports to Europe reduced by some 74% compared with 2021. Yamal Europe, the pipeline through Belarus and landing in Poland, was down almost entirely, whilst transit through

the Ukrainian pipeline system landing in Slovakia and Romania was reduced by 63% (European Commission, 2023e). Russian gas supply to Europe through Nord Stream came to a halt at the end of September 2022 as the pipeline through the Baltic Sea was sabotaged. By the end of 2022, gas exports had dwindled to marginal volumes. After many years of sending around 150 billion cubic metres to European consumer markets every year or a third of overall EU consumption, Russia ended its role as a prime supplier.

Against the backdrop of a strained market situation, this amounted to a perfect storm. Gas prices at the TTF, the European benchmark for LNG, saw all-time highs of 319.98 EUR/MWh in August 2022 – some 15 times the pre-war levels. Because the European power market is indirectly tied to gas – thanks to gas setting the price as the marginal fuel, the so-called merit order principle – electricity markets were in upheaval as well. As per estimates of the European Commission, power benchmark prices in the third quarter of 2022 averaged 339 EUR/MWh, an increase of 222% compared with 2021 (European Commission, 2023d). An already high Eurozone inflation picked up even further, reaching 10% by the end of 2022 (Eurostat, 2023). Clearly, skyrocketing TTF prices ensured LNG cargos found their way into Europe and drove imports of LNG to record levels. Yet, the macroeconomic impact was significant as energy-intensive sectors such as chemicals, paper and steel decreased production, making longer term European industrial competitiveness a key policy concern (Bloomberg, 2022; Reuters, 2022c). What is more, high energy prices became a social issue as they affected vulnerable households the most.

European policy responses centred around replacing natural gas with alternative fuels and decarbonizing the European energy and production system. This, on the one hand, meant bringing back fossil fuels, notably coal. Though demand increments remained smaller than feared, power sector CO_2 emissions alone went up by almost 4% in 2022 (Ember, 2023). It also meant enhancing the supply of renewable energy and increasing production capacity. In May 2022, the Commission presented a comprehensive policy package dubbed REPowerEU, aimed at phasing out Russian fossil fuels in Europe's imports 'well before 2030' and at speeding up the clean energy transition. The REPowerEU plan rested on enhancing clean energy sources by raising renewables targets, eventually agreed to be 42.5% by 2030, accelerating the permitting processes for major renewable projects and building up a (green) hydrogen economy.

Aimed at helping the decarbonization of industry, the EU prepared a Green Deal Industrial Plan that member states eventually signed off in early 2023. This aimed to support a faster transition to climate neutrality, inter alia through a Net Zero Industry Act (European Commission, 2023a, 2023c) supporting the build-up of clean tech production within Europe. The Plan envisaged the loosening of state aid to support industrial transformation by at the same time encouraging national governments to consider tax breaks in support of green net-zero technologies investments. A ban of fossil-fuel-based combustion engines by 2035 agreed in late 2022 (Reuters, 2023a), coupled with efforts to revise the Energy Performance of Buildings Directive (Council of the EU, 2022) sought structurally to alter demand patterns in mobility and heating.

On the national level, governments also rushed to enhance clean energy targets. For example, the Netherlands announced plans to double capacity in offshore wind by 2030 (Reuters, 2022b). Germany upped its goal for renewables in the power mix to 80% by 2030 (Cleanergywire, 2022), whilst Italy entered the offshore wind business with

determination, aiming to install 5.5 GW of offshore wind capacity by 2030 (WindPower Monthly, 2022). Greece introduced the country's first Offshore Wind Law and set a target of 2 GW of offshore wind capacity by 2030 (IEA, 2023). Portugal raised targets for renewable energy in its power mix by 20%, now aiming for 80% by 2026 (Reuters, 2022). In a 2022 energy security strategy, the United Kingdom promised 'self-sufficient' energy supply as a way of decarbonizing the electricity system by 2035 (HM Department for Business, 2022). Even coal-heavy Poland made determined efforts to increase the share of renewables in the mix, with 2022 marking a year of significant growth of the industry (Reuters, 2023b). Belgium, Denmark, France, Germany, Ireland, Luxembourg, Norway, the United Kingdom and Sweden agreed on developing 300 GW of offshore wind capacity by 2050, thus effectively making the North Sea a 'green power plant' (De Croo et al., 2023).

The European Union collectively and national governments individually mobilized significant funds in reaction to the energy crisis. Much of this funding was meant to buffer high energy costs. By October 2022, energy subsidies earmarked or spent in support of industry and households had surpassed EUR 700 billion (Goldthau and Tagliapietra, 2022). Spending was uneven across Europe and reflected European governments' differing abilities to spend their way out of the crisis. The European Commission allowed green state aid to the tune of EUR 51 billion during the year (European Commission, 2023a). Germany announced plans to invest more than EUR 200 billion into industrial decarbonization (Reuters, 2022a), whereas other large economies such as France pledged additional spending on decarbonizing its economy, on top of EUR 30 billion of green recovery money announced earlier (Euractiv, 2022a). Portugal announced more than EUR 25 billion of public and private finance over 10 years (Reuters, 2022). On the European level, REPowerEU is to add EUR 210 billion in investment for, mainly, renewables, hydrogen and energy efficiency (S&P Global, 2022). Taken together, these measures are argued to having brought forward the EU energy transition by a decade (The Economist, 2023).

II. Reshaping External Energy and Climate Policies

In parallel to these profound adjustments to domestic energy policies, European governments also introduced a battery of new external commitments in 2022. In reaction to a 'return of geopolitical energy security' (Kuzemko et al., 2022), European policy-makers were quick to put in place policy measures aimed at ensuring supplies, lowering demand and keeping prices in check. The EU and member states signed dozens of new energy accords to increase oil and gas imports in 2022. A flurry of energy diplomatic efforts aimed to contract additional gas from producer countries, including Norway, Qatar and the United States. The EU signed a deal with Azerbaijan to double gas supplies, whilst talks about East Mediterranean gas involved a new accord with Egypt and Israel. Several governments negotiated their own supply agreements with countries like Algeria, Angola and Libya (ECFR, 2022a). The EU invested significant time during the year in introducing a cap on the price of gas imports, a measure that would previously have been anathema to the logic of external energy policy. It also moved forward with a common purchasing vehicle, the EU Energy Platform, to help drive down the price of imported gas; this measure

had been discussed on and off over many years but without gaining momentum and yet now advanced, to start operation in 2023 (European Commission, 2023a, 2023b).

Significantly, most of the new gas deals included clean energy commitments. The EU was able to argue that notwithstanding the turn to alternative gas supplies to offset the loss of Russian supplies in the immediate short term, the priority in 2022 was to strengthen external co-operation on renewables. This co-operation was aimed both at supporting energy transition in third countries and more directly at increasing renewables imports into Europe. The EU's new accord with Azerbaijan included a focus on green hydrogen exports from the country. The EU signed a major new energy deal to bring renewables from Georgia and the South Caucasus across the Black Sea to Romania. It signed new co-operation with Arab Gulf states on solar and hydrogen especially (Council of the European Union, 2022b). An EU–Morocco Green Partnership also promised co-operation on hydrogen supplies. Franco-Spanish agreement was reached on a new H2MED pipeline between Barcelona and Marseilles to help transport hydrogen from North Africa to European markets.

The EU increased funding under the African Green Energy Initiative and, after several years of debate, launched plans for a Global European Hydrogen Facility (European Commission, 2022c). In similar vein, the EU worked up text for a new Critical Materials Act – which would eventually be agreed in early 2023 – aimed at securing better access to minerals crucial for energy transitions. Several agreements on critical mineral supplies from countries like Kazakhstan and Namibia advanced. After years of going through the Brussels institutions, the Carbon Border Adjustment Mechanism moved into a new implementation phase at the end of 2022 when the European Parliament and the Council of the European Union reached a provisional agreement; this was eventually approved by the European Parliament in April 2023.

European global climate funding also increased in 2022 and there were several highly notable developments in this area of EU external action. After many years resisting, at the COP27 summit in Egypt in November 2022, European countries backed a new 'loss and damage' fund – finally agreeing to the kind of de facto climate compensation for which developing countries had long pushed. The EU channelled funding into new Just Energy Transition Partnerships with Indonesia, India, Senegal and Vietnam, based on an earlier EU–South Africa accord. Its 1-billion-euro contribution to the 20-billion Indonesian partnership was its biggest funding climate-funding initiative ever (European Commission, 2022b).

Alongside the increased renewables investments and supply agreements, there were more directly political elements to the climate agenda too. As extreme weather events in 2022 made the impacts of climate change ever more tangible, the EU also introduced several new commitments in the sphere of so-called climate security. The EU's 2022 Strategic Compass and the 2021 Climate Defence Roadmap promised to make security deployments more climate sensitive, and they committed to making Common Security and Defence Policy (CSDP) missions less resource intensive and to building better early warnings for climate stresses to trigger more effective action. New council conclusions on climate security were agreed upon under the Czech presidency in late 2022 with upgraded commitments to embed climate issues at the core of mainstream foreign and security policy (Council of the European Union, 2022a; see also European External Action Service, 2022). In similar vein, France introduced a new Climate and Defence Strategy

in April 2022 (Ministère des Armes, 2022). After a summer of extreme weather events, the Commission made a pitch for more extensive crisis management powers to deal with climate disasters. A European Parliament resolution urged the EU to step up progress in moulding defence and security policy around climate factors, triggering far-reaching debate on this topic (European Parliament, 2022). In light of extreme weather experienced during 2022, this area of policy moved up several gears and was now set to become an increasingly important aspect of EU security deliberations in future years.

III. Underlying Shifts

In sum, the year 2022 saw an unprecedented urgency, intensity and breadth of policy change in the area of energy and climate action. Within this intense range of policy developments, it is possible to detect three incipient changes to the EU's overarching approaches to energy security and ecological challenges. These represent potentially significant changes that have a bearing on longstanding conceptual frameworks and interpretations of EU energy and climate-change strategies. The three changes are, first, a securitization of renewables; second, a bolder renewables extractivism; and third, a more state-interventionist energy policy. These shifts are separate from but to some extent inter-related.

With regard to the first, the energy crisis of 2022 is likely to leave its mark as the moment when energy transition becomes more explicitly securitized. Whereas policy responses to past energy crises centred on making the fossil energy system more robust to external shocks, for example, by way of establishing strategic petroleum reserves at OECD level in the wake of the 1970s oil crises (Kohl, 2010), the 2022 crisis had a different outcome (Bazilian and Goldthau, 2023). This time – notwithstanding sometimes patchy emergency measures – the policy answer was to enhance resilience through energy system decarbonization. Renewables moved to the heart of European security policy.

In terms of policy discourse, this coincided with a fundamental shift in the policy framing of renewables. The Commission attested 'renewable energy […] an overriding public interest' (European Commission, 2022a, p. 11), thus justifying the comprehensive REPowerEU policy package and its profound impact on the European energy system. Germany's finance minister termed renewables 'freedom energy' (Euractiv, 2022b), stressing their contribution to ending dependency on foreign suppliers such as Russia. Statements amongst similar lines were made by the G7, to the effect that 'the rapid expansion of low-carbon and renewable energies' was viewed key to enhancing energy security (G7 Germany, 2022). Conceptually, this shift amounts to securitizing renewables. Following Kuzemko et al. (2022), energy securitization is in fact what we would expect as a result of the 2022 shock, given that policy agendas had under-focused on security concerns before the war. Yet, it is highly significant that it was renewables that were securitized and were made subject to extraordinary crisis policy instruments, including massive subsidies, as well as targeted industrial policy measures.

In its very essence, the shift towards renewables and clean solutions as a result of the 2022 energy crisis changes the very notion of energy security in EU policy. Energy security was traditionally defined by the physical properties, geographical realities and trade patterns characterizing oil and gas, and a function of its availability at affordable prices (Yergin, 2006). To be sure, the accelerated decarbonization does not do away with the

imperative to secure sufficient – albeit diminishing – volumes of fossil fuel resources for years to come. Yet, the precondition for secure and reliable clean energy supply lies in the effective interaction between public funds and private companies, so as to absorb the financial resources mobilized by governments, turn them into capacity build-up at scale within a short period of time and thus transform the system. The latter shifts, slowly but surely, from a centralized and supply-focused to a decentralized arrangement hinging on capital and technology instead (Bazilian and Goldthau, 2023).

In a second, and related, shift, the EU has moved towards policies centred on extracting renewable energy from third countries for export to European markets. This can be termed a form of renewables extractivism – an ecological version of the longstanding pattern of Western powers extracting oil and gas resources from source countries. This reflected an approach more directly centred on EU geopolitical interests and less on the balanced well-being of the global energy order as such. Indeed, criticism and concerns from other countries intensified dramatically in 2022 against this ever more apparent EU green-realpolitik. Critics argue that new green hydrogen projects now being supported in developing states are primarily and increasingly oriented to solving the European energy squeeze rather than being in line with the needs of local populations (Ramachandran, 2021).

Even though the EU routinely insists that its climate actions in other countries are mindful of human and indigenous rights (Council of the European Union, 2023), in practice, European policy is increasingly concerned with diversification of the EU's own supplies – with help for developing states to move in a stable way towards ecological regeneration a more secondary aim. The EU's push for access to developing countries' critical mineral risks distorting those countries' own energy transitions and in 2022 fuelled an incipient rise in critical mineral nationalism. Many third countries complained during the year that the EU was pushing the European Green Deal onto them in a way that was skewed towards its own post-invasion energy crisis (ECFR, 2022). This trend again reflected a more realpolitik approach to climate-transition challenges – superimposed on the EU's longstanding liberal-order framings in a manner that is still unclear and uncertain. The way in which the EU prioritized its own climate-transition targets in 2022 did not necessarily fit well with addressing other countries' energy and climate concerns or the prospects for more effective global ecological action.

The third conceptual and qualitative change in the paradigm informing EU energy policy relates to the role of state intervention. Whilst decades of market integration sought to liberalize European energy markets and enhance their functioning, the 2022 events saw the return to a deliberately interventionist model, with strong top-down policy dynamics (Goldthau and Sitter, 2022). Some of the policy measures were clearly due to the crisis situation, such as the nationalization of European gas companies crumbling under rising import costs. Yet, the Ukraine war highlighted the more structural political costs – or security externalities – of accepting lopsided import dependency structures in return for gas supply at economical costs.

Avoiding the former going forward will require a rethink of the principal approach underpinning EU energy policy, rebalancing political and economic costs, even if through stronger state intervention in national- and company-level energy choices. The incumbent liberal model is seeing significant cracks already, in the shape of the aforementioned EU Energy Platform (European Commission, 2023b) and gas price cap dubbed 'market

correction mechanism' (Council of the European Union, 2022b). Coupled with the imperative to secure rising import needs in green hydrogen, enhance the resilience of raw material supply chains and respond to mounting competition in the emerging global clean tech race, the way forward is likely to be marked by stronger state steering than less, altering the EU's economic model more generally.

Conclusions

In 2022, energy and ecological issues assumed a more prominent place in EU priorities. Member state unity against Russia's invasion of Ukraine entailed tightened unity in relation to energy security and climate action too. At a moment of such existential challenge, the strikingly ambitious upgrades to energy and climate policy commitments in 2022 strengthened a core pillar of the whole European project. Whilst internal differences remained on specific energy and climate-change issues, the war brought European governments together in agreed support for accelerated and more far-reaching ecological transition measures. With stronger consensus on the need to decouple from Russian energy supplies, support for energy transition strengthened notably in 2022.

Of course, the commitments made in 2022 were only modest steps along what will be a long and bumpy climate-transition road. Whilst the large number of new European climate and ecological initiatives made during the year looked impressive, by 2023, most of these had still not been fully implemented. Progress on the energy transition did not come close to what is needed fully to address the ecological crisis, usher in post-growth economic models or ensure environmental regeneration. And externally too, the longer the war continued into 2023 and kept a focus on very traditional military security priorities, the less bandwidth there has been for effective follow through on the external climate–security nexus (Youngs, 2023).

Yet, the year was one of dramatic change in the sphere of energy and ecology, driven by the way that the invasion of Ukraine deepened underlying and long-term issues with which the EU had been grappling for many years. This central place of climate transition in response to the 2022 invasion contrasts with earlier crunch moments in the EU's long-brewing tensions with Russia. This gave ecological commitments a more central place in European geostrategy, in part because of the material impact of higher energy prices but also because green issues had by now gradually become more central to the EU's identity (Giuli and Oberthür, 2023).

Moreover, there were signs in 2022 of qualitative change in the way the EU frames and conceives energy and climate policies. The policy commitments were not only highly significant in their own right but also denoted a more structural shift: energy and climate policies are becoming more pivotal *connective shapers* that cut across other areas of European integration. In 2022, energy and climate issues became a first-order issue of domestic politics and also a core pillar of EU security and geopolitical strategy. Theoretical assessment is beyond this article's remit, but we do suggest that the policy changes introduced in 2022 should trigger deep analytical re-interpretation. The balance will shift between the different theories – and their respective market, identity, institutionalist, realist and geopolitical logics – that have traditionally been applied to EU energy and climate policies.

These ongoing adjustments will require extensive academic attention in the years to come as the game-changing events of 2022 play themselves out over time. In 2022, energy, climate and security priorities appeared to come more clearly into line with each other. Yet, as EU decisions and trade-offs evolve, tensions will certainly appear between geopolitical, energy security and ecological imperatives. Decisions taken in 2022 will ebb and flow as they move forward in their implementation, and it is possible that some of the strategic shock and urgency of the invasion will subside. Still, this was a momentous year for energy and climate policy and one that catapulted long-gestating concerns to the very forefront of the EU's adaptation to a new geopolitical era.

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