

VISEGRAD / INSIGHT

Green Transition | Visegrad Four | Energy Dependency

Problem

While China plays a key role in enabling large-scale and lower cost production of clean technologies that support the energy transition of Europe, it has an increased willingness to use economic coercion to achieve political goals.

Key facts

Poland plays a leading role in the supply chain for the lithium-ion battery sector, a key component for electric vehicles.

The new Polish government should be particularly concerned about the dominance of China's automotive industry on the Polish industrial EV sector, which is largely dependent on exports to German automotive companies, fueling German-Chinese trade.

Foresight

While the public debate on Beijing remained largely

How to foster a Green Transition while decreasing dependency on China

Executive summary

While Poland and the European Union are decoupling from Russian energy, China's dominance in the production of clean technologies has become overwhelming. Since Beijing is a textbook case of weaponising interdependence by using economic leverage to achieve its political goals, similar to Russia, it raises both energy security and democratic security issues. Since Poland needs to accelerate the Green Transition, the new Polish government needs to go back to the drawing board and redesign its relationship with China. In the words of Kadri Simson, the EU Commissioner for Energy, "The transition from fossil fuels to renewable energy sources should not mean replacing one dependency with another."¹

Based on desktop research and background discussion with experts, we recommend the following steps:

- The new Polish government should reconsider and publicly debate the risk of energy dependence not only on Russia but also on China. In coordination with local governments, they should co-jointly raise public awareness by centring the discussion around the past mistakes with Russia in the context of democratic security and potential pathways to Green Transition.
- The country needs a more conscious and sector-targeted China policy to mitigate the risks of renewable energy dependency from Chinese photovoltaics, among others. It requires reducing dependence on Chinese factories and the Chinese market, seriously

¹ https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_23_1545

missing and is limited to closed expert circles only, the shift in power may accelerate a debate about how to proceed with green transition and clean technology while avoiding increasing dependence on an ever-assertive autocracy.

examining both foreign investments in strategic sectors and the need for certain trade restrictions are among the tasks to be done.

- Any effective plan will need to build resilience in domestic supply chains and focus on long-term employment and labour skills. The new Polish government would need to discuss potential developments both within the context of education and immigration.
- While electric vehicles are needed to phase out internal combustion engine vehicles and address the climate crisis, the new Polish government should foster fewer cars overall on the road. It can be achieved by investing in and developing affordable (renewable energy) public transport systems and transforming cities in a way so that public transport is available to local citizens.
- The policy expert community, academia and civil society should foster more cross-sectoral, interdisciplinary and cross-regional exchange to better understand the underlying risks of dependence on China. Experts with different industries and backgrounds should collaborate in research projects to figure out how to proceed with green transition and clean technology while avoiding increasing dependence on an ever-assertive autocracy.

About

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Project

Visegrad Insight is the main Central European analysis and media platform. It generates future policy directions for Europe and transatlantic partners. Established in 2012 by the Res Publica Foundation.

This foresight project is carried out together with the European Climate Foundation to address the changes in areas of energy security, environmental policy and social policy, which are the crucial pillars of climate and democratic security in the Visegrad Group countries

INTRODUCTION

While the European Union is heavily investing in the Green Transition to reduce its energy dependence on Russia, it is becoming more and more dependent on China.² Beijing's control over the renewable sector has become overwhelming: about 80% of the components needed to manufacture a wind turbine and 97% of the silicon wafers necessary to build a solar panel are produced in China. Moreover, 45% of production for a key rare material in the solar photovoltaic supply chain is produced in Xinjiang.³ This northwest Chinese region is known for the genocide against the Uighur Muslim minority, carried out by the regime in Beijing. The EU is highly dependent on China when it comes to mining and processing critical rare material⁴ production that goes into renewable technologies; more than 70% of the lithium-ion batteries were produced in China in 2021.⁵

Central-Eastern Europe is particularly exposed to this. One notorious example is that Poland overtook the US as the country with the second-largest lithium-ion battery production capacity in the world.⁶ Poland (together with Hungary) is racing to lead Europe's shift to electric vehicles with its increasing lithium-ion battery production, outpacing Slovakia and Czechia in winning investments from China and South Korea.⁷ What's more, China's production capabilities have contributed to lowering the cost of solar panels to one-eighth of what it was in 2008 in Poland.⁸

While China has made a huge contribution to significantly lower the cost of green technologies, it also comes at a democratic risk due to the recent geopolitical tensions. Chinese investments often come at a "high price" for the environment, workers' rights and sovereignty. Beijing is a textbook example of weaponising interdependence and using economic leverage to achieve political goals, like Russia. China also cut off rare earth mineral exports to Japan in 2010 because of a territorial dispute.⁹ Heavy-handed tactics have increased five-fold since 2018; It has also taken coercive

² <https://www.polon.pl/energia-i-klimat/zaleznosc-od-chin-przeslania-sloneczna-przyszlosc-energetyczna-europy/>

³ <https://www.euronews.com/my-europe/2022/06/09/the-eu-needs-renewables-to-curb-russian-fossil-fuel-dependence-for-these-it-s-dependent-on>

⁴ Cobalt, lithium, nickel, and manganese are found in EV batteries, platinum used in fuel cells, and rare earths in engines and some types of batteries.

⁵ <https://www.polon.pl/energia-i-klimat/zaleznosc-od-chin-przeslania-sloneczna-przyszlosc-energetyczna-europy/>

⁶ <https://www.polskieradio.pl/395/7786/arttykul/3198640.poland-becomes-world%E2%80%99s-secondlargest-maker-of-liion-batteries-report>

⁷ <https://www.bloomberg.com/news/newsletters/2023-11-07/hungary-and-poland-lead-europe-s-shift-to-electric-vehicles>

⁸ <https://www.polon.pl/energia-i-klimat/zaleznosc-od-chin-przeslania-sloneczna-przyszlosc-energetyczna-europy/>

⁹ <https://www.americanenergyalliance.org/2023/01/europe-trades-dependency-on-russian-gas-for-chinese-solar-panels/>

economic actions against its neighbours (such as Japan, South Korea, and Australia) and against Europe, such as the Nordic states and Lithuania.

Beijing has taken coercive economic actions against Lithuania, among others, after it showed support for Taiwan. Chinese customs blocked Lithuanian goods, and China led a corporate boycott of multinationals with ties to Lithuania in 2021. In these instances, Beijing aimed to force these countries to alter their policies on matters of political concern to the Chinese Communist Party.¹⁰ The EU's overall dependence on the international market for raw materials threatens its strategic autonomy¹¹, proven by Chinese export restrictions on gallium and germanium, two essential metals in semiconductors. Without implementing appropriate countermeasures, Central and Eastern Europe and the EU will become dependent on China by 2030; while the relationship will have a different nature, it will be to the same extent that these European nations were dependent on Russian energy supplies before the war in Ukraine.¹²

EU RESPONSES

The Kremlin's war in Ukraine created an additional impetus for re-evaluating dependencies on Chinese exports of goods crucial for a green transition, such as solar panels or lithium batteries. As the head of EU Commission President Ursula von der Leyen¹³ put it on the reliance upon Chinese raw materials, "we have to avoid falling into the same dependency as with oil and gas." Instead of using a tougher "decoupling" rhetoric, the emphasis is on "de-risking" and "economic security".

The EU Parliament adopted its position on the "Net Zero Industry Act" to bolster Europe's manufacturing output in technologies needed for decarbonisation. The law introduces simpler and faster permitting procedures for the construction of new factories to manufacture "net-zero technologies" such as solar photovoltaic (PV) modules, electrolyzers for hydrogen production¹⁴ and wind turbines. With this, the EU could exclude Chinese products from public tenders for large renewable energy projects. According to changes included in the law by the European Parliament's industry committee, it would also exclude Chinese bidders and products from public procurement rules and renewable energy auctions. If accepted,

¹⁰ <https://merics.org/en/comment/net-zero-europe-risks-heavy-dependence-china>

¹¹ <https://ecfr.eu/publication/circuit-breakers-securing-europes-green-energy-supply-chains/>

¹² <https://www.voanews.com/a/europe-risks-dependence-on-chinese-batteries-eu-report-finds-/7276889.html>

¹³ https://ec.europa.eu/commission/presscorner/detail/en/speech_22_5493

¹⁴

<https://www.euractiv.com/section/economy-jobs/news/eu-parliament-set-to-back-exclusion-of-chinese-bidders-from-public-tenders/>

it might become a "Buy European Act" for all the green technologies needed to achieve climate neutrality."

Another step change was that the European Parliament and Council of the EU agreed on the Critical Raw Material Act ¹⁵(CRMA) on 20 November 2023. Raw materials are essential as they form the base for all European industries across the supply chain. They are crucial to producing batteries, semiconductors and clean technologies that foster the European Green Deal. The recently proposed CRMA aims to decrease these dependency structures by strengthening domestic supply chains while reinforcing international agreements with other non-EU countries. It also promotes recycling as one of the pillars of the EU strategy to reduce CRM dependency. To achieve this, it's setting a goal of 15% of the EU's annual consumption of CRMs coming from recycling by 2030. It also introduces requirements to map and track the amount of recycled CRMs contained in EV components.¹⁶

However, these responsive actions are not impacting the operation of ion-lithium battery factories that are becoming dominant in CEE.

COMMONALITIES AND DIVERGENT PATHS IN THE V4

The Visegrad Countries (Poland, Hungary, Czechia and Slovakia) are far from being homogeneous when it comes to their policy and public attitudes towards Beijing. While Poland has no formal China strategy, the previous government of Law and Justice (PiS) contextualised its relationship with Beijing according to its transatlantic alliance with the United States. Diplomatic tensions had increased before the outbreak of war in Ukraine, mainly in the context of the China-US rivalry. It was indicated by the arrest of a Huawei employee in January 2019 on charges of conducting espionage on behalf of China in Poland.¹⁷ However, concerns were mostly articulated on a lower level of diplomacy and less on the level of the government itself.

PiS took a more hawkish stance after Russia invaded Ukraine, and Beijing has been seen as an enabler of Kremlin's revisionism.¹⁸ However, this approach is not representative of the ruling elite as a whole as President Andrzej Duda has been an active interlocutor of Beijing. Duda participated in the 2021 virtual (then) 17+1 summit despite the lower level of representation sent by most countries and he was the only EU leader who did not boycott the opening ceremony of the Winter Olympics in February

¹⁵ <https://publyon.com/eu-energy-climate-policy-update-no-42/>

¹⁶ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52023PC0160>

¹⁷ <https://chinaobservers.eu/has-russias-war-against-ukraine-damaged-polands-relations-with-china-not-as-much-as-you-think/>

¹⁸ <https://chinaobservers.eu/breaking-the-mold-poland-changes-course-on-china-policy-amid-war-in-ukraine/>

2022 in Beijing.¹⁹ He was also heavily advocating for importing Chinese medical supplies into Poland during the COVID-19 pandemic. The Polish-Chinese bilateral relations seemed to get back to business as usual. The recent investment developments²⁰ indicate that despite China's supportive role towards Russia, Beijing remains an economically significant partner for Poland. This was also confirmed by the appointment of the close associate of President Duda, Jakub Kumoch, to become Poland's ambassador to China after advocating for strengthening bilateral relations with Beijing.²¹

Despite coming first in general elections on 15 October, with 35.4% of the vote, PiS was unable to maintain power and was replaced by a three-group²² coalition led by the former European Council president and Prime Minister Donald Tusk.²³ It is indicative that the electoral programmes of this new coalition did not reflect on China at all. The only dimension in which PiS and Konfederacja (PiS's ally) mentioned China was an actor making investments in technology or progressing in development without environmental protection restraints.²⁴

However, there seems to be an understanding within the new democratic coalition about the need to develop a more risk-conscious China policy while avoiding openly antagonising Beijing. Although the war in Ukraine has increased China's prominence in Polish public discussion as an enabler of Russia, the public debate on Beijing remained largely missing and is limited to closed expert circles.²⁵ A potential shift in power should provide an opportunity to accelerate the debate on China and better contour differences in opinion between various political actors. Poland needs to rethink its entire framework for cooperation with Beijing, which does not necessarily mean cutting ties or decoupling, nor necessarily leaving platforms such as 16+1 or the BRI.

¹⁹ <https://merics.org/en/country-profile-poland>

²⁰ Currently, two Chinese companies are taking part in a tender to expand the port facilities in Gdynia, including Global Connector Technology (GCT). GCT's presence has raised security concerns due to its extended, almost ex-territorial, control over facilities. What's more, GCT denied a US warship a berth at its facilities. See more details here:

<https://wiadomosci-wp-pl.cdn.ampproject.org/c/s/wiadomosci.wp.pl/male-chiny-w-srodku-gdyni-port-nadal-na-celowniku-pekinu-6969025967041408a?amp=1>

²¹ <https://chinaobservers.eu/has-russias-war-against-ukraine-damaged-polands-relations-with-china-not-as-much-as-you-think/>

²² This coalition will consist of three political platforms; the centrist Civic Platform (KO), led by Donald Tusk, centre-right Third Way (Trzecia Droga), led by Szymon Hołownia and Władysław Koszynek-Kamysz and The Left (Lewica), led by Włodzimierz Czarzasty and Robert Biedroń

²³ <https://visegradinsight.eu/the-winners-and-losers-of-polands-election/>

²⁴ <https://chinaobservers.eu/will-october-elections-change-polands-stance-towards-china/>

²⁵ Ibid.

In contrast to that, Hungary remained one of the most ardent supporters of Beijing's Belt and Road Initiative. Prime Minister Viktor Orbán has been depicting China as an alternative ally of the Hungarian government not only to counterbalance diplomatic isolation within the EU but also as a way to gain new sources of funds.²⁶ Moreover, the overarching goal of Viktor Orbán is to make Hungary the main bridgehead of Beijing in terms of facilitating Chinese battery production in CEE. Therefore, the Hungarian government has doubled down on its pro-China policy course and serves as a battering ram for Beijing on the European level by vetoing joint EU initiatives critical of China.²⁷

While the centre-right Czech government has been raising public awareness of the democratic security threat posed by China, the new Slovakia government led by Robert Fico has become less hawkish towards both Russia and China. His SMER-SD mostly discussed China as a reference point to attack the West or to distance itself from the policies that the EU and US are criticising.²⁸ However, a substantive pro-Chinese shift is highly unlikely due to the current state of EU-China relations and the international environment.²⁹

PUBLIC ATTITUDES

According to Globsec, the majority of CEE respondents still do not view

Beijing as a security threat despite that the average of such respondents dropped from 62% to 53%.³⁰ Notable differences within the V4 countries are also prominent. While Czechia (60%) and Poland (43%) lead the way on both awareness and the adoption of resilience-building measures towards Beijing's malign influence operations, significantly fewer (27%) Hungarians and Slovaks (38%) perceived China to be a security threat.

Overall, 32% of CEE respondents do not consider China to be a threat to their national identity and values. As for the public attitudes, the perception of China in Poland has been changing within the broader population. Despite that China was mostly perceived as an economic partner and a potential investor, awareness of Beijing's role as a Russian enabler has increased.³¹

²⁶ https://mapinfluence.eu/wp-content/uploads/2022/07/policy-paper_lucrative-relationship_A4_04.pdf

²⁷ <https://www.ft.com/content/fafda4ff-0385-4007-9a27-869c1fdad69f>

²⁸ <https://chinaobservers.eu/will-slovak-elections-bring-a-turnaround-in-the-countrys-china-policy/>

²⁹ <https://ceias.eu/ceeasia-briefing-46/>

³⁰ <https://www.globsec.org/sites/default/files/2023-05/GLOBSEC%20Trends%202023.pdf>

³¹ <https://chinaobservers.eu/breaking-the-mold-poland-changes-course-on-china-policy-amid-war-in-ukraine/>

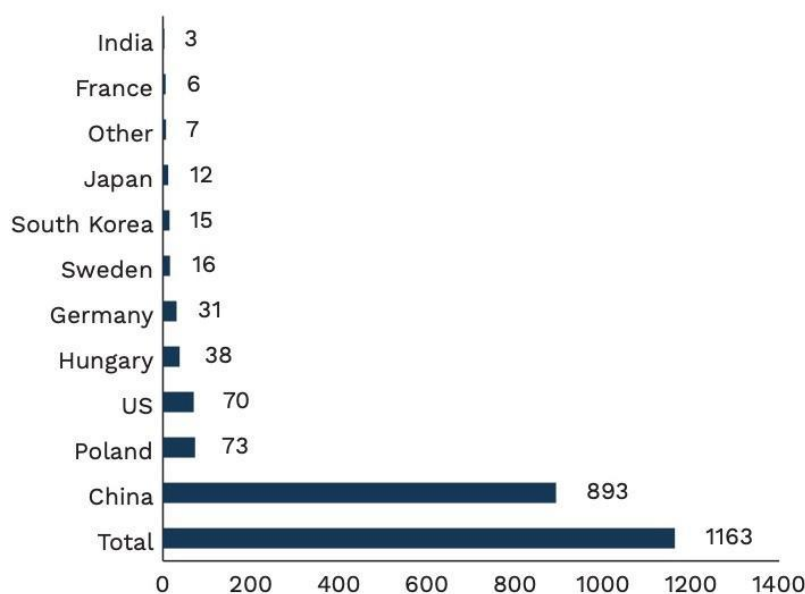
DEPENDENCY STRUCTURES IN GREEN SECTORS IN POLAND AND THE V4 REGION

China's role in ion-lithium battery production/ EV sector in CEE

Electric vehicles are becoming prominent in car production and the major components – including batteries – are produced in Poland and Hungary, with the greatest potential for battery production in the EU. In fact, Poland has the second-highest global capacity after China to produce 73 GWh of batteries per year. While Hungary had nearly half that capacity (38 GWh), new Chinese investments by CATL and EVE, as well as Korean SK, are underway in Hungary, with which it is likely to overtake Poland in the next few years.

There are fewer large-scale investments in battery production in Czechia and Slovakia, although a significant project was just announced in November 2023. China's Gotion High Tech and Slovak partner InoBat will build an electric vehicle (EV) battery plant in Slovakia, which will start production in 2026.³² However, it is still insignificant in comparison to Poland and Hungary, which are leading in this charge.

Chart 4.2: EV battery production capacity in 2022



Source: BloombergNEF.

³² <https://www.reuters.com/business/autos-transportation/chinese-slovak-venture-signs-deal-battery-plant-slovakia-2023-11-23/>

Poland plays a leading role in the supply chain for the battery sector.

Lithium-ion batteries already constitute over 2.4% of all Polish exports.

The export value in the battery sector has increased 38 times in recent years six years, from approximately PLN 1 billion (~EUR 0.21 billion) in 2017 to over PLN 38 billion (~EUR 8.24 billion) in 2022.³³ The world's largest lithium-ion battery factory currently operates in Poland, launched by LG Energy Solution in Biskupice Podgórne near Wrocław. The target production capacity will be 115 GWh per year.

Chinese EV production in Poland

China accounted for 64% of global EV production (6.7 million) and for 59% of EVs sales (6.2 million) in 2022.³⁴ As one of our interviewees put it: "Before Europe could realise the extent of what was happening, China became a world leader in making and buying EVs and we will be all driving Chinese electric cars in ten years time. They will be less advanced electronic devices, but they will certainly be cheaper."³⁵ The new Polish government should be particularly concerned about the dominance of China's automotive industry on the Polish industrial sector, which is largely dependent on exports to German automotive companies, fueling German-Chinese trade.

State-owned ElectroMobility Poland – which owns the Izera e-car brand – signed an agreement with China's Geely Holding Group to supply the technology for its local brand. The Polish firm will build its first EV factory in the city of Jaworzno, and the production is scheduled to begin at the end of 2025.³⁶ In fact, Izera seems to have become a Chinese car under the guise of a Polish brand, based on the platform of a vehicle produced by the Chinese carmaker Geely. What's more, Piotr Zaremba, the president of ElectroMobility Poland, suggested³⁷ that the Izera factory could also be used as an assembly plant for Chinese car prototypes. Geely – which is on the Ukrainian list of sponsors of the Russian war – might further open up

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https://pspa.com.pl/wp-content/uploads/2023/05/PSPA_Polskie_akumulatory_litowo-jonowe_napedzaja_Europe_PL.pdf

³⁴ https://pie.net.pl/wp-content/uploads/2023/07/Miesiecznik-Makro-7-23_EN.pdf

³⁵ Chinese manufacturers have been putting lithium-iron-phosphate batteries (LFP technology) in their EVs instead of the nickel-manganese-cobalt (NMC) lithium batteries that are more popular in the West. The competitive advantage is that LFP batteries can make EVs cheaper, safer and capable of longer ranges. Listed among the world's 10 largest EV battery makers, six Chinese companies supply 60 percent of the global market. See more details here: <https://www.gisreportsonline.com/r/ev/>

³⁶ <https://www.carscoops.com/2023/01/polish-brand-izera-to-start-building-geely-based-evs-in-late-2025/>

³⁷ <https://www.slazag.pl/fabryka-w-jaworznie-bedzie-montownia-chinskih-aut-ekspert-zapewne-czesc-samochodow-otrzyma-po-prostu-znaczek-izery>

the European market for the Chinese company. It is all the more important because the European Commission has launched investigations into subsidies for Chinese and other electric car manufacturers in order to stem the flow of cheap electric cars.

The latest development in the local EV sector is that the Chinese Sanhua Automotive will build a factory in Poland to produce components for electric and hybrid vehicles.³⁸ It will invest between PLN 160 and 208 million (~EUR 37-48 million) in the plant, which is expected to employ 350 people. It will be located in Tychy, within the Katowice Special Economic Zone (KSSE) in the industrial region of Silesia in the South. The Chinese company is part of a global manufacturer of heating and cooling components, the Sanhua Holding Group which started to produce plastic components for the automotive industry there in 2019.

In its dispute with the European Commission, China will likely find an ally in Hungary, where factories of Chinese electric vehicle battery manufacturers (CATL, EVE, and Sunwoda) will be located to primarily meet the demand of the German car industry. Hungary is also a home for China's BYD Auto's first electric bus factory in Europe, though the company's first European subsidiary was established in the Netherlands. While China expects Hungary to "push" the EU to adopt a more open policy towards China, the Orban government firmly rejects "decoupling" from Beijing with any EU action incompatible with the principle of "fair competition". This indicates how China's economic involvement may translate into political influence and underpin its political clout in Hungary. Moreover, Chinese automaker Geely Auto Group has entered the European Union (EU) market by signing an agreement with Hungarian car importer Grand Automotive Central Europe (GACE). GACE will also distribute Geely's Geometry C, a premium category electric car model also in the Czech Republic and Slovakia via dealers in its network.³⁹

China in the solar panel and the electricity market

China plays a key role in the global dissemination of solar PV technology, enabling large-scale and lower-cost production of green technologies that support the energy transition. Despite the fact that Poland is not yet in the top three markets for China's PV module exports, the domestic demand for PV is rising significantly, according to the China Photovoltaic Industry

³⁸ <https://notesfrompoland.com/2023/12/01/chinas-sanhua-to-build-electric-vehicle-parts-plant-in-poland/>

³⁹ <https://english.news.cn/20221105/4c627dfbeb3e4f358afc302e91bcbb4f/c.html>

Association.⁴⁰ In Poland, more than 70% of PV panels are being manufactured in China.⁴¹

Chinese companies also became very active in the construction of important parts of the Polish domestic energy sector. The rapidly growing Polish economy needs more energy over time which requires not only new power units but also modern transmission lines. Polish Power Grids (PSE) plans to spend over PLN 14 billion (~EUR 3.3 billion) on investments in transmission lines in 2021-2030. Contractors from China are increasingly invited to participate in PSE's investments related to transmission infrastructure, including the Pinggao Group and PowerChina, who have been winning PSE tenders for the expansion and modernisation of transmission lines for years in Poland.⁴² Another Chinese entity investing in the Polish energy sector is Sinohydro Corporation which often works with subcontractors.⁴³

Polskie Sieci Elektroenergetyczne – the transmission system operator – has prepared a multi-year programme for the expansion and modernisation of the Polish transmission network, which will cost over PLN 14 billion (~EUR 3.3 billion) by 2030. An increasing share of this investment is taken by Chinese companies, which have been successfully winning tenders and implementing investments commissioned by PSE for several years. Currently, Chinese investors are carrying out three projects with a total net value of almost PLN 600 million (~EUR 140 million).⁴⁴

Pinggao Group – a subsidiary of State Grid Corporation of China – has also made investments in transmission networks for Polskie Sieci Elektroenergetyczne for the amount of approximately PLN 700 million (~EUR 160 million) since 2014.

RECOMMENDATIONS

While dependencies on Chinese renewables will continue on a global scale, Poland and Europe need to mitigate them if they can not eliminate them.

- The new Polish government needs a more conscious and sector-targeted China policy to mitigate the risks of Green energy dependency from Chinese photovoltaics, among others. It requires a holistic approach to reducing dependence on Chinese factories and the Chinese market, seriously examining foreign investments in

⁴⁰ <https://www.globaltimes.cn/page/202302/1285838.shtml>

⁴¹ <https://link.springer.com/article/10.1007/s10098-022-02403-0#ref-CR28>

⁴² <https://polish.cri.cn/2022/10/14/ARTI0krPcMHGhVSfHhEodCFu221014.shtml>

⁴³ <https://cyberdefence24.pl/cyberbezpieczenstwo/chinski-sprzet-zagraza-bezpieczenstwu-energetyki>

⁴⁴ <https://polish.cri.cn/2022/10/14/ARTI0krPcMHGhVSfHhEodCFu221014.shtml>

strategic sectors and the need for certain trade restrictions are among the tasks to be done.

- As for the Net Zero Act, broadening critical material supplies will not be enough to diversify green supply chains away from China. Components and product sourcing will have to change as well. Poland and the EU should enforce a targeted selection of national specialisations within the supply chains of individual technologies: wind, PV, hydrogen, and energy storage. Regarding the strategy on Photovoltaics: Polish stakeholders should redirect attention to new technologies such as perovskites, floating farms, agro photovoltaics, photovoltaics with trackers, building integrated photovoltaics, which create additional value and expand the way PV is used.
- We need to secure a new vision of resilient green supply chains for Poland and CEE. It's important to have a targeted and balanced policy both at the national and the European levels when further evolving the renewable energy market. It should ensure the fastest possible development of renewable energy sources capacity while optimising costs and managing strategic risk about decoupling from China.
- Companies in Poland and in the EU need to review their supply chains and map possible shortcomings when it comes to the availability of certain materials and technologies. Mapping critical raw materials, engaging with suppliers, and investing resources to optimise the recyclability of materials⁴⁵ will increase companies' resilience in the long run.
- It is often said that Europe can not be truly energy-independent without bringing the production capacity home. However, our interviewees argued that Poland and CEE have no meaningful capacity to bring technology production home; therefore, it has to act within the broader framework of the EU. It needs to rely on developing European technologies based on renewable energy and, at the same time, building production capacities together that make us independent from Chinese supply chains.
- While European member states need to think about joint industrial policies, it requires a complex approach beyond the industrial policy debate: Polish and EU decision-makers need to address the

⁴⁵ <https://chinaobservers.eu/recycling-a-pothole-in-the-great-sino-european-electric-vehicle-race/>

shortage of skilled labour more efficiently both with education and also in the context of immigration.

- While electric vehicles (and batteries) are needed to phase out internal combustion engine vehicles and address the climate crisis, the new Polish government should foster fewer cars overall on the road. This goal can be achieved by investing in and developing affordable (renewable energy) public transport systems and improving the micro-mobility infrastructure in Poland.
- In the meantime, cities must be transformed in a way so that public transport services are available so that local citizens are not forced to use private vehicles. In case driving a car is unavoidable, the government should subsidise car-sharing services to decrease the overall number of passenger vehicles.
- It is also crucial to bridge the gap between the expert bubbles: more cross-sectoral, interdisciplinary, and cross-regional exchange is needed to better understand the underlying risks of dependence on China in terms of renewable energy sources. One of the lessons learned while conducting research for this brief is that the majority of the expert community is either focused on Chinese influence in Europe or on green technologies from the industrial angle without discussing the two under one roof.
- Setting the Green Transition right requires a higher level of public awareness and support. Therefore, the new Polish government should reconsider and publicly debate the risks of energy dependency in relation not only to Russia but also to China. It should be centred around lessons learned from past mistakes about Russia in the context of democratic security and potential pathways to the Green Transition.