

## EU-CHINA RENEWABLE ENERGY COOPERATION: BARRIERS AND PROSPECTS

Nevena ŠEKARIĆ STOJANOVIĆ\*

**Abstract:** Given the imperative of energy transition targets across the nations, academic interest in renewable energy as a determinant of great powers' relations, among other targets, has begun to surge. With a shared commitment to combating climate change, the European Union (EU) and the People's Republic of China have recognised the significance of renewable energy cooperation as a cornerstone of sustainable development in the future. A significant alignment of their energy- and climate-related policies and dedication to similar energy transition targets opened the room for enhancing cooperation between the two actors in the renewable energy domain. Increased renewable energy investments, promotion of renewable energy development, and general willingness to engage in dialogue are seen as drivers of mutual recognition. However, some barriers stemming from different sectoral policies, such as regulatory frameworks, market access philosophies, or recent geopolitical tensions, make this relationship very complex. Since renewable energy cooperation between the EU and China has immense potential amidst global imperatives for sustainable development, both key barriers and prospects of this relationship have to be addressed. This research aims to provide significant insights into the multifaceted nature of EU-China renewable energy cooperation via three dimensions: the normative, the economic, and the (geo)political. Methodological tools used for the analysis refer to a literature review, qualitative content analysis of the EU's and China's energy- and climate-related policies, and secondary data analysis. The analysis led to the conclusion that by overcoming (geo)political and economic divergencies, both the EU and China stand to benefit from a more robust partnership in renewable energy, thus contributing significantly to the sustainable future as the common goal.

**Keywords:** EU, China, renewable energy, cooperation, barriers, prospects.

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\* Research Fellow, Institute of International Politics and Economics, Belgrade, Republic of Serbia; Email: [nevena.sekaric@diplomacy.bg.ac.rs](mailto:nevena.sekaric@diplomacy.bg.ac.rs), ORCID: 0000-0002-4514-6498.

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## INTRODUCTION

Current energy paradigm shifts towards sustainable energy solutions have produced significant consequences in the systemic and economic domains, but also in the (geo)political one. As stated by some authors, the energy transition is “much more than just switching from a diesel car to an electric vehicle. It affects how we produce, store, transport, and use energy in the future” (Keßler, 2024). It influences production processes and public awareness about the future of energy, as well as relations among key energy actors in the global market. Within this process, one of the key roles belongs to renewable energy sources (RES) and renewable energy (RE) technology. Today, renewable power generation is gaining momentum. The International Energy Agency (IEA, 2024) stated that the world’s capacity to generate renewable electricity is expanding faster than at any time in the last three decades. Renewable energy cooperation between states within the newly established context determined by multifaceted power relations is thus broadly analysed. Since the European Union (EU) and the People’s Republic of China (China) are highly dependent on fossil fuel imports and achieve significant carbon footprints, the burden of energy transition is expected to fall on these two actors, among others. Both sides declared targets for reaching carbon-neutral status in 2050 (the EU) and 2060 (China), respectively. According to official data, China was the main driver of electricity production from solar and wind energy in 2022 (IRENA, 2024). In the EU, power from low-carbon energy sources (including here RES and nuclear energy) increased from 68% in 2023 to 74% during the first half of 2024, thanks to higher renewable power generation (Enerdata, 2024). Renewable energy is generally the largest contributor to energy production in the EU in recent years—it stands at 43.2% of total EU energy production in 2022 (Eurostat, 2024). Additionally, China and the EU, together with the US, stand out as the largest producers of wind and solar power (Broadbent, 2021).<sup>1</sup> This makes the EU and China the leaders of the energy transition process on a global scale, and their (renewable) energy cooperation is one of the most important when it comes to the sustainable future.

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<sup>1</sup> China (728 TWh), the EU (540 TWh), and the US (469 TWh) are holding together more than two-thirds of global generation of solar and wind power.

Given the abovementioned context, renewable energy cooperation between the EU and China is one of the subjects of emerging academic attention (Gippner & Torney, 2017; Sattich et al., 2021; Stevic & Popovic, 2021; Šekarić Stojanović & Zakić, 2024). A significant alignment of their energy- and climate-related policies offered room for enhancing cooperation in this domain. However, since the beginning of the 2022 Russian invasion of Ukraine, EU-China relations have been affected by diverse tensions. China's silence on the Russian aggression, coupled with the state of human rights in China and several geopolitical tensions in the Taiwan Strait and the South China Sea, has brought deterioration of relations with the EU. Apart from being leaders in the energy transition process, their (renewable) energy cooperation is characterised not only by prospects concentrated around common sustainable goals but also by some barriers stemming from the mentioned (geo)political dynamics. Within this context, it is valuable to evaluate the nature of renewable energy cooperation between the two sides, which presents the research objective of this study.

In light of the research objective, the analysis is structured around three key dimensions that shape the potential for renewable energy cooperation between the EU and China: the normative, economic, and (geo)political dimensions. The normative dimension examines the alignment of their current energy- and climate-related policies; the economic dimension explores the nature of their renewable energy economic relations; and the (geo)political dimension considers the established cooperation frameworks, alongside other significant partnerships or rivalries with substantial geopolitical implications. By analysing the current state of EU-China renewable energy cooperation through these three dimensions, this study aims to identify the primary barriers and prospects within this relationship.

## **THE EU-CHINA RENEWABLE ENERGY COOPERATION**

EU-China relations are multifaceted by nature. The complexity of their relations springs from the frequent ambiguity where China is perceived as a partner, a competitor, and a rival at the same time:

“China is, simultaneously, in different policy areas, a cooperation partner with whom the EU has closely aligned objectives, a negotiating partner with whom the EU needs to find a balance of interests, an economic

competitor in the pursuit of technological leadership, and a systemic rival promoting alternative models of governance” (European Commission, 2019, p. 1).

This EU’s threefold approach towards China means balancing in practice: trying to keep good relations in certain areas while being aware of “fundamentally opposed interests” in others (Keßler, 2024), where economic and political interests are clearly determined as those with opposed interests. However, it seems that the renewable energy domain could offer space for enhancing cooperation on a mutual basis due to common interests in a sustainable future. Namely, RES have the potential to “de-geopoliticalise international relations and allow states to transcend the “zero-sum” thinking in their pursuit of energy security” (Sattich et al., 2021). The pre-existing complementary interests among states are the initial driver of developing cooperation potential, according to Keohane (Herbert, 1996, p. 225). Applied to the context of this study, common goals in terms of a sustainable future and clean energy should serve as the basis for establishing cooperative behaviour among states. However, this cooperation in the case of the EU and China is far from fruitful. The phenomenon of cooperation in this study should be understood as a broad framework where states engage in diverse forms of cooperative patterns, starting from formal international organisations and diverse fora arrangements to investment and trade relations, i.e., economic cooperation.

Contemporary relations between Brussels and Beijing are somewhere between competition and cooperation regarding climate and energy. For Altun and Ergenc (2023), EU-China relations in the RE area consist of consensus and contention, i.e., the “collaboration-competition nexus”. This ambiguity marked their relations throughout recent years. Currently, it shapes EU-China cooperation in many domains. With both representing great powers by all means, bilateral relations are affected by numerous tensions (Proroković and Stekić, 2024); since 2019, the rivalry has been intensified (Brinza et al., 2024), additionally reinforced by China’s silence over the Russian aggression in Ukraine after 2022. This is somewhat expected due to the ontological competition among great powers; however, some efforts have been made in the RE domain that should not be neglected. This is further fortified by the fact that the EU and China share similar energy- and climate-related goals and are dedicated to the common interest of a sustainable future. Since the

EU and China are significant global actors in achieving energy transition targets and are “highly complementary in pursuing green transition” (Yeping, 2024), there is a need to cooperate hard in the RE domain. In a similar manner, Yu (2022) highlights the necessity of fostering EU-China energy and climate cooperation, while Stensdal and Heggelund (2023) see energy and climate as two main opportunities for increased cooperation between the EU and China. However, some views are not so friendly regarding the EU-China renewable energy cooperation—according to some authors, European countries risk making the same mistake of being dependent on China in the case of RE, as they did with Russian gas (Dempsey, 2023). Nevertheless, the author’s position is to avoid extremely polarised debates and to contribute to the objective analysis of the EU-China renewable energy cooperation. This paper, thus, presents an attempt to fulfil the research objective via three dimensions (the normative, economic, and (geo)political one) to identify key prospects and barriers in this domain.

### **The normative dimension of the EU-China renewable energy cooperation**

A literature review and qualitative content analysis of the EU and China’s energy- and climate-related policies served to identify the potential for enhancing EU-China renewable energy cooperation, at least within this normative framework. It is worth mentioning that only strategic policies are considered since they represent the umbrella framework for their mid- to long-term commitment to energy transition goals.

Strategic documents recognise the EU-China relationship as essential for the success of global climate actions and clean energy transition (European Commission, 2019, p. 3). China is simultaneously the world’s largest CO<sub>2</sub> emitter and largest investor in RE. On the other hand, although some of the EU countries have contributed to the current levels of greenhouse gases due to developmental reasons during the industrial revolutions, in recent years, the EU has been considered one of the biggest RE investors and one of the fastest climate-neutral status-reaching actors. Historically, the EU has been at the “forefront of climate policy initiatives” (Dupont, 2022), and the development of its environmental policies officially started in the 1970s. Recent years have brought the integration of energy and climate policies, as it is considered to be the most effective way to achieve energy transition goals

and become less energy dependent. These aspirations are materialised in the European Green Deal (2019) and in the long-term goal of becoming the first climate-neutral continent in the world by 2050. The EU's mid-term goals show no space for hesitation—the REPowerEU Plan is aimed at accelerating the transition to clean energy and diversifying energy supplies away from Russia (European Commission, 2022), while the revised Renewable Energy Directive aims to increase the share of renewables in the EU's overall energy consumption, raising the binding target for 2030 to 42.5% with the ambition to reach 45% (Official Journal of the European Union, 2023, art. (5)). The EU's RE approach is heavily regulated, with strict standards on energy and climate targets. Working with these ambitious goals, the EU often seeks to impose responsibility on other actors with a significant carbon footprint.

China, on the other hand, saw a significant surge in environmental policies and concrete climate actions at the beginning of the 21st century. Several subsequent five-year plans (FYPs), renewable energy regulation, and the so-called “ecological civilisation philosophy” have made RE a preferential area for energy development in China (Šekarić Stojanović & Zakić, 2024). Due to the problems with domestic pollution and as a reaction to the EU's call to peak its CO<sub>2</sub> emissions before 2030 in line with the goals of the Paris Agreement, Chinese President Xi Jinping launched the so-called *Goal 3060* in 2020, aimed at the stated target and becoming a carbon-neutral country by 2060. The current 14<sup>th</sup> FYP (2021–2025) set the additional goal of reducing 18% of carbon dioxide emissions per unit of GDP by 2025 (CSET, 2021, p. 9). However, this plan has no targets for a total coal phase-out, which normatively allows China to continue to build or reconstruct coal-fired power plants. Additionally, at the COP26 in 2021, China called for replacing the term “phase out” with “phase down” carbon emissions (Yifan, 2021), demonstrating thus the will for the gradual replacement of fossil fuels, which opposes the EU's efforts for immediate actions. China also announced a plan for establishing a coal production reserve system by 2027 that will be used in extreme occasions, such as “drastic uncertainties in the international energy market, extreme weather, or sudden changes in the supply and demand situation” (Song, 2024), with the assurance that they will not be used for increasing coal production capacities. China's Energy Law Draft, on the other hand, prioritising “the development of renewable energy; rational development of clean and efficient use of fossil energy; and orderly promotion of non-fossil fuel energy instead of fossil fuel energy and low-carbon energy instead of

high-carbon energy” (Patel, 2024), is largely criticised due to its long-term preparation<sup>2</sup> and its unclear outlook towards the future of fossil fuels, as stated above. As can be seen, unlike the heavily regulated EU’s approach towards RE, China’s approach is more state-driven.

Recent EU and China’s energy- and climate-related policies and targets primarily stem from international agreements. Šekarić Stojanović and Zakić (2024) offered an analysis of key similarities and differences in the EU and China’s environmental policies, led by several indicators: targets of the energy transition process, energy transition deadlines, the role of renewable energy sources in energy transition, and methods of achieving energy transition targets. This study showed great alignment of contemporary EU and China’s energy- and climate-related policies according to the prescribed indicators. The main difference springs from different perspectives on environmental responsibility: “While the EU calls for an urgent reaction, prioritising green financing and a total phase-out of carbon emissions, China’s camp stands for a more nuanced approach towards ambitious energy transition goals that will favour the national needs of a country” (Šekarić Stojanović & Zakić, 2024). This is primarily due to the high energy dependence on fossil fuels (coal in the first place) in China’s case, which, in turn, favours national interest in establishing renewable energy systems before the total phase-out of hydrocarbons, unlike the EU, which calls for simultaneous processes of cutting off fossil fuels and increasing the share of RES. The normative dimension, thus, shows great alignment of their environmental policies, but with a non-negligible difference in the approach towards achieving energy transition goals.

Although the normative dimension of EU-China renewable energy cooperation showed a significant level of alignment of their policies, the main question arises regarding the nature of this cooperation on a more practical level. Further research focus is thus orientated towards economic and (geo)political dimensions of renewable energy cooperation between the two sides.

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<sup>2</sup> At the moment of submitting this paper, it passed 17 years of the Draft release.

## The economic dimension of the EU-China renewable energy cooperation

Given that China is the EU's biggest source of imports and one of the EU's fastest-growing export markets, the economic dimension of this relationship needs to be tackled. For instance, the average annual trade growth rates for 2019-2023 can be used as indicators. According to the European Commission (2024a, p. 2), the average annual growth rate in the mentioned period was 9.1% in terms of imports and 3% in terms of exports. However, trade is highly unbalanced, and investment flows show great untapped potential. According to data for 2022, EU exports to China grew by 3.2% in sharp contrast to the 32.3% growth of EU imports from China year-on-year (EEAS, 2023). As a result, the EU bilateral deficit reached a record high of €396 billion, representing a 58.2% increase from 2021 (EEAS, 2023). In addition, while no new European companies have entered the Chinese market since 2020, most of those that are already established in China are “merely maintaining their presence” (Jarvis, 2023). According to some estimations, at the end of 2022, the cumulative stock of EU investment into China over the past 20 years was approximately around €170 billion—roughly the same amount EU companies invest in the US every 12 months (Jarvis, 2023). The tightness of China's market appears to be the greatest obstacle regarding deepening economic relations between Brussels and Beijing. However, the RE domain could offer some kind of revision.

Literature review showed that research on Chinese RE investments in the EU and *vice versa* is modest since most current literature examines investments in traditional fossil fuel facilities. Several studies showed that the amount of those RE investments is modest so far (Gippner & Torney, 2017; Lv & Spigarelli, 2015; Sattich et al., 2021; Šekarić Stojanović & Zakić, 2024; Zakić, 2024). Several trade disputes, market access issues, and the subsidies question appeared to be the most tangible obstacles within the economic dimension of their RE relations. China's general tightness of the market and heavy subsidy system raised concerns in the EU; in response, the EU has launched investigations into Chinese subsidies in battery electric vehicles and wind turbines (Bickenbach et al., 2024).<sup>3</sup> These tensions resulted in raising

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<sup>3</sup> These subsidies have allowed Chinese companies to dominate global markets by offering products at significantly lower prices, which the EU views as unfair competition.



tariffs on imports from China of electric cars, solar panels, and other high-tech manufactured goods (Bradsher, 2024).

Several attempts to deepen economic relations between the EU and China have failed thus far. This was the case with the EU-China Comprehensive Agreement on Investment (CAI)<sup>4</sup>; after seven years of negotiations on this Agreement, the European Parliament froze its ratification in May 2021, just five months after its political agreement (McElwee, 2023). The CAI was imagined to replace the individual bilateral investment treaties that most EU member states have with China. While this mechanism was imagined as increasing and improving access to the Chinese market for EU investors and fair treatment for EU companies, on the one hand, it also needed to secure adequate regulatory mechanisms that should protect Chinese investment access abroad. As stated by the EU when CAI negotiations started, “the current level of bilateral investment between the EU and China is way below what could be expected from two of the most important economic blocks on the planet” (European Commission, 2014) since just 2.1% of overall EU FDI was in China back then. However, the ratification of CAI was suspended in May 2021 after tit-for-tat moves due to mutual sanctions posed by the EU and China, provoked by the human rights issues of Uyghurs in Xinjiang. Given the context prevailed by the human rights issues in China, the still ongoing debate on the nature and origin of COVID-19, and overall tensions between Brussels and Beijing, among others,<sup>5</sup> the CAI was suspended. The Executive Vice President of the European Commission, Valdis Dombrovskis, said back then that “we cannot ignore the wider context of relations between the EU and China” (Euronews, 2021). The overall deterioration of relations between the EU and China showed that the geopolitical context prevailed in case of an economic issue.

However, the potential for the reconstruction of the relations between Brussels and Beijing lies in renewable energy cooperation. The abovementioned normative dimension of this cooperation already showed

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<sup>4</sup> An agreement to launch negotiations over a comprehensive investment agreement was reached at the EU-China Summit in 2012.

<sup>5</sup> The inauguration of the new American president, Joseph Biden, and reserves of the newly established American administration on the CAI are also believed to be one of the factors that contributed to its closure.

significant alignment of their energy- and climate-related policies. In addition, the EU-China strategic outlook stated that “... the EU should deepen its engagement with China to promote common interests at the global level” (European Commission, 2019, p. 1). The 24<sup>th</sup> EU-China Summit underlined the necessity of enhancing economic relations between the two sides—the President of the European Council said:

“The EU-China relationship is one that matters. But we need to make our trade and economic relations more balanced, reciprocal, and mutually beneficial...” (European Council, 2023).

Since China grounds its energy and climate-neutral goals on scientific development and the EU holds the status of the innovators of green know-how technology, this mutual partnership seems to be logical in the ongoing energy transition (Stevic and Popovic, 2021, p. 3). Here it could be noticed that there is still room for cooperation, especially in research and development, technology exchange, and multilateral initiatives under international agreements. However, this cooperation will likely require careful negotiation and balancing of interests.

### **The (geo)political dimension of the EU-China renewable energy cooperation**

The abovementioned analysis showed a significant alignment of the EU and China’s energy- and climate-related policies and non-negligible potential for enhancing their economic relations in the RE area. However, several issues that could be placed within the (geo)political domain have marked their relations in the last few years. The rise of negative sentiment towards China is generally seen across Europe in recent years, mostly tied to critical views on its policies on human rights (Silver et al., 2022). Non-economic issues also resulted in several withdrawals from the China-CEEC<sup>6</sup> cooperation framework and general straining of relations between China and European countries (Lau, 2022; Stekić, 2022). At the already mentioned 24<sup>th</sup> EU-China Summit, some topics burdening mutual relations were mentioned, such as human

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<sup>6</sup> CEEC stands for Central and Eastern European Countries, commonly known as the 17+1 Initiative. After withdrawals of Lithuania, Latvia, and Estonia in 2021 and 2022 due to several diplomatic tensions and the Russian aggression in Ukraine, the current cooperation framework contains 14 countries.

rights issues in Xinjiang and Tibet, increased tensions in the Taiwan Strait, and warfare between Russia and Ukraine (European Council, 2023). Those (geo)political issues certainly block the further deepening of mutual relations, coupled with the strategic importance of winning in the “new energy race”.

According to IRENA’s Report, three types of countries have the potential to emerge as new renewable energy leaders—the first one refers to exporters of electricity generated by renewable sources; the second one is about controlling mining and processing critical materials used in clean energy (lithium, copper, cobalt, nickel, etc.); and the last one refers to leaders in technological innovation and to gaining a technological advantage (IRENA, 2019, pp. 39–40). With China holding the status of the leader of the second and third types and the EU having the highest growth in renewable electricity generation, the importance of the two as energy transition leaders and their renewable energy cooperation raised. In addition, several significant frameworks on climate and energy topics established by the EU and China show that some efforts are being made in this area (see Table 1).

Table 1. Key frameworks on energy and climate cooperation between the EU and China

| Year  | Cooperation framework  |
|-------|--|
| 2010. | EU–China Environmental Governance Program                      |
| 2012. | EU–China Environmental Sustainability Program                  |
| 2015. | EU–China Joint Statement on Climate Change                     |
| 2016. | EU–China Roadmap on Energy Cooperation (2016–2020)             |
| 2018. | China EU Leaders’ Statement on Climate Change and Clean Energy |
| 2019. | EU-China Energy Cooperation Platform (ECECP)                   |

Source: Self-made by the author for the purpose of this study.

When it comes to the renewable energy cooperation between the EU and China, possible (geo)political barriers spring from the competition for critical materials needed for RE tech<sup>7</sup> and from the overall “new energy race” and strive

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<sup>7</sup> Such as copper, nickel, cobalt, lithium, and aluminium, among others.

to become the “energy transition leader” (Šekarić Stojanović, 2022, p. 108). Currently, China leads in critical materials’ processing. According to the United Nations Conference on Trade and Development’s data, China handles over half of global processing for aluminium, cobalt, and lithium and nearly 100% of natural graphite (UNCTAD, 2024). This kind of China’s RE market dominance could easily create competitive rather than cooperative behaviour patterns among states. Secure access to critical minerals certainly presents a strategic advantage, so there is no doubt that those resources are currently one of the most desirable assets. What may complicate the EU-China renewable energy cooperation is the fact that the EU imports more net zero energy technologies than it exports. Currently, the EU imports 98% of rare earths and 97% of magnesium from China, around 80% of the lithium from Chile, and more than 60% of cobalt from the DR Congo (European Commission, 2024b). That puts the EU in an unenviable position of technological dependence, especially when it strives to halt its energy dependency on Russia and other exporters. Recent EU’s energy- and climate-related policies try to avoid supply chain overdependencies within the complex geopolitical environment, and there is no surprise because they are targeting China as the current leader in renewable technology and green development. The “new energy race” and competition over renewable energy resources is thus expanded to investing in research and innovation in the RE domain.

China perceives energy and climate issues as inseparable from its deteriorating relations with the EU. The Chinese Ambassador to the EU, Fu Cong, said at the fourth High-Level Environment and Climate Dialogue in 2023 that “global climate governance does not happen in a vacuum. One should not seek political confrontation on the one hand and expect unconditional cooperation on the other” (Pongratz, 2023). China’s integrated approach to energy and climate issues varies from the mentioned EU’s threefold approach towards China. Thus, it leaves almost no space for enhancing relations in the RE domain in case of (geo)political tensions. In addition, many (geo)political tensions and escalations resulted in the securitization of energy issues, with the Russian invasion of Ukraine being the most obvious example. That clearly shows the impossibility of separating energy and climate issues from geopolitics, especially in the case of competitors and rivals such as the EU and China in several areas. Yet, observing the possible consequences of individual actions in combating climate change and leaving “the costs of cutting emissions to the rest” (Keßler, 2024), it becomes clear that the common interest overcomes

individual needs and requires joint efforts. There is a base for mutual action, but many other things need to be done since “the EU cannot undergo the green transition alone, nor can China” (Yeping, 2024). For this reason, they need to “work together within a rule-based system, including for trade, and maintain balance” (Yeping, 2024). Alignment of energy- and climate-related policies and dedication to sustainable goals on a normative level does not mean so much if not met in practice. According to Gippner and Torney (2017, p. 650), the alignment of policies is “a necessary but not sufficient condition for cooperation between parties”. Far more important proves to be overcoming (geo)political and economic divergencies (Šekarić Stojanović & Zakić, 20124), especially when bearing in mind the urgency in combating climate change and the common necessity for a sustainable future on a global scale.

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Based on previous analysis, some remarks on key barriers and prospects of the EU-China renewable energy cooperation could be underlined:

- The normative dimension of their RE cooperation showed a great level of alignment, so the greatest prospects of deepening this relation lie in the similarity of their energy- and climate-related policies and in their long-term dedication to a sustainable future;
- Possible obstacles in the normative dimension could spring from different approaches in achieving energy transition goals—while the EU’s RE approach is heavily regulated with strict standards to follow, China’s approach favours national interest for development rather than total phase-out of hydrocarbons, which, in turn, could create barriers to joint activities;
- Economic and (geo)political dimensions of the EU-China RE cooperation, on the other hand, are mostly burdened by different philosophies towards economic and non-economic issues, including issues such as market access, trade disputes, human rights issues, China’s RE market dominance, and the overall “new energy race” over gaining energy transition leader position;
- Key barriers in the EU-China renewable energy cooperation thus spring from an economic and (geo)political background, i.e., divergent market philosophies, different core values, and opposing interests in the (geo)political sphere.

## CONCLUSION

The post-pandemic environment and economic reconstruction, alongside the Russian invasion of Ukraine, have made the energy issues a priority of both the EU and China's agendas. Since the beginning of the third decade of the 21<sup>st</sup> century, all attention has shifted towards efficiently achieving energy transition targets. Despite shared targets and deadlines among leaders in the energy transition, geopolitical tensions often complicate potential collaborations aimed at achieving these common objectives. Such a dynamic is evident in the case of EU-China renewable energy cooperation.

This paper examined the nature of EU-China renewable energy cooperation through three dimensions: normative, economic, and (geo)political. The findings suggest that the potential for cooperation is most promising at the normative level, whereas significant barriers persist in the economic and (geo)political dimensions. These obstacles primarily arise from divergent market philosophies, different core values, and opposing interests in the (geo)political sphere. The analysis indicates that (geo)political tensions have a spillover effect, substantially influencing economic relations between the two actors. However, the shared commitment to similar renewable energy targets and a sustainable future—evidenced by significant normative alignment in their energy- and climate-related policies—offers opportunities to enhance cooperation in this domain. This should not be overlooked, considering the EU and China's roles as central global actors in the ongoing energy transition and as leading powers in the renewable energy sector.

Although the common energy and climate targets are evident, the EU and China's energy transition approaches and geopolitical realities differ, which, in turn, burdens further cooperation in the RE domain. However, failure to take joint action against climate change and towards energy transition could bring severe consequences for both parties. Therefore, the mutual need for a sustainable future should serve as the foundation for strengthening renewable energy cooperation between the two sides.

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