

Europe Reaching for a Greener Future



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Cover illustrated by Valentina Rapuano

EDITORIAL

Dear reader,

"There are decades when nothing happens, and there are weeks when decades happen." This quote is often attributed to the Russian revolutionary Vladimir Lenin. Rarely have these words seemed so pertinent since the Russo-Ukrainian war escalated in February. The war seems to have pushed Europe and the West over a threshold and into a new world, years in the making.

The theme of this issue is "sustainable industry, innovation and infrastructure" and we've chosen to focus on the ongoing transition to renewable energy in Europe. The energy transition has been a fixture of political agendas for decades, but progress has consistently been slow and underwhelming. The sudden and violent exposure of Europe's dependence on energy from Russia has injected the issue with new urgency and political capital, as hard power considerations merge to form a previously unlikely coalition with calls for sustainability and green energy. Thus it seems that history has accelerated, and Europe is moving towards green and independent energy sources with a speed wholly uncharacteristic of the traditionally glacial politics of climate change action.

In this issue, "Europe Reaching for a Greener Future, the writers have endeavored to shed some light on the ongoing energy transition in Europe. A continent that today encapsulates the twin imperatives of climate change and geopolitical turmoil, and is scrambling to meet new challenges both urgent and systemic.

The energy transition is complex and multifaceted, and to this end we've covered topics ranging from national debates, to specific types of energy infrastructure as well as the policy basis and financing of the green transition. We've taken a historical look at the debates over nuclear power in two of Europe's biggest economies, Germany and Italy. Two countries whose complicated relationships to nuclear power stands in stark contrast to France, an enthusiastic adopter of the energy source. There are also articles detailing Eastern Europe's ongoing reckoning with the dependence on Russian energy. This is a region where environmental concerns have struggled to take hold, but where security considerations may prove decisive. Finally we've also looked at the way continental energy policy can be both a hindrance to the energy transition as well as a motivating factor.

In the previous editorials this year we've written about a world undergoing big structural changes. For decades the end of fossil fuelled economies has been variously heralded and

clamored for, and it seems that today it is nearing us with great speed. In the first issue of the year, "Yesterday's Politics, Today's Challenges" we touched on the myriad of challenges facing the world's societies as the pandemic slowly abated. It seemed that the global crisis had shaken things up to an extent where new solutions had to be found, and there was dire need for states and societies to act with dynamism and creativity.

In the second issue of the year, "The Advent of Multipolarity" we wrote about the post-cold war order seemingly disintegrating as great powers new and old seek to remake the world in their image. As of the Russo-Ukrainian war it seems that the world has definitively moved into a new age. However the free and open societies that have espoused a rules-based order for so long have shown themselves resilient in the face of crisis and retain many advantages. One of these is the ability to tap the potential of all citizens regardless of their gender, something we wrote about in the third issue of the year, "Europe Reaching for a Greener Future".

The full transition from a fossil fuel fired economy to an economy that is truly sustainable is one of, if not the, largest and most intimidating challenges humanity has ever faced. This magazine focuses on only one part of the world and its efforts, however it's a part of the world that in many ways encapsulates the necessary but painful tradeoffs between growth, security and long-term sustainability. We hope that this issue, Europe Reaching for a Greener Future, has been able to shed some light on the momentous changes that are taking place in Europe, as well as the changes that need to take place. To truly meet this challenge will require all the creativity, dynamism and resilience that are the hallmarks of free societies. The university in many ways embodies the qualities of innovation and free inquiry that are required to meet the challenge ahead. Lund University and its students will surely do its part in shaping a better future for Sweden and the world, as they have for centuries!

With that said, it has been an absolute pleasure to edit and manage THE PERSPECTIVE for these last months and we, Bahadir and Nicolas would like to sincerely thank all the readers and members of UPF for making this magazine what it is. We are most grateful however, to our wonderful writers, sub-editors and designers who have produced these great articles for all of you to enjoy. The editorial team has been fantastic all year, and we are sincerely grateful for all the hard work that they have put in. Thank you.

Bahadir Sirin & Nicolas Jendi Editors-in-Chief

PRESIDENT'S ADRESS

Dear members,

Once again, the academic year is coming towards its end, meaning our operational year is starting to come to an end as well. It feels just like yesterday when a year ago we were elected as the Presidents of the Association, and now our time at the helm is slowly coming to an end. We are incredibly happy and satisfied with the work that you, as members, have done throughout the year. We would like to once again thank you all, the members of the association, for having been with us during this year and for having made all of this possible.

Moreover, we would like to express our appreciation and gratitude. First of all, we want to thank our active members and members of the association. This year has truly been amazing, and it is all thanks to you. Without you, this association would not be what it is today. All the active members of committees, thank you for all your hard work in terms of the content you have created, the events that you have organized, and the planning that you have done. All the trustees in committees, thank you for putting in the extra work to make sure the committee is functioning effectively. Thank you to our debate coordinators, who have so incredibly been able to realize this completely new role that we have created for them in the association. Thank you to the nomination committee who has worked hard to find suitable candidates for next year's board, and thank you to the auditor for the valuable work she has been doing throughout the year.

Then our board. Thank you for all the wonderful work you have done, but especially, thank you for making our work in the association so much fun. This year has been truly so enjoyable for both of us, thanks to all of you wonderful people who surround us.

We would also like to extend a special thank you to all of our collaboration partners. Thank you to all our old collaboration partners, ACE, CMES, CFE, and RWI, for the wonderful collaborations we have had this operational year. We hope that our collaboration continues for a long time

and continues to be as fruitful as it always has been. We also want to give thanks to our new collaboration partners in SASNET and EST. We hope that these new partnerships continue and prosper for a long time to come.

As our time comes to an end and this will be the last time you will read our address in THE PERSPECTIVE, we hope that you all continue your memberships and remain active members of the association and that we will see you in the future, hopefully at the latest at the jubilee ball! With this said, we want to wish the best of luck to the next year's board and trustees. We are certain that you will do great work, and we look forward to seeing all the exciting things that you come up with and produce. Our sincere thanks to all who have made this year possible!



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ANNA POKORNÁ

Nucleophobia

Germany's Struggle with Atomic Energy



ANNA LEDRO / ANALYSIS

The anti-nuclear movement has a long history in Germany. Why is that? And how is this long-standing attitude affecting current decisions regarding Germany's energy policy in response to the war in Ukraine?

66A renaissance of nuclear energy". These are the words used by French president Emmanuel Macron when he announced the construction of 14 new nuclear power plants in early February. By 2050, six new generation EPR nuclear reactors are to be completed and eight others are to be discussed in France.

This is in line with Europe's contemporary stance on nuclear energy. One week before Macron's announcement, the European Commission announced that under certain conditions, gas and nuclear energy would be classified as sustainable in the future. This led to strong criticism in several European countries, including Germany who strongly opposed the classification of nuclear energy as sustainable.

Why is Germany so opposed to nuclear energy? Since the 1970s, there has been a strong and continuous anti-nuclear movement in Germany. Due to its persistence over time and the depth of the debate, the German historian Joachim Radkau describes it as the federal republic's biggest issue.

The first important public showcase of Germany's anti-nuclear movement was in 1975, when people protested against the building of a nuclear plant in Wyhl, a small municipality in southwestern Germany. The protest was mainly supported by local farmers and winemakers who feared that the nuclear plant might negatively affect their production. Their protest was successful: Wyhl's nuclear power plant was never built and today, the area is a nature reserve.

Other civil protests and political initiatives followed in the years to come. For example, in 1980, the Green Party was founded-a party that still today is clearly positioned against nuclear energy and is currently in the German government coalition. Radkau says that in his opinion, the reason for the persistence of the German anti-nuclear movement lies in Germany's traditionally close relationship with nature. This culture has proved a perfect breeding ground for environmentalist movements.

Another important event in the 1980s was the Chernobyl disaster. The radioactive cloud which formed after this incident sparked fears about radioactive contamination all over Europe and spurred further protests against nuclear energy. The mood underlying these protests is reflected in the following lines of a song by German singer and songwriter Wolf Maahn: Oh Chernobyl – the last signal before the overkill. Hey, Hey, stop the AKWs (AKW stands for "Atomkraftwerk" which means nuclear power plant in German). Over time, the anti-nuclear discourse shifted slightly from fear of disasters such as Chernobyl to concerns regarding the disposal of nuclear waste. In 1995, the first transport of nuclear waste from the nuclear power plant Philippsburg to the municipality of Gorleben in Lower Saxony took place. From that day on, Gorleben became a nuclear disposal site. This was accompanied by heavy protests, continuing up until last year when it was announced that the site will eventually be closed for geological reasons.

The rejection of nuclear energy grew continuously throughout the German population, until 2002 when it became the majority opinion in the German parliament. Under the chancellorship of Gerhard Schröder, the Atomic Energy Act was changed with the aim to completely withdraw from the use of nuclear energy. To achieve this, the maximum duration of a nuclear power plant was restricted to 32 years, and the building of new nuclear power plants was prohibited.

While in 2010, the maximum duration was extended again, due to the realization that nuclear energy will be needed as a bridging solution until a better alternative is found, the catastrophe in Fukushima in 2011 marked a turning point in Germany's policy on nuclear energy. Only one week after the disaster, the government of Angela Merkel decided to shut down all nuclear power plants that were developed before 1980. In the same year, the decision from 2010 was called off and the maximum durations decided in 2002 were reintroduced.

In the years that followed, Germany shut down almost all of its nuclear power plants. As of writing, only three are still operating and they are planned to be shut down by the end of 2022. However, the current war in Ukraine has changed the situation. While Europe imposed strict sanctions against Russia in sectors such as travel and finance, the supply of energy was not as affected. The German cabinet spokesman Steffen Hebestreit pointed out how for example, one third of the petroleum consumed in Germany originates from Russia –difficult to replace from one day to the next. Chancellor Olaf Scholz has also emphasized that energy from Russia is essential for the everyday life of German citizens.

To minimize this relationship of dependence and to ensure a safe energy supply despite the war in Ukraine, Bavaria's prime minister Markus Söder proposed prolonging the use of nuclear power plants. For the Green Party, this is a complex situation: their founding issue and cause is the anti-nuclear movement – and now they are asked to take a step in the opposite direction. A few days after Söder's proposal, the two Green ministers Robert Habeck (economy) and Steffi Lemke (environment) made a clear statement against this solution. Rather, they propose to increase focus on the supply of gas and coal and the expansion of renewable energies.

It has become clear that Germany, given its history with the anti-nuclear movement and the current role of the Green Party in the government, will not adopt similar measures to those of France anytime soon. While in previous years Germany's population also shared this opinion, recent surveys by the polling institute Civey show a growing acceptance for the reactivation of nuclear energy. One of the main reasons for this are worries about rising energy prices. This is something the current government will have to keep in mind regarding its decisions concerning the energy sector. Or, as Elon Musk put it in an interview with the German news outlet Welt in late March: "[It's] crazy that Germany is shutting down its nuclear power plants".

A History of False Starts

Italian Nuclear Power

ALESSANDRO MAFFEI / ANALYSIS

The history of nuclear power in Italy, as in many other places, has been driven by emotional and political reactions to various crises. The first civilian nuclear projects in Italy began in the 1960s. Immediately after the international meeting on peaceful consumption of nuclear power in 1955, Italy started planning for the use of nuclear power. Strong economic growth at the time facilitated the investments and allocation of resources needed.

By the middle of the century, Italy became a leader in the application of nuclear technology. In 1964 the world strongest nuclear power station was built in Trino, and in 1966, Italy became the third biggest global producer of nuclear power after the U.S. and the UK. Still, the contribution of nuclear power, which was still a growing sector, was only a small portion of national energy consumption and Italy had, in total, four nuclear power stations.

A turning point in the use of Italian nuclear power came in 1973. Historically, Italy had had strong relations with the oil producing Arab countries in the middle east. Nevertheless, this did not save Italy from the repercussions of the 1973 Oil Crisis, precipitated by the oil embargo introduced by oil exporting Arab countries, which shook the nation both culturally and economically. The use of cars had become a status symbol, emblematic of the "Italian economic miracle" and reconstruction after World War II. Economically, the reduction of the oil supply would deeply affect Italian industry, in which the automotive sector was one of the most important (FIAT alone had almost 200.000 workers). The Oil Crisis pushed Italian politics to look for alternatives. Like in France, nuclear power attracted the attention of policymakers. In December 1973, the Piano Energetico Nazionale (National Energy Plan, PEN), responsible for funding the construction of nuclear power stations, was approved.

The program quickly ran into popular opposition. Harsh protests led the government to write a second (and reduced) PEN in 1977. The authorization to start the construction of the first nuclear power station (Montalto di Castro, Viterbo) took place in 1979, coinciding with the nuclear incident on Three Mile Island in the U.S. a few weeks later. The incident was internationally influential and consolidated popular opposition to the project. In 1982, the nuclear station of Sessa Aurunca was closed for economic (high costs of restructuring) and political reasons. The incident further entrenched opposition to nuclear power.

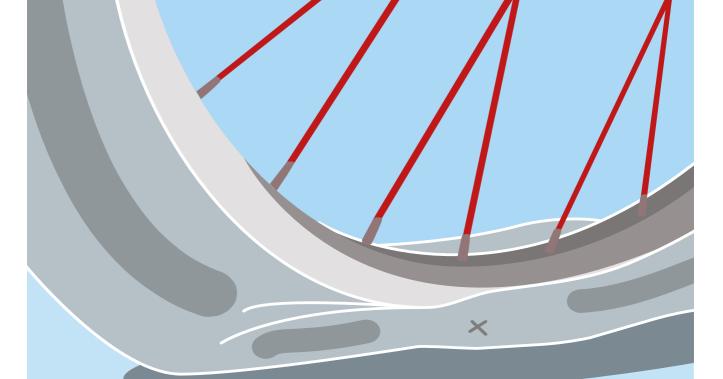
Popular skepticism was reinforced and compounded later in the decade by the 1986 catastrophe in Chernobyl. In reaction to the tragedy, a referendum on nuclear power was organized, and 80 percent of the voters supported a reform, obliging the central government to negotiate and acquire the consent of local authorities before creating new nuclear power stations. Until this reform, if there was no agreement the central committee could intervene choosing the site according to national interest.. The results of the referendum were interpreted as a vote against the energy source. In 1990, the remainder of the nuclear plants were shut down. A consequence of this momentous decision has been continued investment in and dependence on fossil fuels.

Nevertheless, this was not the end of the nuclear debate in Italy. After the increase in oil prices between 2008 and 2011, the government of Silvio Berlusconi restarted investment in nuclear power. The officially stated goal of the government was to produce 25% of energy through nuclear plants, and 25% through renewables. In the same period, Italy signed agreements with both France and the U.S. in order to receive support for building nuclear power plants. A referendum on the nuclear program was scheduled for the beginning of June 2011. However, history intervened once more. On the 11th of March 2011 the Tohoku tsunami caused a meltdown of the Fukushima Daiichi nuclear power plant in Fukushima, Japan. The accident doomed the efforts of the government to reintroduce nuclear power. The Berlusconi administration temporarily interrupted the nuclear program, in order to collect new information about the reliability and safety of nuclear plants. The Constitutional Court however did not cancel the referendum, which instead became a referendum on the possibility of restarting the program after the governmental inquiry into the safety of nuclear power. In June 2011, 54 percent of the electorate voted in the referendum, with 94 percent of them voting against nuclear power, closing the nuclear program of Berlusconi's administration.

" By the middle of the century, Italy became a leader in the application of nuclear technology. In 1966, Italy became the third biggest global producer of nuclear power after the U.S. and the UK."

The party politics of the Italian nuclear debate are somewhat peculiar compared to other European democracies.While the nuclear program was championed by the center-right Berlusconi government, the referendum of 1987 was promoted by the Partito Radicale, which is the correspondent of liberal parties in other European countries (e.g., FDP in Germany). This is interesting, because liberal parties tend to be more favorable to nuclear plants than parties on the left. Despite this, there are still some strong niches of center and center-right parties that support nuclear plants.

Finally, the new Minister of Ecological Transition, Cingolani, is a strong supporter of nuclear power. Despite his stance, it seems doubtful that the government will have the will and capacity to reopen the debate. Italian public opinion seems almost unanimously opposed to nuclear power. However the twin imperatives of war in Europe and climate change seem to signal that Italy cannot continue on its current path. Although the debate on nuclear energy seems to have reached a dead end, fate has a history of intervening.



Puncturing Your Own Tires

How not to Succeed in the Green Energy Transition

FELICITAS SCHULZE-STEINEN / ANALYSIS

Treaties are binding and static. Since we identify with the rule of law, we generally deem this to be a good feature. Climate change, however, is dynamic and requires adaptive measures. The Energy Charter Treaty is a prime example of how climate action has been held back by an outdated agreement that has cost EU countries billions of euros. How did this treaty become a key obstacle to the clean energy transition? And is the treaty now doomed to fail?

The Energy Charter Treaty is an international agreement governing cross border cooperation in energy. When policymakers signed the agreement in 1994, they probably didn't anticipate the burden brought by 140 currently pending or closed dispute settlements. Back then, they aimed at integrating former socialist countries and promoting market economies. The treaty was also a gateway to affordable and geographically close sources of energy, protecting investments in non-EU countries and facilitating investment flows. Its popularity is reflected by the large number of member countries: nowadays, the treaty is active in 52 countries, comprising all EU member states except for Italy, several other OECD countries (Iceland, Japan, Liechtenstein, UK, Switzerland and Turkey), former socialist countries and soviet republics (excluding Russia) and Afghanistan, Yemen and Jordan. Even though the treaty breaks the geographical boundaries of Europe, the disputes that invoke the protection of energy investments covered by the Energy Charter Treaty turn out to be quite a European problem: nine out of ten disputes involve only EU investors. However, disputes are omnipresent in the business world – so what's the fuss about?

Many energy companies that file a request for arbitration refer to their losses incurred by divesting from fossil fuels. They strive to receive compensation from their counterparties (mostly governments) which have passed climate-friendly policies detrimental to fossil fuels. And instead of dampening the claimants' chances of winning, the Energy Charter Treaty backs up their claims. The arbitration procedures ultimately cost 110 million euros on average, with an additional 4.5 million euros of arbitration and legal fees. According to the multinational journalist network Investigate Europe, sixty percent of tribunal decisions incline towards the interests of energy investors and the accused governments, ultimately the taxpayers, lose a lot of money. All of this happens in times of soaring government debt and great financing gaps regarding climate change and lately also COVID-19. In other words: money is deprived from fields that already lack financing and on top of that, the disputes slow down efforts to transform our economies and societies.

The case of Vattenfall vs. Germany illustrates this matter well. The Swedish state-owned power company sued the German government for compensation in 2011. After the Fukushima nuclear disaster, Germany decided to phase out nuclear energy, which affected Vattenfall's two German nuclear power plants. After a long process of international investment arbitration, Vattenfall ultimately claimed 1.6 billion euros of compensation.

Since then, further disputes between other companies and governments have been settled. At stake is the entirety of fossil fuel infrastructure in Europe. One reference point for calculating compensation amounts to more than 344 billion euros, exceeding two years of the European Commission's total spending. According to Investigate Europe, the process of determining the compensation amount often bases on untraceable assumptions of future earnings, which sometimes results in compensations that exceed initial investments. Apart from matters of compensation, lack of transparency characterizes the overall disputes: the negotiations are held at arbitral tribunals. More than half of all fossil fuel cases negotiated are confidential and no documents are made public.

How have member states reacted to this outdated damper on climate action so far? Reactions have diverged: either the ECT has played in favor of the respective country's economic interests or the respective country has condemned itself for ever having agreed to the treaty, but has done little about it – uniformly agreeing to changing the treaty's provisions seems unrealistic anyway. Finally, there have been countries like Italy that withdrew from the treaty in 2016. At first sight, this seems like a quick fix. However, the survival clause of Article 47 ties Italy's investments that have been in place in 2016 to the treaty until 2036. The exceptionally long withdrawal period of twenty years has prolonged the risk of being involved in disputes decisively and has made climate-change goals of the Paris Agreement retreat into the distance.

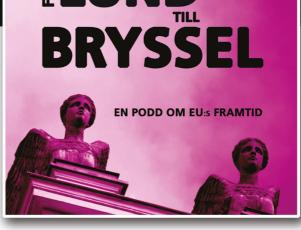


Spanish Environment and Energy Minister Teresa Ribera. Spain also considers an exit scenario, as it did not see how the Energy Charter Treaty could be adapted to the Paris Agreement.

These appalling circumstances incentivized renegotiation efforts and public pressure, culminating in a major milestone that occurred in September 2021: the European Court of Justice ruled that EU energy companies could no longer sue EU governments on the basis of the ECT. Even though non-EU member countries might see themselves as not bound to this verdict, it slashes the majority of intra-EU disputes. Soon, the treaty will be a ghost of the past that doesn't impede climate action. It now comes down to how seriously we actually take our ambitious goal of achieving climate-neutrality.



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Winter is Coming

Europe Braces for a Future without Russian Energy



KETRIN JOCHECOVÁ / ANALYSIS

The Russian invasion has transformed the geopolitical order in the world and brought the burning question of European gas dependency with it. Besides the actual aspects of the war, every European ought to ask themselves the same question: How will we heat our homes without Russian gas when winter comes?

On 8 March, the European Union presented an ambitious plan christened "REPower EU" to reduce the current 40% gas dependency on Russia by two-thirds before the end of the year. This proposal makes up a part of the wider plan to end reliance on all Russian fossil fuels well before 2030 by diversifying gas supplies via LNG and pipeline imports from alternative suppliers, increasing the production of biogas, switching to renewables and hydrogen, and reducing faster the use of fossil fuels. It also addresses the energy prices that have been rising over the past few months and skyrocketing since the Russian invasion. Most importantly for this winter, the Commission will make it mandatory for EU member states to have 90% gas stocks capacity by autumn, up from the current 30%.

The plan that has been at the back of EU officials' heads at least since the annexation of Crimea in 2014 has been hastened by Russia launching a full-scale attack on Ukraine this February. The EU allowed itself to be too dependent and too vulnerable—something that energy experts had warned about for years. Baltic countries, traditionally dependent on Russian gas from the Soviet era, had planned to synchronize their grids with the rest of Europe via Poland by 2025. Germany, on the other hand, was planning to launch the controversial Nord Stream 2 pipeline and as a result, deepen its Russian-gas dependency. After the invasion however, the fundamental differences that kept the EU countries divided disappeared. Right now, Europe is united like never before—and it is prepared to get rid of Russian gas once and for all.

This determination is without a doubt important and represents a correct reaction to the war, however, it cannot only be temporary. Whether the current Russo-Ukrainian war goes from a hot war to a latent conflict, it should not matter for the EU's plans to end the dependency on Russian gas. Germany, for example, should not go back to making Nord Stream 2 its fall-back option once Russia stops bombing Ukrainian cities. Such an act would indirectly go against fundamental European values. The EU would make a big mistake if it were to adopt the "business as usual" approach after the end of the war once again.

However, the EU also needs to think further into the future. How wise is it to replace Russian gas with sources from other countriesespecially those that are undemocratic and could eventually represent the same problem that Russia does now, like Saudi Arabia or Qatar? It should be noted that these countries are very well aware of the fact that Europe is in a tricky position right now and cannot afford to be as picky as it normally would. The EU claims that switching to a non-Russian supplier is a short-term solution, while the long-term one is doubling down on greener energy sources. However, how do we measure short-term and long-term, and do these plans ever work out as they should? When we look at the case of Germany-known as a leader in the green transition-considering a U-turn on its coal and nuclear policies, there are some causes for concern. Switching between energy sources cannot be done overnight. Germany already announced it will push ahead with two new LNG terminals, which could lock it into fossil fuels for at least a few years. This risk is even higher for coal-fired and nuclear power plants, and given the building costs, countries that decide to take this path can be expected to stick with these systems for longer than deemed sustainable.

Another issue to be concerned with is that not all EU member countries can cut off Russian gas simply, even if they want to. Two examples are the Czech Republic and Latvia, with their 100% dependency on Russian gas, making them the two most dependent and, therefore, most vulnerable countries in the EU. The attitudes towards Russia were fundamentally different between Latvia and the Czech Republic before the invasion. As already mentioned, the Baltic countries have gradually planned to diminish their dependence on Russian gas. Therefore, it did not come as a surprise when Lithuania stopped buying Russian gas as the first country in the EU. But Lithuania, unlike Latvia, has its own LNG terminal, which made it easier to arrive at this decision. Latvia announced that it will cease using Russian gas as of April 2023 with the help of Lithuania and Finland to replace the missing imports before it builds its own LNG terminal. Yet, as in Czechia, immediately abandoning the Russian gas is impossible.

"This determination is without a doubt important and represents a correct reaction to the war however, it cannot only be temporary"

A similar situation goes for Russian oil, where some of the countries call for an exception period to the planned EU embargo. However, here, another problem has to be dealt with: Hungary's continuous refusal to agree to the embargo despite being offered an exception until the end of 2024. Since this is not the first time when one country blocks the consensus, it seems like we are facing a systemic problem bypassing the current crisis. An important question to discuss, therefore, is: Should the EU end its unanimity on foreign policy?

The above mentioned risks do not seem to be addressed in the REPower EU plan, despite the fact that a return to coal and nuclear would be a step back from meeting the European Green Deal objectives. Nevertheless, there does not seem to be another solution at this moment: the EU must act to reduce gas dependency on Russia, and it will have to deal with the consequences later. But it should be aware that a short-term plan can turn into a long-term arrangement, and being dependent on partners other than Russia can also backfire.

Fossil Free Europe

Calling for an Autonomous Future

ANDERS ÅKERBLOM / OPINION

E urope has been addicted to Russian gas for too long. Many EU countries, not in the least Germany, have reduced their capacity for local energy procurement and lack a diversity of sources, favoring pipelines pumping Russian energy (see: The Perspective #1/2022, The Advent of Multipolarity, Two-Tiered Diplomacy). While the green energy transition still holds promise, the continent remains far too dependent on dirty oil and gas, making any significant transition unlikely for now.

The Russian invasion of Ukraine highlights an ugly truth about the West's culpability in Putin's warmongering. Europe's gas addiction has indirectly been bankrolling his current war efforts and the war crimes being committed in Ukraine.

While the West has shown an unusually united front in the face of Putin's threats, this may not continue to be the case if the war drags on. Due to a combination of Russian military failures, poor planning and determined resistance from brave Ukrainian leaders and citizens, a swift ending to the war seems unlikely for now.

Meeting in Brussels in March, the EU and U.S. decided on a new transatlantic task-force aimed at weaning Europe off of Russian gas. Under this agreement the Biden administration, working with allies, promised the EU an additional 15 billion cubic meters of liquified natural gas (LNG) in 2022. Liquefying natural gas negates the need for transport through pipelines, thereby enabling more fluidity in the trade. Natural gas also has a lower carbon output than refined oil. Satisfying the needs of Europeans will not be an easy task however, seeing that Russia accounted for roughly 45 percent of the EU's gas imports in 2021.

To put this into perspective, Russia's pipeline exports to the bloc are equivalent to roughly one third of global LNG trade as of 2021. If this were to be replaced, 275bcm (billion cubic meters) of LNG based on the balance in 2021 would be required to make up for the loss, representing about 53 percent of global LNG trade. And that is not all, as the loss of Russian LNG would need to be replaced, too. In theory this could be made up for on the global spot market, where roughly 30 percent of LNG is traded, the remaining being reserved for buyers with long-term contracts. However this would likely further undermine public opinion in the stance against Russian oil, as households would bear the brunt of record-high prices, potentially undermining the effort of EU members to maintain a collective stance against Russia. Nevertheless the EU, even at maximum capacity, only has sufficient infrastructure for a spare capacity amounting to half that of imported Russian pipeline gas.

These difficulties should not serve as a justifi-

cation for continued inaction and alignment with states that disregard human rights and commit war crimes. Rather, they should serve as a reminder that a continent can not remain susceptible to blackmail and dependent on the whims of one man.

"Europe will be forged in crises and will be the sum of the solutions adopted for those crises" said Jean Monnet, one of the pioneers of the European experiment. The initial optimism echoed by the deployment of NGEU for the green energy transition (see: The Perspective #4, Yesterday's Politics, Today's Challenges, NextGenerationEU is the First of its Kind) seems disheartened: a study published in late 2021 concluded that the EU at its current pace would miss its climate goals for 2030 by 21 years. But now, if any, is the right time to invest even more heavily in the EU's transition to greener energy.

Nuclear accidents, while rare, have been very influential. The technology has been branded as risky in many voters' eyes, leading to a decline in the nuclear share of global electricity production from 17.5 percent in 1996 to 10.1 percent in 2020. In addition to this, there are the prohibitively costly entry barriers. Small modular nuclear reactors or SMRs hold promise in this regard. In February 2022 the European Union proposed including nuclear energy in its sustainable finance taxonomy. Amid the invasion of Ukraine, soaring fossil-fuel prices, and climate concerns, a zero-carbon alternative with the potential to strengthen energy security in the EU and stop payments to the Kremlin looks attractive.

As opposed to their larger counterparts, SMRs are intended to allow for mass production in factories, utilizing economies of scale. This brings with it the potential benefit of keeping costs low, making them less financially risky and the payback-time shorter, allowing for a wider array of financiers to back such projects. Several SMRs are currently being worked on worldwide, and one of the leading manufacturers, Rolls-Royce, have several that are set to come online in early 2030. These are expected to cost 2.4 billion USD a piece before falling later on, produce 0.47gw and take four years to build. Contrast this to the larger while also modular nuclear power plant, Hinkley point C, under construction in Great Britain. The plant may end up costing around 30.1 billion USD and is set for a delayed opening in June 2026. Still, upon completion the estimated output of 3.2gw will be enough to power roughly 1/10 of Britain's energy demand during summer.

"To put this into perspective, Russia's pipeline exports to the bloc are equivalent to roughly one third of global LNG trade as of 2021."

Nuclear energy may serve to decarbonise the world and complement other sustainable energy sources, such as wind and solar, the cost of which continues to fall. SMRs have the advantage over more traditional forms of nuclear energy in that they are less expensive and time-consuming. For a rapid transition, and replacement of older reactors, this is good news. By being able to run without external constraints, they also alleviate some of the symptoms of a more concentrated and environmentally oriented supply chain.

Opening the Faucet

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Financing the Great Energy Transition

strated by Alina Mãdãlina Dumea

FELICITAS SCHULZE-STEINEN / INTERVIEW

7hile climate change is an immensely complicated phenomenon, one thing is fairly clear: solving the problem will require investing a great deal of money. The European energy sector alone requires investments of about 379 billion euros yearly, until 2030. On a global level, the International Energy Agency estimates that energy expenses will stay consistent between 2019 and 2030, however, the share of clean-energy expenses is likely to increase by around 70% for the same period. Even though this shift towards renewables seems promising at first sight, this is equivalent to only about half of the investments required to reach net zero by mid-century. Hence, even though sustainable finance is becoming mainstream, the investment gap is enormous. Who must take the effort to close this gap, and how?

There are multiple actors on the sustainable finance market. On the one hand, there are receivers of capital such as companies, governments, municipalities and international organizations that aim at receiving money for "green" purposes. On the other, there are investors like banks, asset managers and pension funds that seek suitable investments. While complying with targets like reducing risk and retaining returns, they now also strive for a meaningful impact. It is up to financial intermediaries like banks to connect these two parties and facilitate the investment. Information transmitted by capital markets, guidelines set by regulators

and policymakers and the review of external rating agencies guide investors into aligning their financing strategy with sustainability targets.

Stella Mylläri, sustainable finance advisor at Nordea Bank Denmark, says it is a complex task to identify the companies that require the most financing: "I would first look for the largest carbon emitters within different sectors. And then it also depends on the readiness of the sector. Within the energy sector, there have been a lot of developments regarding different technologies. Ultimately, you want to fund the sectors that are large carbon emitters, but fund for example R&D and that thereby enable the green transition." The "financial ecosystem" must work together to identify suitable companies and thereafter channel financial resources towards these key green technologies and the extension of their grid infrastructure and storage technologies.

Meanwhile, it is vital to lower the investment costs of renewables while at the same time making the investments in fossil energy sources less attractive. Renewable energy technologies are capital intensive (even though they are comparatively cheap in maintenance once they operate), meaning that they require a large upfront investment. Moreover, they are more sensitive to a change of financing costs than fossil fuels. In this regard, investing parties that took up loans benefited from low interest rates to finance their endeavors in the past years. However, if interest rates rise – which is a likely prospect in current times of increasing inflation – the financial leeway might be tightened.

However, loans are not the only source of financing: Capital markets like the stock and bond markets come to the fore, although overviewing the diversity of green financial products offered and traded on these markets isn't easy. Depending on the needs and profile, investors can choose between a wide range of products, and terms like "green bonds", "sustainability-linked bonds", "green loans", "grants" and "blended finance products" come into play.



Wind turbines require a large amount of investment. A commercial average-sized wind turbine (2 megawatts) costs about $\notin 2.4-4$ million.

"Renewable energy technologies are capital intensive,meaning that they require a large upfront investment."

Frameworks and taxonomies like the EU taxonomy from 2020 serve as guidelines to pin down these products. Experts such as Mylläri can aid in understanding this complex sector: "In sustainable finance we differentiate between two different formats. First, the use-of-proceeds format includes predefined project assets or capital expenditures that are either "green", "social" or a combination of these two, which is denoted by the term "sustainable". And second, there is the sustainability-linked format. Compared to use of proceeds, there is an enhanced incentive structure based on predefined targets on a whole company level. This enables a larger crowd of issuers to enter this field, given that the sophistication is less far-reaching. However, for both formats companies amongst others must have an established sustainability strategy and a credible historical performance. Hence, for a company reliant on conventional energy sources, storytelling and having a transition plan in place are essential."

Ultimately, to embrace the change, government action is crucial. Apart from demand from the investor base, the transition ambitions of governments are decisive. "It depends on the governments' structures and how much they are involved", Mylläri assesses



Concentrated solal power (CSP) is one of the most expensive renewable energy infrastructures.

the role model of Scandinavia: "All Nordic countries have net-zero targets, which keep on becoming more and more ambitious." Investors rely on these policy and regulatory frameworks, which enable planning certainty.

Moreover, governments can push technologies that are not yet scalable for example by providing subsidies in the short-term. This measure however, is controversial having in mind that the major target should be to secure fair marketplaces, at least in the long-term. Further, incentives in disfavor of fossil fuels like carbon taxes have been introduced in numerous European countries. Even though mechanisms of measures are congruent with the net-zero emission target, they might cause adverse short-term effects on employment and prices.

Policy must tackle the consequent danger of social discord and ensure a fair distribution of the burden, especially in a world disturbed by a pandemic, war and an economic slowdown. And also, there is a need to overcome loopholes that provide scope for misuse and even fraud. A lack of data as well as diverging standards and monitoring mechanisms can cause inconsistencies when managing green financial products. This raises the likelihood of greenwashing, the practice of misleading investors and consumers into believing that a product or project is more environmentally friendly than it really is.

Being aware of the complexity of climate change and the green transition and the task of financing it might seem overwhelming and appear to be beyond anyone's power. However in the end, large players alone will not determine whether the shift is successful. On the contrary, local and regional communities can benefit from the declining entry barriers to financing induced by market liberalization, digitization and the declining prices and costs of renewables. FinTechs and communitybased concepts like crowdfunding promise green impact at a relatively low cost for the individual, and regional banks are happy to discuss the financing of a solar panel on your own roof!



Centre for Advanced Middle Eastern Studies

The Centre for Advanced Middle Eastern Studies (CMES) supports, creates, and coordinates multidisciplinary research on the Middle East at LU.

Upcoming events:

June 9 (13:15-14:30): CMES Research Seminar with Emma Sundkvist "Law, Language and Space Making – Three Dimensions of Human Rights in Egyptian Feminist Activism Post-2011" (at CMES and on Zoom)

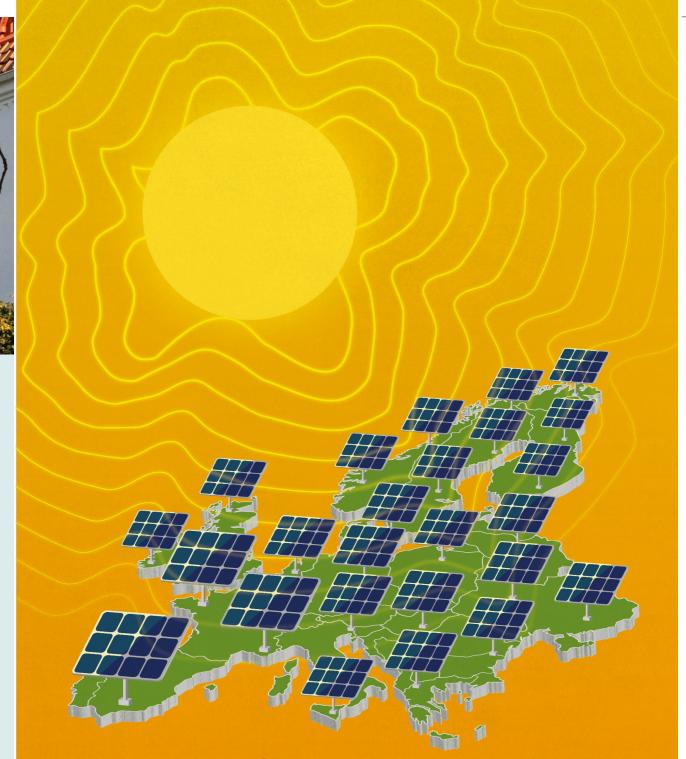
July 6 (11:15-12:15): CMES in Almedalen with Cecilia Uddén, Dalia Abdelhady, Rouzbeh Parsi, Isabell Schierenbeck, and Karin Aggestam "Demokratispaning i Mellanöstern" (in Visby, Gotland)

July 6 (13:45-14:45): CMES in Almedalen with Charlotta Sparre, Emma Sundkvist, Joel Abdelmoez, Marie Wikström and Karin Aggestam "Jämställd fred i Mellanöstern – är det möjligt?" (in Visby, Gotland)









Between Science and Policy

Scaling up Renewables in Europe

MICKOL ZUBRICKAITE / INTERVIEW

Editor's note: This interview has been lightly edited for clarity and length.

A modern industrial economy has an enormous need for energy. Today, renewables and energy efficiency are even more in our minds due to the current war in Ukraine and the apparent need to achieve European energy autonomy.

THE PERSPECTIVE has interviewed Dr. Heinz Ossenbrink, a passionate scientist who managed to bridge scientific evidence and policy making. He has a PhD in Physics from the Hahn Meitner Institute and has worked for the European Commission's Joint Research Centre (JRC) since 1982, where he initiated activity on photovoltaics when Europe started its research and pilot programme on solar energy. In 1995, he became Head of the Unit for Energy Efficiency and Renewables. His team worked on the energy class labelling to make consumers aware of energy consumption and efficiency. His scientific publications are highly cited, and he serves as chair of numerous international scientific committees and conferences. He is now retired but is still active and participates in numerous international endeavours.

Could you tell us about the journey of promoting solar and renewable energy in Europe? What were the main challenges faced in creating new European renewable energy policies? I started my career in nuclear physics but changed my direction a few years following the publication of the book "The limits of growth". It triggered thinking about a need for a new direction across the globe.

My job at the JRC was to supervise the technology behind the first 15 solar photovoltaic installations in Europe. In a remarkable show of foresight, in 1980 the European Commission financed the photovoltaic pilot programme and I had to design procedures to ensure that this wouldn't become a waste of money.

At that time, photovoltaic solar cells were produced mainly in the U.S. but the European programme allowed investments pilot in research and development. The pilot installations were deployed in all of the then 10 member states and were powering dairy farms, lighthouses, airport illumination, small villages, TV transmitters and even hydrogen production. It was shown in each country that PV actually works and can provide electricity services on a larger scale. At that time, technical experts and small seed businesses and owners of production facilities were in frequent contact, knew each other, and created an idea-driven environment through the establishment of conferences on photovoltaic science and technology.

The scepticism on solar energy potential

turned into a somewhat competitive situation among existing conventional nuclear and fossil fuel production sources. I lived through all kinds of lobbyists' arguments, like renewables being dangerous for birds that could be killed by wind turbines or affected by the sun's reflection on solar panel arrays during their seasonal migration. The cost argument was their strongest, and they were quick to declare all public efforts to finance renewables as a tremendous waste of money.

These obstacles did have an impact on our work at the JRC. As a European institution, the R&D programme was scrutinised by all member states. Rigorous analysis and useful technical support helped us to continue our activities. I can only say that a rigorous and independent scientific analysis can help policymakers make the right decisions, and I am happy to have contributed with my small part. When I started, the yearly PV production was about 5 MW per year; today, this quantity is produced in 15 minutes. It's a clear success of renewable uptake.

Cambridge Forum for Sustainability and the Environment



Dr. Heinz Ossenbrink, Heshas worked for the European Commission's Joint Research Centre (JRC) since 1982

"The way to reconcile science and policy is for scientists to communicate clearly, and adapt to policy-making needs."

How did you manage to navigate between science and policy? Do both always go along, and if not, what was your recipe to reconcile diverging views and expectations?

Science and policy are not easy partners. The policy is more about "believing" in values, and the policymaker often works along with the expectations that the public considers to have. In science, you believe only when it is proven, ideally by more than one scientist or scientific group. The policy is complex because it encompasses a broad spectrum, whereas science is often very specialised and complicated, requiring particular skills, tools and methods and overall robust quality standards.

The JRC is a unique place, as it is dedicated to making "Science for the Policymaker". Often this can be deeply frustrating when scientific knowledge is not reflected in the policy process.

The way to reconcile science and policy is for scientists to communicate clearly, and adapt to policy-making needs. When the policymaker asks, "Is it good or bad" you cannot just reply, "depends". Not everything that scientifically makes perfect sense can be cast in a legal text. Knowing this, as a scientist at the JRC, you can be as close to the policy process as possible. It's possible to accompany the policy-making process through different stages by providing rigorous and independent scientific knowledge in a comprehensible manner. "I lived through all kinds of lobbyists' arguments, like renewables being dangerous for birds that could be killed by wind turbines or affected by the sun's reflection on solar panel arrays during their seasonal migration."

Could we call Europe a global champion of solar/renewables? Is Europe a global leader in the field? And is Europe ready to achieve energy independence?

Europe is undoubtedly a champion in campaigning the fight against climate catastrophe. However, Europe is not fast in the decision process and often hesitates about risky decisions. Europe is now under pressure to become more independent of imports from Russia; this will be a significant push for renewables and the forces to meet the goal of global warming well below 2 degrees. It requires a strong push for renewables which seems now possible due to changing political circumstances.

What is needed to make European solar and renewable companies globally competitive?

The knowledge base in Europe is certainly still available. However, due to market positions lost to China, the PV sector would need to receive considerable investment into large factories, each at least with the capacity of the largest Chinese factory. This investment needs a European client to ensure sales for the first three years, for instance, the electric car industry promoting actual zeroemission electric vehicles. Also, the multibillion investment must be secured by public development banks, such as the European Investment Bank. Solar Power Europe is an exemplary alliance of 260 members from across Europe representing the entire solar value chain.

What are other promising fields for innovation that offer the opportunities to improve the use of renewables in Europe, which we could adapt?

As one promising field for innovation, I see the development of intelligent control systems, which autonomously decide where produced renewable energy goes. It would send, for instance, solar electricity to the grid if prices at the electricity exchange are low, store it locally to be sold later at higher prices, or make it available for local use, like for washing machines or specific industrial processes. There is a lot to come with artificial intelligence and machine learning with the potential of solving the problem of matching generation, storage, additional supply like from biomass and waste, hydrogen conversion with the complex demand profiles of households, industries and electrical transport.

The work of Dr. Ossenbrink shows the depth of the roots of renewable energy, and highlights the benefits of long term public research. As well as what can be made possible through effective cooperation between the academic, private and public sectors.



Keeping Up with Europe

Energy Transition in the Balkans

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CLARA FALKENEK / OPINION

The winds of change have started to permeate the Western Balkans' highly coal-dependent and outdated energy sector. Like in many countries, phasing out cheap and culturally significant coal power has proved difficult in the Western Balkans. Being outside of Brussels' regulatory power has made coal power an extremely profitable export as the plants are under the European environmental standards and have since long been amortized. Many Balkan countries have been able to export coal power with great profit.

However, that is about to change. As the EU aims to reach climate neutrality by 2050, the European Commission plans to tax imports that have not undergone carbon pricing through the Carbon Border Adjustment Mechanism (CBAM). The CBAM is a carbon price adjuster for EU imports which put a carbon price on imported goods equal to that set inside the union, basically taxing imports that have not paid a high enough carbon price where it was produced. As the CBAM is implemented in the EU, the Western Balkans' profit on their energy exports are set to suffer as they are not part of the EU Emissions Trading System (ETS). The ETS sets a cap for all greenhouse emissions that are allowed to be emitted in the region and then acts as a marketplace where actors compete for the right to emit. Might this be a way to incentivize the region to leave coal behind and even get many of the Balkan countries closer to EU accession through energy market integration?

For a long time, the Western Balkans' path to EU membership and integration has been a game of carrot and stick. The Western Balkan 6 (or WB6) includes the countries of Albania, North Macedonia, Montenegro, Serbia, Bosnia and Herzegovina, and Kosovo. They are all candidate, or potential candidate countries to the EU and have for more than a decade been in EU membership once they are able to apply EU legislation, the EU Acquis. Alignment with EU Environmental and Energy law has proved challenging for the countries of the Western Balkans, even more as the EU accelerates its goal of climate neutrality. The Western Balkans rely on coal for 70 percent of their electricity. Worse is, the 16 thermal power plants in the six countries in the Western Balkans emit as much hazardous gas as 250 thermal plants in the EU because of a lack of filters. The disparity between the EU and the Western Balkan energy sector is painfully evident.

With the implementation of the EU border tax on carbon through the CBAM Balkan, coal producers will no longer be able to make a profit through low environmental standards when selling to the EU. This is likely to compel the WB6 to abate the disparity between the energy markets, as there will be no profit incentive to maintain power plants rapidly approaching obsolescence. This has already manifested in the WB6 signing of the Sofia Declaration on the Green Agenda for the Western Balkans in 2020 which aims for the WB6 countries to align with the EU goal to be climate neutral by 2050. This can incentivize the Western Balkans to conduct carbon pricing and accelerate the green transition not to pay the carbon border tax for its exports to the European Union. So far, progress on energy transition is very different in the Western Balkan countries, even though they are under the same regulatory umbrella.

In countries with very strong coal power industries, such as Serbia and Bosnia Herzegovina, socioeconomic factors are limiting the political capital that politicians and leaders spend on a green energy transition. The coal sector is still a vital source for industrial development and employs many workers in the region. Governments fear social upheaval that could come from higher electricity prices from carbon pricing. Therefore they aim to utilize the coal power plants as long as possible to sustain cheap electricity as well as jobs in coal mining regions. Serbia and Bosnia Herzegovina have even tried to build new coal power plants with funding from China, and the U.S. These deals have not been successful, nevertheless as infringement cases have kept the countries from receiving such foreign state funding. Yet, the attempts to expand the coal industry demonstrate the difficulty of energy transition in some Balkan countries

For others, the fact that the power plants in the Balkans are outdated is a factor in their phaseout. North Macedonia, for example, aims to phase out coal by 2030 as many of its coal plants are set to be decommissioned by 2027. Evidently, North Macedonia and Montenegro are faring better in their implementation, whereas Serbia and Bosnia, and Herzegovina are lagging behind. It's possible that the countries' different levels of, to some extent, energy transition are highly correlated with their respective popular support for EU accession, which is high in North Macedonia and low in Serbia.

"The Western Balkans rely on coal for 70 percent of their electricity."

Not awarding countries such as North Macedonia and Montenegro for their progress in green energy transition with progress on their EU accession status would be harmful. These countries have already suffered the consequences of so-called "Enlargement Fatigue" (EU members exhibiting unwillingness to admit new member states) and being denied membership talks, despite meeting all of the EU's demands. This risks the WB6 countries changing their energy production for the sake of EU accession, despite the fact that membership is unlikely to happen anytime soon. The EU needs to be trustworthy in its claim that candidate countries that align with the union's energy legislation and climate goals (as well as the rest of the EU Acquis) will be rewarded in terms of accession advancement. Or else there is a possibility that the Western Balkans will continue to rely on environmentally hazardous energy sources in the near future.

To help the Western Balkan countries transition to renewable energy sources and prove that there is a carrot to the stick, the EU needs to let countries such as North Macedonia join the ETS, thereby preventing them from a third country status in CBAM.



Kolubara coal mine, Serbia. The coal sector still employs a considerable amount of people in Serbia.

Candidate countries committed to fulfilling the EU law should be integrated into the European energy system and market, both to make the European accession strategy credible and to limit excessive pollution in the Western Balkans. Carbon pricing through the ETS would make energy in the Western Balkans more expensive as they compete with all actors on the European market for carbon emission rights. However, this would offset the price that they would have to pay in a carbon tax under the CBAM if not part of the ETS when exporting to the EU.

To facilitate the process of Western Balkan countries joining the ETS and integrating into the single European energy market, comprehensive technical market solutions are needed. The energy markets are underdeveloped in Western Balkans. This makes energy production inefficient as there is little planning in how much energy will be utilized and bought, often leading to overproduction. To plan energy production, markets integrated with Day-ahead neighboring and EU countries are needed, where producers and users buy and sell energy a day ahead of delivery at a binding price. Dayahead markets where energy users purchase their expected energy needs for the coming day will allow for producers to produce only as much as has been bought the day before and not produce excess energy as is the case without day-ahead planning. This practice provides predictability and cost-efficiency - both things that investors like. With such a market solution, funding for new renewable energy plans in the Western Balkans could be expected to increase.

The EU's ambition to be climate neutral by 2050 is pushing the Western Balkans to transition into renewable energy as coal's profitability is expected to plummet as the CBAM is implemented. However, the European Union does also need to make good on its agreement with the Balkan candidate countries to reward them in the accession process as progress toward fulfilling the EU Acquis is made. In terms of the energy transition, that means helping the countries integrate into the EU energy market and into ETS so as not to be treated as a third country in CBAM. If not, EU enlargement policy may never again be trusted.

Eastern Europe Calls for Energy Independence

Will Brussels Answer?

Krakos



BUDAPEST Győr

MOLDOVA Cluj-Napoca

U K

Dnieste

Ruse

ara Zagora

ULGARI

O

Constant

Varna

Burgas

CHIŞINĂL

ROMANIA HUNGARY Braşov

LAGREB

RAJEVO #

BOSNIA &

Lastal

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SERBIA

05050

BUCHAREST

amab

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LIVIANA-MICHELLE STRAMBEANU / ANALYSIS

Russia's invasion of Ukraine has sounded the alarm on the importance of the energy transition in Eastern Europe. More than the climate imperative, this transition has attained newfound urgency for regional security. It is becoming undeniably clear that this can only be achieved with support from the EU as part of a coordinated approach that capitalizes on already-developed instruments, such as those proposed for the EU's ambitious Green Deal.

Coordination is key to acting on the most immediate security concerns of countries situated in Russia's near vicinity, and the recent crisis has catalyzed the need for change. Former EU Commissioner for Energy and Climate Action Miguel Arias Cañete has explained to the Associated Press that the urgency of agreeing on a strategy for diversifying energy supply across Europe becomes particularly evident in times of crisis.

Commission President Ursula von der Leyen took this rationale one step further in the wake of the current crisis, by stressing that "we simply cannot rely so much on a supplier that explicitly threatens us." This statement begs the question of who 'we' refers to and the place of Eastern European countries within the collective attempts of this envisioned unitary group to build its own resilience against an external other.

Why it Matters

Against the background of the 2014 annexation of Crimea, the ongoing war in Ukraine has once again prompted countries in Eastern Europe to take a step back from a costly "business as usual" approach, which has incidentally left Russia's influence largely intact. After nearly a decade in which environmentalist arguments in favor of the energy transition acquired more support throughout Europe – resulting in the EU's Green Deal and additional commitments made during the UN's Climate Change Conference (COP26) – the current context has turned energy supply back into a geopolitical game.

Most of Eastern Europe lags behind in the development of domestic renewable energy. The tensions provoked by Russia have amplified the effect of soaring energy prices on Eastern European countries. Paradoxically, this creates scarcities that drive many to decelerate the green transition and focus on more immediate public concerns. However, the costs of doing so are greater than their climate impact. Such a slowdown also creates a deadlock that could continue to prevent countries in the region from preserving their internal security in the long term.

The Double Hat of Eastern Europe

A peculiar piece in the energy puzzle, not only

is Eastern Europe dependent on Russian gas to varying degrees, but also represents the gateway into the western European energy market. Before anything else, most of Russia's gas pipelines travel through either Ukraine or Belarus.

This relationship of energy dependence between Europe and Russia is nothing new. In the 1970s, the former Soviet Union began seeing the potential of Europe as a significant gas market, a link that was reinforced in the 1990s after the Russian economy started opening up to international trade. The commercial infrastructure of the former Soviet space was preserved, putting the largely state-owned Gazprom in an advantageous position that left small countries undergoing their post-communist transition with no real alternative.

Soon thereafter, the integration of Eastern European countries into both the EU and NATO disrupted an already shaky balance, making energy dependence one of the main instruments for Russia to prevent its sphere of influence from diminishing further. From the Russian perspective, energy supply is not just about economic gain. Russia sees energy as inseparable from its ability to exert normative power in a continuation of its Cold War legacy, which is why it has been intertwining the policy area with different forms of propaganda.

The energy relationship includes an element of conditionality, as Russia can easily pressure individual countries with the disruption of the energy supply in order to stir both domestic politics and influence countries' cooperation with other state and non-state actors. What Stockholm School of Economics professors Chloé Le Coq and Elena Paltseva term "large buyer power" is the EU's way of mirroring the leverage that Russia has on the supply side. As a result of this economic complementarity, it would be unlikely and detrimental for Russia to disrupt the energy supply to the EU. However, when it comes to individual countries in Eastern Europe, especially Ukraine and Belarus, the asymmetry of the relationship makes a worst-case scenario more probable.

"Coordination is key to acting on the most immediate security concerns of countries situated in Russia's near vicinity, and the recent crisis has catalyzed the need for change."

The dependence situation in Eastern Europe is far from uniform and has seen a shift since the early 2000s. For some countries, Russia was the only source of natural gas at that time. Currently, there are also examples such as Romania and Estonia, who have their own reserves and are therefore not forced into total reliance, while they have also managed to build up their reserves after the events of the past decade. Still, the opposite extreme includes countries like Lithuania, whose energy demand continues to be satisfied almost completely by imports.

While the intensity of the debate is certainly matched by many voices in Western Europe, Germany and Italy are the only two countries that heavily rely on Russian gas, which shows that dependence is much more complex and acute closer to Russia's borders. In fact, Russia has been attempting to use the logic of asymmetry by projecting it even against Poland and Hungary, EU member states, which reported actual or expected supply interruptions of gas supply as of April 26th, 2022, after having refused to pay Gazprom in roubles. EU officials immediately responded in solidarity, demonstrating at least partially that Russia's leverage is limited when the EU coherently responds to its actions. Yet, even when tensions do not reach a worst-case scenario, they still achieve their aim of fueling a state of uncertainty and insecurity.

The implications become more significant for Europe as a whole when taking into account Eastern Europe's strategic relevance as a transit region of natural gas. Delivery problems tend to exemplify a domino effect that threatens the security and sustainability of supply on the European continent, which explains why, in spite of the large-scale damage that its population has suffered, Ukraine decided that it would continue meeting its transit obligations as long as its pipelines remain functional. In other words, its relationship with the main recipients in Western Europe and their support towards Ukraine was also perceived to be at stake in this case.

The Energy Policy Coin: Heads or Tails?

Energy policy is often seen as the link between resource availability and ensuring the fulfillment of a country's national interest. On this note, concerns dealing with the environment, as well as with broader forms of economic or political instability, have been increasingly associated with countries' energy policy. Moreover, the threat of both conventional and non-conventional forms of conflict, such as cyberattacks, are under consideration due to their capacity to threaten energy infrastructure.

The wide-ranging considerations incorporated

in energy policy have come to represent a point of contention within the persisting EU-level debate on Russia's role as a supplier of energy. The halted Nord Stream 2 pipeline project is an illustrative example of these dynamics and of their effect of "throwing Eastern Europe under the Kremlin's bus," as argued by Ruslan Stefanov and Martin Vladimirov, experts at the Center for the Study of Democracy.

How come? To begin with, the way in which the project is designed would be dividing Europe in literal terms. More concretely, the pipeline would circle around the Baltic states, delivering gas to Germany directly. Such an infrastructure would put countries in Russia's immediate neighborhood in an even weaker position. To put this into perspective, a recent NATO report describes this as the "divide and conquer method," which essentially means that Russia is breaking down the demand side of the energy relationship in order to achieve its own goals.

"Not only should Eastern European countries be empowered to turn to other energy providers, but they should also be supported to look inward."

EU officials have claimed that the project is not in line with the EU's interests, thereby reinforcing the stance taken by Eastern European countries, which are advocating for the EU to adopt a punitive approach towards Russia. Their main argument is that the EU should take the lead and provide a push to both its member states and its Eastern Partnership countries in distancing themselves from Russia.

On the contrary, and especially prior to the escalation of the current conflict, large economies like Germany have been adopting a more economic lens aimed at maintaining trade relations with Russia as a way of fostering stability on the continent. Nonetheless, the war in Ukraine is demonstrating that a status quo approach would rather alienate Eastern Europe than bring any stability at all, thus causing a shift in the discussion.

The Way Forward

Crises have the potential of resulting in accelerated reform. In the present case, a crisis-driven reform would translate into making the voice of Eastern Europe a much louder part of EU discussions on energy independence. This long-term objective should be pursued in two main ways.

On the one hand, the end-goal of coordination within the EU should be to instrumentalize its current position as a major energy market, not only for Russia but also for emerging actors who would be able to partially satisfy Europe's large demand. While any reorientation comes with both political and economic risks, through diversification, the EU would reduce the chances of those risks materializing on an international scale. Importantly, the Union needs to see the security issues challenging Eastern Europe as an indispensable guide to stimulating energy independence both within and beyond its own borders.

Independence would not mean embracing protectionism and simply isolating the

European energy market. Rather, it would involve striving towards a scenario in which both the EU's 27 member states and its Eastern Partnership countries are not relying on one provider and are simultaneously benefitting from a more interconnected gas infrastructure. In Eastern Europe, this would enhance cooperation and build mutual trust, which would in turn render the region better able to withstand Russian influence.

On the other hand, the local component of working towards energy independence should also be addressed. Not only should Eastern European countries be empowered to turn to other energy providers, but they should also be supported to look inward. Exploring local sources of renewable energy would be a start in maintaining the standards set by the EU's Green Deal. Alternatively, the war in Ukraine is proof of how Russia can profit from supplying natural gas even when the volume of its supply is reduced.

In the two months that have passed since the onset of the war, Russia's monthly revenue resulting from the export of gas, oil, and other fossil fuels to the EU doubled compared to 2021. An immense increase in revenue was possible even after EU sanctions and attempts to limit supplies from Russia. In the absence of an active green transition, Russia will continue to benefit from being able to sell its natural gas both economically and politically since revenue easily flows from state-owned companies like Gazprom to support Putin's regime.

Stefanov and Vladimirov summarize the economic, security, and environmental dimensions of energy policy as a "trilemma," and yet they are all part of the same picture, one the EU is still trying to decipher. Eastern Europe may be the magnifying glass that the EU is lacking.

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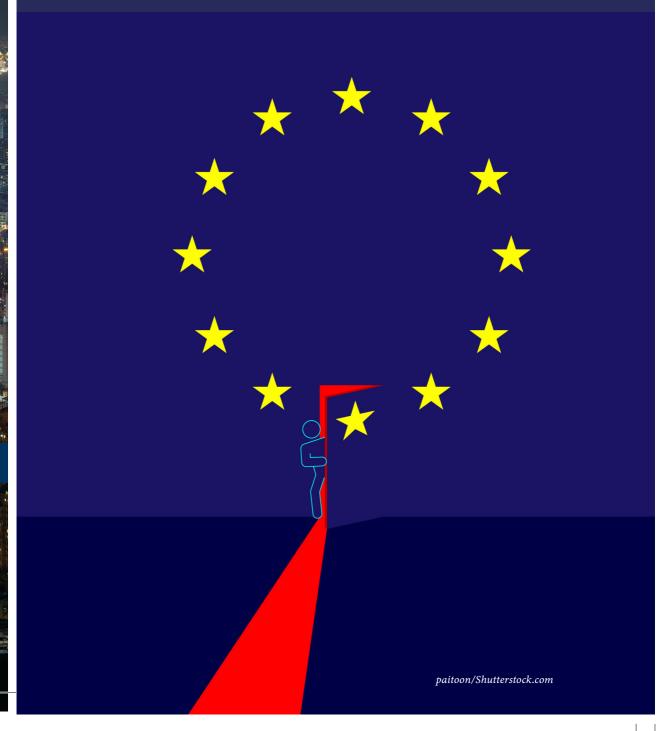
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Contentious Coalition

The Politics of the Energy Transition in the EU



ERIC TELLER / OPINION

Marine Le Pen, France's perennial presidential candidate and a star of the international far right, is notorious for her anti-immigrant vitriol. Lesser-known, though not unrelated, is her antipathy towards renewable energy. "Migrants are like wind turbines," she told Le Point in 2019. "Everyone agrees to have them, but no one wants them in their backyard."

She is far from alone. In Denmark, a country considered a leader in the development of wind energy, the far-right Danish People's Party demanded that the government dismantle more than half of the country's onshore wind turbines-and the government gave in. Germany's AfD calls wind turbines a threat to "the image of our cultural landscapes," comparable to the party's attitude towards immigrants. Even in the Netherlands, where wooden windmills are an icon of the country's pastoral landscape, the right remains hostile to modern wind turbines: the Eurosceptic Member of Parliament Thierry Baudet said in 2019 that he "want[s] all the windmills out of the Netherlands. Except for the old ones."

Despite the opposition of the populist right, renewable energy technology has advanced beyond its proponents' wildest dreams; wind and solar become cheaper and more reliable with every passing year. However, the environmentalist movement should not treat this fact as a guarantee of a climate-friendly future. Marine Le Pen and AfD are only the most blatant examples of an overlooked fact: the energy transition is merely not a technological problem- it is a political problem.

Some observers might see anti-renewable rhetoric and climate change denial as a non-European phenomenon. After all, it is governments in the Americas like the United States and Brazil that have delighted in expanding oil drilling, torching the Amazon, and ignoring the Paris Climate Accords. The European Commission's plan to cut carbon emissions by 55% before 2030 and become climate neutral by 2050, so it seems, could not be a bolder contrast. However, not all of Europe's climate policies match its commitments.

Far more important than the far right's cartoonish demonization of wind turbines are the policies adopted by Europe's governments across the ideological spectrum. Outside of right-wing polities, most voters express a preference for or at least accept the need for renewable energy, but the energy transition is not just a transition to renewables. To address the climate crisis, Europe must also transition away from fossil fuels. In this department, Europe is failing.

Europe's mainstream centrist and green parties are walking a tightrope between taking decisive action on the climate crisis and concerns about losing voters to a populist right appealing to concerns about fuel prices and household economics. Poland offers a stark example of the populist right's environmental policy in action: the country is determined to keep its massive Silesian coal mines open until 2049. If other countries follow Poland's approach, Europe's climate ambitions will be doomed.

Germany, Europe's largest carbon emitter and largest coal producer, also recently adopted a plan that may allow it to keep burning coal until 2038. Although a more accelerated transition is possible, the plan can be read in part as an appeasement to head-off backlash from the country's traditionally conservative coal mining regions. That, combined with twin diplomatic and energy crises precipitated by Putin's regime, have led Germany's new Green Party economic minister to consider delaying the transition away from coal even further.

A clear concern is emerging: far-right parties are far from the only ones to deny the implications of climate change in their environmental policymaking. In Norway, the Labour government refuses to downsize the country's prodigious oil industry –despite a pledge to make the country carbon neutral by 2030. Germany, as mentioned previously, also has not matched its transition to a Green-Labor coalition with a transition away from fossil fuels. None of these governments slowwalking their climate commitments (save for Poland) are of the right; clearly, defeating the far right does not guarantee that the energy transition will go forward.

Europe may be stuck in this impasse between a rising anti-climate right wing and the business-as-usual policies of center-left and center-right governments. However, in energy policy as in so many other sectors, Russia's invasion of Ukraine has upended the status quo.

In some respects, Putin's war in Europe may intensify fossil fuel production. Since Russia has traditionally been the continent's largest supplier of fossil fuels, other countries will be asked to produce more to make up for lost Russian supply. Norway has already indicated that it will ramp up its oil and gas production to meet Europe's demand.

Norwegian gas however, will not be enough to stop the emerging energy crisis. Europe simply cannot meet its gas demands without Russia. Much of western Europe is now scrambling to develop green infrastructure in an effort to solve the long-term, structural problem of dependence on its Russian adversary for energy. Italy and the Netherlands have approved massive onshore and offshore wind farms. France will heavily subsidize nongas residential heaters. Germany-despite its dependence on coal-has at least announced new subsidies for solar power.

Many of these moves-especially the new wind turbines-will enrage the far right. Yet, perhaps the urgency of the present crisis will reduce domestic opposition. Dependence on fossil fuels has been exposed as a national security risk. To the nationalist imagination, subservience to a foreign power is far more frightening than climate change.

European governments, if they take their climate commitments seriously, might be able to find momentum to accelerate the continent's lackluster energy transition. The technological capabilities and political benefits of renewable energy are clear. However, it remains to be seen whether a new war in Europe will be enough to overcome the inertia that has so far halted Europe's transition away from fossil fuels.

Does the Green Transition Herald a Democratic Future for Energy?



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ANNA POKORNÁ / OPINION

The energy domain is dominated by gov-L ernments and large corporations, who have enormous influence over the supply and sourcing of energy. However, in times of climate change and the subsequently urgent need for mitigating action, these decisions should not be left to be taken by governmental and business elites. According to the principle of energy democracy, decisions that heavily influence our lives, such as the decisions made in the current climate crisis, should be decided democratically and without regard to the principle of profit. Daniel Weeks, vice president of ReVision Energy, a 100% employee-owned solar company, describes the matter in the following way: "Energy democracy is a radical transformation of our power system from the bottom-up, without relying on a central power system of fossil fuels, and it is built upon three principles: bottom-up, interdependent and generative. We need to return the power back to the people instead of letting it stay in the hands of fossil fuel corporations."

In the 2016 U.S. presidential election, big oil and gas companies engaged in lobbying and collectively invested millions of dollars in federal politics through campaign donations. In the same year, these fossil fuel companies received more than 20 billion dollars in direct federal tax breaks and subsidies-many times more than the entire renewable industry ever did. Energy democracy urges for an energy transition simply because renewable energy is in every sense more peaceful and more democratic than fossil fuels. The concept of energy democracy necessitates a change in political and social structures in order to achieve a fully democratic energy transition.

"The matter around the rise of energy prices points out exactly why we shouldn't be dependent on oil and gas, and certainly not on gas that Vladimir Putin has his fingers on the tap of, volatility in the prices and the availability of oil and gas is exactly why we shouldn't be using it," says Lorna Slater, the Scottish Minister for Green Skills, Circular Economy and Biodiversity.

The phrase "energy democracy" combines the imperative to transition to renewable energy with a political system that is synonymous with freedom and individual rights. Originally, the term "energy democracy" arose out of the climate justice movement. The Berlinbased group Gegenstrom describes energy democracy as a concept capable of integrating energy and climate struggles.

Local movements across Europe are fighting against mining and fracking in their countries, towns and villages. These social movements are promoting the small-scale implementation of green technology, such as wind turbines or a set of solar panels. They are offering possible solutions for the democratic energy transition in Europe and framing the concept of a clean

and democratic energy supply.

Energy democracy can have many forms. In 2003, citizens of the small town of Machynlleth in central Wales decided to purchase a community turbine and became Wales' first community-owned wind turbine town. The process of moving towards energy democracy and independence can often be very difficult and time-consuming due to many bureaucratic obstacles. Only through long term commitment and the perseverance of citizens can the case be a successful one.

After a series of lectures in a local town parish house, volunteers, landowners and the local administration were having regular meetings to discuss the benefits and possibilities of purchasing a wind turbine from Denmark. The purchase was collectively financed. After the purchase, the local government needed to pass legislation so that the electricity from the wind turbine could be sold directly to a third party. One-third of the profits from the sale of electricity now go into a community energy fund that pays for consulting services to the residents on energy efficiency and the insulation of family homes. Occasionally, hundreds of energy-saving light bulbs are given out to the community for free.

Another story of energy democracy in practice comes from the Scottish island of Gigha, which collectivised land and the wind energy produced on the land. This exemplifies a good case of a publicly supported energy democracy initiative. The community of islanders, supported by two public Scottish organizations, the Highlands and Islands Enterprise and the Scottish Land Fund, helped to finance and build the first communityowned wind farm. In December 2004, three small 225 kW wind turbines were connected to the grid. energy from renewable sources wherein community-owned energy projects would create a public energy sector for the 21st century. However, the idea of the energy transition in Scotland is limited mainly because it is linked to the question of independence from the impact of UK energy policies.

Ungersheim used to be a mining town in the Alsace region in France. Then, the locals managed to successfully implement a local socio-ecological transition strategy and the town designed its own transition pathway autonomously from the French government guidelines. The people of Ungersheim had wished to become energy independent, their first project was a city swimming pool that was heated by solar power. Shortly after, other projects followed: photovoltaic systems on the rooftops of public buildings and a 17 million euro solar farm. This farm is able to produce an energy equivalent to the consumption of 3,000 inhabitants. Through the energy transition, the town was able to cut its expenditure and their local utility charges have not increased since 2004.

We are facing an energy emergency: temperatures are going up, we are experiencing severe droughts, floods, wildfires, extreme weather, destroyed lives and unstable livelihoods. Yet, there are still 1.3 billion people without access to electricity and another billion with unreliable access even though every single hour, the sun delivers to the surface of the Earth enough energy to power all humans' needs for an entire year. We are facing one of the most radical energy transformations that our earth has ever seen and it is up to each and every one of us to accelerate this transformation. The only way to go right now is to make energy democratic and local to achieve a full democratical energy transition.

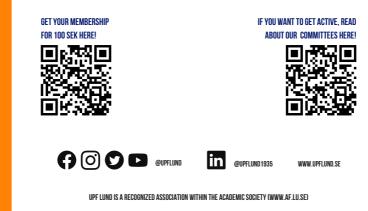
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