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De-Risking the EU's Green Transition: Balancing Economic Security and Climate Objectives in EU-China Relations

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Abstract

The European Union faces a critical challenge in balancing economic security with climate goals amid significant dependencies on China for green technologies. This thesis examines the interplay between de-risking from China and advancing the EU's climate objectives. Through a qualitative research method combining a literature review analysis and expert interviews, the research analyses the EU's green technology dependencies on China, and how this affects economic security risks. Amid growing concerns about economic security due to shifting geopolitical dynamics and supply chain disruptions from Russia's invasion of Ukraine and the COVID-19 pandemic, this thesis explores how the EU can secure its economic interests while achieving its climate targets. Findings reveal challenges and trade-offs. There is an inherent tension between pursuing a secure, European-led green transition versus a cost-effective but dependent approach on Chinese technologies. The research argues in favour of strategies such as diversification and strengthening partnerships with countries who experience similar economic security concerns and de-risking needs to mitigate risks. Policy recommendations emphasize the need for a unified EU approach, strengthening EU competitiveness, fostering innovation, and securing funding for the green transition. The thesis advocates for a balanced approach that ensures the EU can achieve its climate targets while maintaining economic resilience and strategic autonomy, navigating the complexities of global supply chains and geopolitical tensions.

Key Words: European Union, EU-China Relations, Economic Security, Climate Objectives, Green Technologies, Green Transition, Trade Dependencies, De-risking Strategy

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List of Abbreviations

ACI - Anti-Coercion Instrument
ASEAN - Association of Southeast Asian Nations
BRI - Belt and Road Initiative
CAI - Comprehensive Agreement on Investment
CBAM - Carbon Border Adjustment Mechanism
CEAP - Circular Economy Action Plan
CRMA - Critical Raw Materials Act
CRMs - Critical Raw Materials
ESS - Economic Security Strategy
ETS - Emissions Trading System
EU - European Union
EV - Electric Vehicle
FDI - Foreign Direct Investment
FSR - Foreign Subsidy Regulation
IEA - International Energy Agency
IPCEI - Important Projects of Common European Interest
IRA - Inflation Reduction Act
MSP - Minerals Security Partnership
NIS2 - Network and Innovation Security
NZIA - Net Zero Industry Act
RAN - Radio Access Network
RECEP - Regional Economic Comprehensive Partnership
SMEs - Small and Medium-sized Enterprises
STEM - Science, Technology, Engineering, and Mathematics
STEP - Strategic Technology European Platform
US - United States
WTO - World Trade Organization

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1 Introduction

Since its inception, the European Union (EU) has benefited from and been shaped by open, rules-based international trade (European Commission, 2023a). Recent challenges like supply chain disruptions caused by the COVID pandemic and Russia's war against Ukraine have led to increased geopolitical tensions and competition, renewing awareness of the structural risks posed by economic dependencies.

The term 'de-risking' was first coined by Ursula Von der Leyen on 30 March 2023 in a speech on EU-China relations (European Commission, 2023b). In her speech, President Von der Leyen calls for 'economic de-risking' in contrast to the US strategy of 'decoupling.' Benson and Sicilia (2023) explain that "in contrast to 'decoupling', which advocates for a complete disentanglement of economies, de-risking acknowledges the complexities of global economic ties and aims to mitigate risks strategically." President Von der Leyen calls for economic de-risking through diplomacy, emphasising the EU's interest in a partnership with China in key sectors, most notably climate change, to achieve common goals. A few years earlier, the EU-China Strategic Outlook (European Commission, 2019a) already communicated a change in tone regarding the EU-China discourse. The document labels China as a 'cooperation and negotiating partner, an economic competitor, and a systemic rival,' reflecting the EU's shifting perspective in light of the changing geopolitical landscape and international order.

To address excessive economic dependencies, the European Commission proposed its 'Economic Security Strategy' (ESS) in June 2023. The proposal sets out a strategy to promote the EU's competitiveness and resilience, protect the EU from economic weaponization and coercion, and strengthen the resilience and sustainability of value chains through partnerships, to reinforce the rules-based international order. The strategy aims to ensure the security of the EU's economy and prevent China from weaponizing economic dependencies (European Commission, 2023a). The EU's de-risking strategy is also relevant to the green transition, as the EU's reliance on China for key clean energy technologies poses a strategic vulnerability, necessitating a comprehensive approach to mitigate dependencies while advancing climate goals. The challenge for the EU lies in balancing economic security and climate objectives, as efforts to de-risk from China may impact

the EU's ability to meet its climate targets. The research in this thesis addresses critical issues at the intersection of economic security, climate objectives, and international partnerships, reflecting the evolving geopolitical and technological landscape. It also addresses the challenges and trade-offs the EU faces in pursuing a de-risking strategy that considers both economic resilience and environmental sustainability.

1.1 Research Question and Objectives

How can the EU effectively de-risk from China while concurrently achieve its climate targets? What are the strategies and tools the EU should deploy to mitigate its dependencies and achieve the right balance between economic security and climate objectives?

1.2 Objectives of the study

This thesis examines the trade-offs between economic security and climate targets, to understand how a de-risked green transition can be achieved. It aims to contribute to the emerging debate on economic security and climate resilience within EU-China relations. Existing literature examines economic security and climate objectives in the context of EU-China relations separately but lacks thorough exploration of their interplay. This thesis aims to contribute to this research gap.

1.3 Methodology

The research methodology begins with an extensive literature review, drawing on existing research and policy documents to provide a comprehensive theoretical foundation. This process is iterative, continuously refined and updated to incorporate new information throughout the research (Braun & Clarke, 2013; Miles et al., 2014). The cyclical nature ensures the literature review remains relevant and robust, necessary due to the ongoing evolution of EU-China relations.

This research relies heavily on European Commission policy documents and sources from think tanks such as Merics, Bruegel, and the European Council on Foreign Relations. It also includes

recent news articles to ensure recent policy evolutions and relevant events are included in the analysis. Academic articles on de-risking from China while achieving climate targets are limited, making contemporary sources invaluable for up-to-date information and expert opinions.

Qualitative research, using semi-structured expert interviews, supports the research. This approach obtains in-depth and nuanced insights into EU-China relations, economic security, and climate policy. Expert interviews are valued for their efficiency and depth in gathering high-quality data, offering deep insights not easily obtainable through other methods. According to Bogner, Littig, and Menz (2009), they provide a fast and effective way to get substantial and reliable results. Experts bring practical, real-world perspectives vital to understanding how theoretical ideas play out in policies and strategies. This insider knowledge, as Bogner et al. describe, streamlines the information-gathering process.

The flexibility of expert interviews allows for adapting questions based on responses to explore complex issues thoroughly. However, there are limitations. Interviews may be subjective due to experts' personal biases. This thesis balances subjectivity by cross-referencing with other data sources. While interviews provide in-depth insights, they may not capture the full range of opinions within a field. Therefore, the analysis cross-references and triangulates interview findings with the literature analysis for a more complete picture.

1.4 Research Plan

Chapter I examines the evolution of EU-China trade dependencies, examining this within the context of evolving geopolitical dynamics. Chapter II investigates these dependencies further, looking at the affected green technology sectors, and analysing the EU's policy responses. Chapter III exposes the dilemmas of balancing economic security and climate objectives while de-risking from China, looking at potential challenges and trade-offs which arise in this context. Chapter IV provides key expert insights that were gathered through qualitative semi-structured interviews. Finally, chapter V analyses the strategies for de-risking from China, combining the literature analysis with the expert insights to formulate policy recommendations.

Chapter I. Literature Review

2 EU-China Relations

2.1 From Ancient Routes to Modern Markets: EU-China Economic Relations

The EU and China have a long history of trade relations that can be traced back to ancient times. This relation is exemplified by its infamous Silk Road which was active from the second century BCE to the 15th century, creating economic interdependence between the two regions (Zhao, 2016). Since, this relationship has fluctuated, at its low during the Mao Zedong years before picking back up in the 1980s (Goldstein, 2020).

Since the 1980s, China has undergone substantial economic reforms starting with Deng Xiaoping's "Reform and Opening Up" policy, aimed at market-oriented changes to stimulate growth (Babones, 2017). This "deradicalization" stage marked China's active pursuit of trade relations and technology transfers with the EU (Gunter & Zenglein, 2023). Deng's leadership (1978-1992) increased China's economic dependency on the EU for access to Western technologies and markets. Under Jiang Zemin (1993-2003) and Hu Jintao (2003-2012), China continued market reforms, focusing on sustainable development and the Communist Party's role, deepening economic engagement with the EU (Peters, 2017; Gunter & Zenglein, 2023). During this period, trade between the two boomed.

This evolution culminated in China's accession to the World Trade Organization (WTO) in 2001. It was seen as a commitment to market-oriented reforms and international trade rules, with the EU supporting China's entry (Holslag, 2014; 2018). However, expectations that China would adopt a rules-based international order and align with Western market practices were unmet. China's economic practices, including state subsidies, forced technology transfers, intellectual property theft, dumping, non-tariff barriers, and lack of transparency, demonstrated a lack of commitment to the multilateral trading system (Holslag, 2018; Gao, 2021).

2.2 From Partnership to Paradox: The Shifting Landscape of EU-China Economic Relations

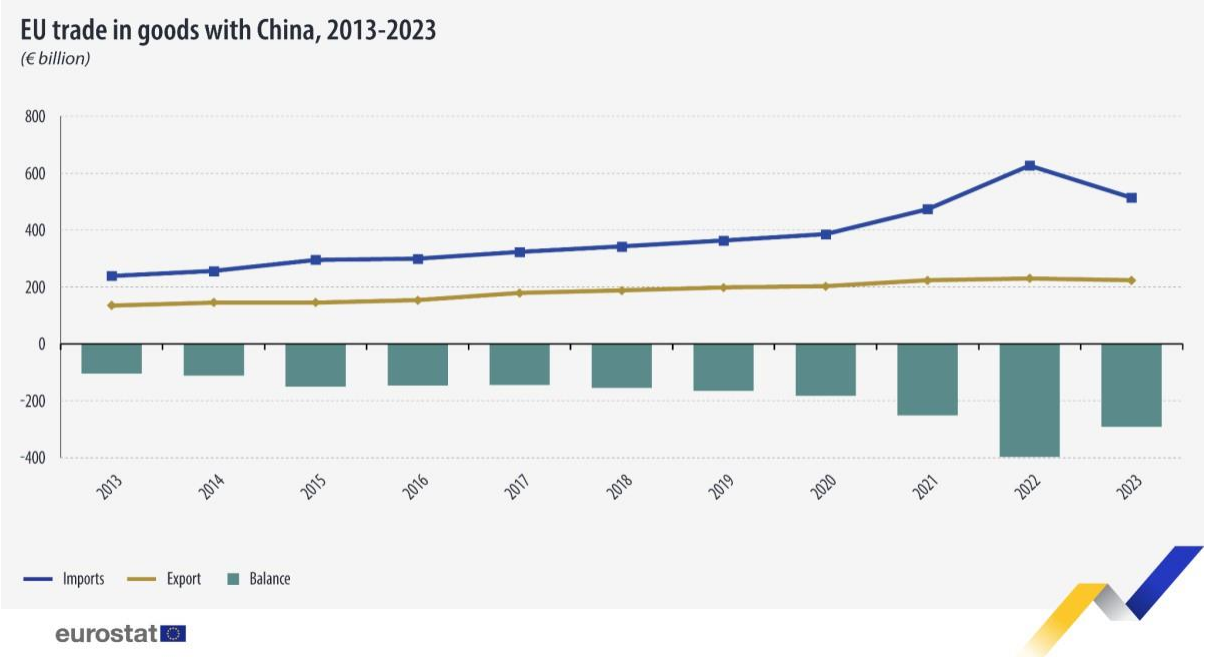
China's WTO membership reshaped the global economic order, influencing trade patterns, investment flows, and international relations dynamics (Gao, 2021). Since Xi took office in 2012, China has entered yet a new phase of economic policy, described as "securitization," where economic issues are viewed through the lens of national security (Gunter & Zenglein , 2023). Xi introduced "Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era", prioritising national rejuvenation and global leadership (Babones, 2017). His vision sets out a two-phase development plan: from 2020 to 2035, the focus is on achieving socialist modernization, including the Belt and Road Initiative (BRI). Then, from 2035 to 2050, the goal is to make China a "prosperous, strong, democratic, culturally advanced, harmonious, and beautiful modern socialist country" (Hu, 2023, p. 63). The economic agenda involves broadening the roles of the party to steer economic actors towards Beijing's strategic goals (Hu, 2023). Economic liberalisation as an independent goal has been side-lined; instead, market forces are used selectively when it works in Xi's Chinese Communist Party's favour but are disregarded when it does not fit its agenda (Gunter & Zenglein, 2023).

Xi's leadership wants to create a "New type of all-of-nation system" to close technology gaps, aligning business with national goals and addressing financial risks through increased state control (Gunter & Zenglein, 2023). Yet, despite the securitization of the economy, China has no intention of isolating itself. Quite the contrary, its strategy seeks to simultaneously improve China's position in the global economy by remaining open to global engagement, while increasing domestic consumption and moving up the global value chains (Gunter & Zenglein, 2023; Garcia Herrero, 2021). This is the central element of Xi's 14th five year plan; the dual circulation strategy. It aims to increase domestic demand and innovation while maintaining engagement with the global economy (Garcia Herrero, 2021). Internally, it focuses on leveraging domestic resources for technological advancement and reducing reliance on external markets. Externally, it integrates economic policies to increase resilience and self-sufficiency, ensuring China's economic stability during global uncertainties and changing international dynamics (Garcia Herrero, 2021). The goal of this strategy is to balance and strengthen both domestic and international economic activities, adapting to geopolitical shifts and global crises. In doing so, it makes the world more dependent on China, and China less dependent on the world, increasing its global standing and influence.

2.3 China-EU Trade Relations: A Complex Evolution

Thus, the period following 1978 is an era that has both reflected and shaped global trade dynamics. Throughout this period, China's deepening economic engagement with the EU has played an increasingly significant role in their bilateral relations, deepening trade dependencies. The evolution of their trade relation has seen a drastic acceleration, yet optimism about the potential of their partnership has decreased in recent years. Their relationship has seen a shift from one that was thought to be mutually beneficial, to one that is increasingly perceived as asymmetrical and problematic according to the EU. Initially, the outsourcing and fragmentation of the supply chain benefitted both European companies and consumers (Wieringen, 2022). Productivity increased, and production costs and prices of goods decreased. Countries focussed on their areas of comparative and competitive advantage; hence the evolution of their trade partnership was both mutually beneficial and economically sound. Yet, the reality was an increasingly asymmetric trade relationship and a trade deficit that only kept growing (Brinza et al., 2024). As illustrated by figure 1, the EU's trade deficit with China has since steadily increased, averaging nearly €210 Billion per year since 2013, reaching record levels of €397 Billion in 2022 (Eurostat, 2024a & Statista, 2024a).

Figure 1: Increasing trade deficit between the EU and China (Eurostat, 2024a)



2.4 Infrastructure and Influence: Evolving Dynamics of EU-China Relations

The Economic crisis of 2008-2012 was a significant instance where the EU-China relation faced new challenges, with Europe becoming increasingly critical of China's trade practices (Le Corre, 2018). China's investments in European infrastructure, such as the Piraeus Port in Greece and airports and ports in France and Germany, raised concerns about its growing influence (Le Corre, 2018). The recent 17+1 partnership (now 14+1) and the BRI demonstrate China's efforts to expand its influence in Europe through infrastructure investments (Pepermans, 2018). This raises concerns over increased Chinese influence in Central and Eastern Europe. Pepermans (2018, p.1) explains that these projects "give China the possibility of increasing its influence in Central and Eastern Europe by using economic carrots and promises and gaining soft power through cultural exchange and high-level diplomatic dialogue". Moreover, increased investments and procurement of critical infrastructure in the EU raises questions about the balance between economic benefits and potential challenges for the EU's autonomy and sovereignty (Pepermans, 2018). While some member states are increasingly aware of the risks related to economic security, demonstrated by the Baltic countries leaving the 17+1 partnership and Italy pulling out of the BRI, China's recent investments in Serbia and Hungary show that the appeal of Chinese capital and infrastructure development continues to attract certain EU countries, despite growing awareness of associated economic security risks.

2.5 European Green Deal: achieving Climate Goals while managing Global Dependencies

President Von der Leyen emphasised the importance of a balanced, reciprocal economic relationship between the EU and China, stating: "our relationship is unbalanced and increasingly affected by distortions created by China's state capitalist system. So we need to rebalance this relationship on the basis of transparency, predictability and reciprocity" (European Commission, 2023b). This reflects the EU's concern about economic frictions and market access restrictions while creating a more symmetric trade environment. As China and the EU shape global trade and cooperation, their partnership will be crucial in navigating modern global challenges, such as the Green transition.

The EU has made a strong effort to position itself as a global leader in the green transition, setting clear, quantifiable targets for a sustainable economy. This is significant for the EU and the rest of the world. The European Green Deal aims to make Europe the first climate-neutral continent by 2050, demonstrating the EU's commitment to addressing climate change and serving as a model for other nations (Oberthür & Dupont, 2021). However, the EU's quest to become a green transition leader faces a crucial challenge: its dependencies on other countries for green technologies. The EU's reliance on third countries for critical components and raw materials poses a significant obstacle to its economic security, which will be examined more closely later. This issue is exacerbated by global supply chain disruptions and geopolitical tensions, which became evident during the Covid pandemic and Russia's invasion of Ukraine.

2.6 Green Power Struggle: towards Strategic Autonomy

The European Green Deal needs to balance affordable Chinese green tech imports with strategic autonomy goals to ensure it can achieve its climate objectives without compromising its economic security. In 2023, China ranked as the EU's third-largest destination for goods exports (8.8%) and its primary source for goods imports (20.5%) (Eurostat, 2024b). As the EU-China trade relationship has become increasingly intertwined, dependency challenges in green technology have come to the forefront.

Achieving the EU's climate targets requires significant action in all sectors, particularly energy. China's increasing dominance in green technologies poses a challenge for the EU who does not want to lose these strategic sectors. The EU's loss of the solar panel industry is a prime example of China's aggressive production and export strategies which have marginalised other major players, such as Japan, South Korea, and Germany, due to its predatory behaviour and ability to produce at lower costs (Leonard et al., 2021; Garcia-Herrero, Grabbe & Källenius, 2023). More recently, China has taken the lead in the electric vehicle (EV) market, and is expanding its presence in the wind energy sector, raising concerns over the EU's strategic autonomy (Garcia-Herrero et al., 2023; Pindyuk, 2023).

To address these challenges, the EU's green transition agenda emphasises strategic autonomy, particularly in the context of supply chain vulnerabilities highlighted by the Ukraine war and the

COVID-19 pandemic. To mitigate these risks, the EU is promoting domestic production and diversifying supply chains to reduce reliance on Chinese imports (Kratz et al., 2022; Garcia-Herrero et al., 2023). The key policy acts that focus on domestic production and diversification of supply chains are the Critical Raw Materials Act (CRMA) and the Net-Zero Industry Act (NZIA). These acts aim to ensure the economic security of the EU's strategic sectors, and to mitigate its dependencies in these. As will be elaborated in the following chapters, this is no easy feat considering the EU's dependencies in many strategic sectors crucial for its green transition. Ultimately, the EU's commitment to achieving net-zero emissions by 2050 involves balancing economic security and climate goals through international partnerships, domestic production, and innovation in green technology (Grabbe & García-Herrero, 2023). As the EU accelerates its green transition, it must reduce its dependencies to address its economic security concerns.

3 Current State of Economic and Political Ties

3.1 A Strategic Shift: Economic Security

Our era is turbulent as ever, with pressing political, economic, and technological challenges. Geopolitically, Europe, the US, and China compete intensely for high-tech leadership and essential mineral resources (Soete & Stierna, 2023). Economically, unsustainable capitalism has led to climate change and biodiversity decline, limiting further industrial growth and material consumption (Soete & Stierna, 2023). Technologically, the rise of AI is leading us into an unprecedented era of machine learning (Soete & Stierna, 2023).

Considering the evolving dynamics between the EU and China, the 2019 EU Strategic Outlook calls for reciprocity, fair competition, and a level playing field (European Commission, 2019a). It identifies risks like supply chain disruptions and technology security concerns, demanding strengthened supply chain resilience and protection of critical infrastructure. The EU has taken a more critical approach to China, categorising it as a cooperation partner, economic competitor, and systemic rival (European Commission, 2019a). Since then, the transition from partner to competitor and rival has accelerated. The EU's 2021 Trade Policy Review focused on WTO

reform, green and digital transitions, regulatory impact, partnership building, and FTAs (European Commission, Directorate-General for Trade, 2021). While economic security was a focus, its importance has since grown exponentially. This shift is reflected in President Von der Leyen's March 2023 speech at the Mercator Institute for China Studies: "...after de-risking through diplomacy – the second strand of our future China strategy must be economic de-risking.to achieve this goal we will also need more independence and diversity when it comes to the key inputs needed for our competitiveness" (European Commission, 2023b). After the trilateral meeting with Xi and Macron in Paris, Von der Leyen stated, "As we have shown, we will defend our companies; we will defend our economies. We will never hesitate to do so if this is required.Europe cannot accept market-distorting practices that could lead to deindustrialisation here at home.Our market is and remains open to fair competition and to investments, but it is not good for Europe if it harms our security and makes us vulnerable" (European Commission, 2024a).

These statements reflect the shift towards more serious concerns and actions regarding economic security. This shift is also reflected in the 2023 Economic Security Strategy (ESS), where the EU outlines its commitment to strengthening supply chain resilience, diversifying critical imports, and implementing robust trade and technology security measures. The ESS aims to manage EU-China relations effectively, ensuring economic cooperation benefits while mitigating potential risks to European economic and national security.

3.2 WTO Turbulence: The EU's Reform Efforts

This shift has also been visible in the EU's focus on WTO reforms, where it is committed to strengthen and protect the global trade frameworks in light of contemporary challenges. The WTO has faced increasing challenges since the US decided to no longer nominate new members to the appellate body, rendering this one dysfunctional since 2019. This is due to their resistance to a superior authority, increased protectionism, and the erosion of the multilateral rules-based system, exacerbated by China's non-adherence to WTO rules.
As a response, the EU is putting efforts towards comprehensive reforms across all WTO functions, aiming to ensure a level playing field, revitalising multilateral cooperation, and strengthening the

organisation's role in sustainable development. This includes initiating negotiations on reinforced rules to mitigate competitive distortions caused by state interventions and restoring a fully-functioning WTO dispute settlement mechanism (European Commission, Directorate-general for Trade, 2021). The EU has faced cases demonstrating the need for these reforms, such as when it imposed anti-subsidy and anti-dumping measures against China over solar panels (European Commission, 2013). This showed the urgent need for clearer rules and robust mechanisms to resolve trade conflicts in green technologies. (Chen, 2015).

3.3 FTAs with Strings Attached

The EU wants to leverage its market power to achieve a spillover of its so-called 'normative power' to include other objectives such as better labour, social and environmental standards within its trade agreements (Damro, 2012; Manners, 2002). By using FTAs, the EU aims to improve economic opportunities, sustainability, and global standards, while strengthening economic security and resilience in critical sectors against unfair trade practices (European Commission, Directorate General for Trade, 2021). The EU's FTAs emphasise economic security and fair competition, focusing on level playing fields, labour and social standards, and environmental considerations.

Contributing only 8% of global emissions, the EU is committed to ensuring the global adoption of the green transition agenda and the Paris Agreement (European External Action Service, 2021). This commitment is reflected in FTAs incorporating sustainable development chapters to elevate global standards. The integration of essential minerals like lithium and cobalt in FTAs demonstrates the dual focus on economic security and the green transition through responsible and sustainable value chains. By these into its trade policies, the EU aligns its efforts with climate objectives. The EU's FTAs use market power to help revitalise the rules-based international system and advance climate objectives. This approach reflects a dual agenda: achieving a green transition while maintaining economic security.

3.4 Values over Pragmatism, Security over Naivety

The growing complexity of the EU-China relationship was made visible in the failed Comprehensive Agreement on Investment (CAI). After years of negotiations, the CAI failed due to the EU's sanctions over human rights abuses in Xinjiang, which China retaliated against by targeting a European Parliament subcommittee. The EU's insistence on high environmental standards and fair labour practices also clashed with China's policies and approach to foreign investment (Fan, 2020; Kurtz & Gong, 2021). The geopolitical climate further complicated matters, with strong economic ties between member states like Germany and China leading to technological transfers that boosted China's growth, sometimes at the EU's expense (Van Wieringen, 2022).

The lack of reciprocal market access is also a growing concern. European companies often face barriers to entry and unfair competition in China, while Chinese firms have much easier access to the European market (Kurtz & Gong, 2021). This imbalance, exacerbated by different standards and an unlevel playing field, makes deep collaborations challenging. It also reflects the EU's need for a more critical approach in its economic and political cooperation with China, to achieve a stable and rules-based international order.

The EU has become increasingly aware of the risks tied to its economic and political interactions with China, such as supply chain risks, physical and cyber security of critical infrastructure, and the potential for economic dependencies to be weaponized. The recent situation with Lithuania demonstrated these weaponization risks. When Lithuania allowed Taiwan to open a representative office in Vilnius, China retaliated with economic coercion, halting imports and pressuring multinational companies to cut ties with Lithuania (Andrijauskas, 2022; Blockmans, 2021). This economic coercion was a wake-up call for the EU, showing that China will weaponize supply chains for political ends. Furthermore, the EU has increasingly faced risks associated with over-dependencies since Russia's war in Ukraine. Russia's weaponization of gas demonstrated the risks of weaponizing energy resources for geopolitical influence, highlighting the need for the EU to diversify its sources and strengthen its security policies to mitigate such dependency risks.

The recent evolution of economic and political ties between the EU and China thus reveals the need for a more proactive and less naive approach to their partnership. By advocating for a rules-based international order and upholding high environmental standards, the EU aims to safeguard its economic and security interests while promoting its green transition goals.

4 US-China Rivalry: the EU's Balancing Act

4.1 US Protectionism

Increased competition between the United States (US) and China has led to a shift in US trade policy towards protectionism, a trend initiated by the Trump administration in 2018 and sustained under President Biden (Kleiman et al., 2023). This protectionist approach is evident through the imposition of tariffs on Chinese goods, stringent restrictions on Chinese investments in the US, aligning with the US' decoupling agenda (Gasparini, 2021; Benson & Sicilia, 2023). Biden's 2022 Inflation Reduction Act (IRA) demonstrates this shift, offering significant subsidies and tax credits for domestic production of EVs, renewable energy, and other clean technologies (Kleiman et al., 2023). With a $369 billion allocation for energy security and climate change initiatives, the act aims to curb China's advancements in key industries (Kleiman et al., 2023).

4.2 EU-China Economic Ties

The EU's relationship with China is more interconnected than that of the US. In 2023, the EU's bilateral trade with China amounted to €739.5 billion, compared to $575 billion for the US (European Commission, 2024; Statista, 2024b). With a trade-to-GDP ratio of 97% for the EU versus 27% for the US, the EU is significantly more integrated into international trade and global markets (World Bank Open Data 2024a; 2024b). The EU's deeper engagement in global markets explains its de-risking rather than decoupling approach to China.

4.3 Strategic Dilemmas and Geopolitical Consideration

The US's IRA presents a dilemma for the EU as it balances its relationships with the US and China. The IRA's reorganisation of supply chains and reduction in the cost of clean technology impact

Europe's competitiveness in green technologies (Kleiman et al., 2023). Choosing sides between the US and China could harm the EU's economic interests, given China's crucial market for European goods and investments (Van Wieringen, 2022).

Despite shared concerns over China's economic rise and market dominance in green technologies, the EU has adopted a less radical approach than the US. The EU continues to engage diplomatically and economically with China, recognizing the importance of cooperation on global challenges like climate change. Conversely, the US takes a tougher approach to restrict the market access of China's green technologies through import tariff barriers and protectionist domestic policies like the IRA (Kleiman et al., 2023). The legacy of Trump's confrontational policies towards China continues to influence current US-China relations, with lasting implications for the global geopolitical landscape. Trump's administration implemented tariffs affecting over $370 billion worth of Chinese goods, significantly impacting bilateral trade (Chen, 2021). Although President Biden's discourse on China has been less confrontational, remnants of "Trumpism" persists, limiting the scope for substantial improvement in US-China relations (Xiying, 2021). Biden's recent imposition of 100% tariffs on imports of Chinese EVs demonstrates the US's continued de-coupling agenda.

The US, as a key ally and partner of the EU, significantly influences the EU's approach to China. The EU's reliance on the US for defence under NATO and their historic partnership means it cannot afford to harm its relationship with the US. The Taiwan dilemma further complicates the EU's strategic positioning (Brinza et al., 2021). The US's support for Taiwan places additional pressure on the EU to balance its relationships with both China and the US, complicating its strategic positioning (Brinza et al., 2021). Furthermore, should Trump return to power in 2024, the intensification of US protectionist policies is a possibility that cannot be ruled out. This scenario could further complicate the EU's efforts to de-risk from China, potentially forcing the EU to align more closely with the US's protectionist agenda. Such alignment could disrupt the EU's economic relationship with China, hindering its aim of balancing cooperation and competition in its de-risking efforts in strategic sectors and green technologies (Wieringen, 2022; Tonchev, 2021).

4.4 Analysis

The above analysis demonstrates the complex balance the EU must maintain in its relationships with the US and China. It is evident that the US's protectionist measures, particularly under the IRA, have real implications for EU competitiveness in green technologies. The EU's interconnected trade relationship with China, in contrast with the US's confrontational stance and decoupling agenda, shows three issues the EU must navigate; its economic interests, geopolitical alliances, and strategic goals. That being said, it is important to note that the US might be decoupling less in practice than its inflamed political rhetoric would like us to believe (Hogan & Hufbauer, 2023). Although strategic sectors are seeing decoupling tendencies, overall trade between the two is expected to continue to grow in the near future (Hogan & Hufbauer, 2023).

While the evolving dynamics between China and the US could become increasingly important in the future, this thesis will not focus on the impact of US-China relations on the EU. This topic lies outside the scope of the research question. Additionally, the potential evolution of this triangular relationship is highly speculative. Although it will undoubtedly influence the EU's approach to China and its ability to de-risk, this thesis will not address this complex trilemma.

Chapter II: Dependencies and Risks: Analysis of the EU's Dependencies on China

5 Dependency Risks: Green Technologies

As China strengthens its dominance in green industries, the EU's dependence on China has grown across various sectors, including those essential for the green transition. The COVID-19 pandemic revealed the vulnerabilities in global supply chains, exposing the risks of concentrating supply chains in China. Such over-dependencies on a single country threaten the stability and resilience of the EU's economy and industries (Vandermeeren, 2024). Lipke et al. (2024, p. 4) explain that "the Chinese leadership has defined the "new three" (新三样) areas of focus - solar cells, lithium ion batteries, and EVs (as opposed to the old three; household appliances, furniture, and clothing) - to become the core drivers of China's economic growth." China's strategic focus on these sectors has allowed it to surpass European firms in production speed, scale, and price competitiveness. This poses potential risks to European economic competitiveness, to its national and energy security, and climate goals (Lipke et al., 2024).

5.1 Dimensions of Green Technology risks

Lipke et al. (2024) have classified three risks related to green technologies across economic, climate, and (national) security dimensions, presented in figure 2 below. The economic security dimension includes supply chain, competitiveness, and weaponization risks. Supply chain risks were exposed during the Covid-19 pandemic, causing significant delays and costs for key industries. Competitiveness risks arise from China's unfair practices like dumping and state subsidies, particularly evident in solar panels, hindering the EU's competitiveness. Weaponization risks have increased with Russia's weaponization of gas supplies and China's control over rare earth elements, threatening the EU's green and high-tech industries. Lipke et al.'s security dimension aligns with the ESS' description of supply chain risks and economic coercion risks (European Commission, 2023c).

The climate risks dimension examines the potential negative impact of de-risking on the green transition. Reducing dependency on Chinese-made solar panels and batteries could increase the cost of the green transition, slowing the deployment and adoption of these technologies and posing risks for the climate (Lipke et al., 2024).

The third dimension, security risks, encompasses energy and national risks. Energy risks involve dependencies on technological components crucial for energy security. For instance, China's dominance in lithium-ion battery production threatens the EU's energy storage capacities, affecting the stability and reliability of the EU's energy grid. National risks involve dependencies on specific industries or products, leading to potential threats to critical infrastructure and sensitive data. Dependence on Chinese technology in telecommunications and power grids can expose the EU to security risks, cyber threats, and espionage (Kaska et al., 2019; Strand, 2023). This dimension aligns with the ESS's focus on cyber threats, physical security, and technology breaches (European Commission, 2023c).

These three dimensions of green security risks provide an understanding of what must be considered when analysing economic security, de-risking from China, and strategically prioritising green technologies and key sectors, to ensure a balanced, informed approach.

Figure 2: Green technology risks (Lipke et al., 2024)

Green technology risks

Economic dimension	Supply chain risk	The degree to which the production of a finished product or component is imported from a single source.
	Competitiveness risk	The degree to which domestic European industries are threatened in their existence by competition from foreign industry in the relevant sector.
	Weaponisation risk	The degree to which the producing country can use dependencies to coerce a recipient country into a desired action.
Climate dimension	Climate risk	The degree to which de-risking policies contribute to or hinder emissions reductions and the realisation of the EU's decarbonisation goals by 2050.
Security dimension	Energy security risk	The degree to which the EU is dependent on technology, materials, or components to ensure its energy security.
	National security risk	The degree to which a particular industry or product involves access to sensitive data or critical infrastructure that constitute a threat to national security.

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6 Green technology dependencies

The Covid-19 pandemic revealed the EU's dependencies on China within its manufacturing sector, particularly for critical components, as analysed by Dahlström et al. (2023). This vulnerability has forced the EU to enact ambitious industrial policy initiatives such as the NZIA, aimed at reducing dependencies and strengthening competitiveness in green technologies, including EVs, solar, wind, heat pumps, carbon capture and storage, among others (European Commission, 2023d). To address these challenges, the EU must prioritise diversifying supply chains, increasing domestic manufacturing capabilities, and incentivizing investments in key industries. However, reducing dependency on China is costly. The initial investments and market entry costs are very high (Erraia et al., 2023), and the stricter environmental regulations and labour standards within the EU make it more difficult to compete with China's compared cost advantages. Furthermore, there are significant disparities between Member States' industrial policies (Soete & Stierna, 2023). Member states tend to prioritise the protection of their own industries and pursue their national interest - complicating the implementation of a coordinated approach (Soete & Stierna, 2023).

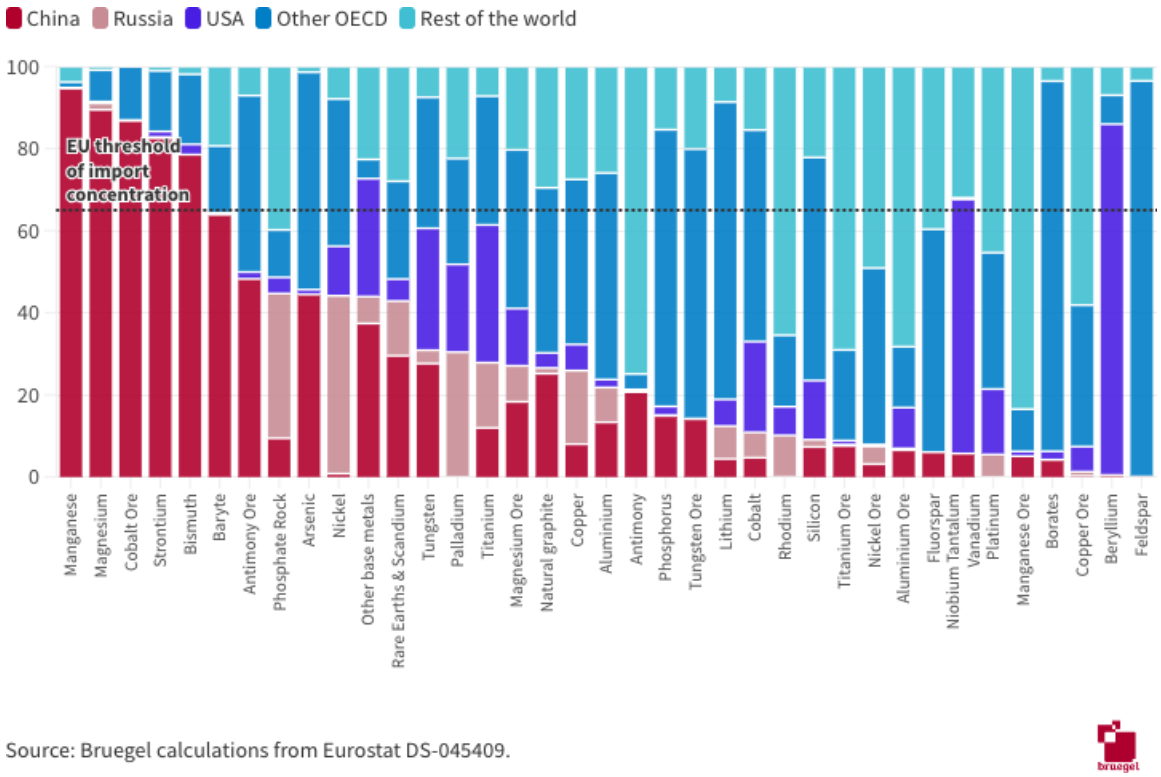
The next section will analyse current dependencies in key green technology industries to assess their implications for the EU's economic resilience and strategic autonomy. Specifically, we will examine the EU's reliance on China in critical raw materials (CRMs), battery production, EVs, renewable energies such as solar and wind, and telecommunications infrastructure. These industries are essential to achieving the EU's net-zero targets outlined in the NZIA, and understanding their dependencies is crucial to formulate effective policy responses.

6.1 Critical Raw Materials

The EU's heavy reliance on China for CRMs, such as rare earth elements, lithium, and cobalt, poses significant risks to its economic and industrial competitiveness (Oertel et al., 2022). China controls a substantial portion of the global CRM supply chain, which, combined with the EU's scarcity of these materials, creates a vulnerability susceptible to disruptions and weaponization (Le Mouel & Poitiers, 2023). The EU's CRMA aims to mitigate these risks by promoting domestic resource extraction, increasing its processing capacity, and diversifying sourcing to achieve a more resilient supply chain (European Commission, 2023d). However, the EU faces challenges in competing with China and convincing companies to prioritise geopolitics over the market. CRM dependencies could be weaponized, like Russia's weaponization of gas, leading to significant

economic and political implications (Le Mouel & Poitiers, 2023). Additionally, there are concerns about the environmental and social impacts of CRM extraction and processing (de Haes & Lucas, 2024). Although the CRMA aims to mitigate economic risks and secure the green transition, challenges remain evident; its ambitious targets are set for 2030, and they might be difficult to achieve in a timely manner considering the expected growing demands of CRMs.

Figure 3: Origin of EU imports CRMs 2021 (Garcia Herrero et al., 2023)



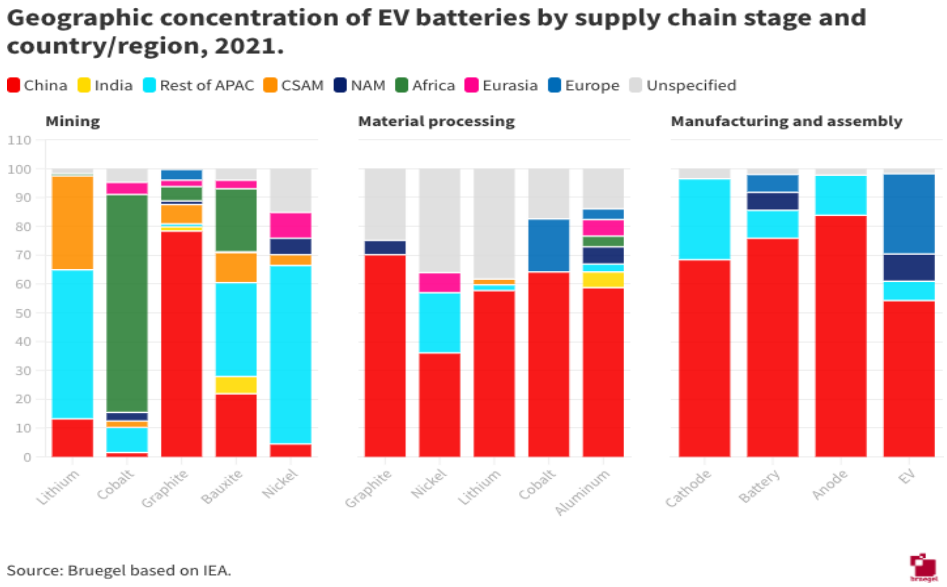
6.2 Batteries

Batteries, a key element of the green transition, and one of China's 'big three', have become a major concern of the de-risking agenda (Lipke et al., 2024). The dependency on batteries for both EVs and stationary storage, such as house batteries, is a critical issue in the green transition. As illustrated in figure 4, Chinese firms currently dominate the global supply chain of rare earth minerals and battery production, especially in material processing and manufacturing (Lipke et al., 2024). Current projections suggest a substantial increase in energy storage demand, therefore, there

is a real need to upscale battery production (Lipke et al., 2024). The EU heavily relies on China for its EV battery imports, with 82% of lithium-ion accumulators and key inputs like cobalt oxides (88%) and graphite (71%) sourced from China in 2022 (Garcia Herrero, Grabbe & Kaellenius, 2023). Therefore, unless the EU significantly diversifies and expands its own production capacities, particularly in CRMs, it risks remaining vulnerable in this crucial sector.

China currently dominates the EV battery market, holding a 60% share in 2022, with key players like CATL leading the industry (Garcia Herrero, Grabbe & Kaellenius, 2023; Reuters, 2022). Moreover, companies like BYD, which began as battery manufacturers, have shifted to EV production, using its technological capabilities and market position to further its influence and presence in EVs. China supplied around 30% of EV batteries in the EU by 2023, benefiting from significantly lower production costs compared to the US and EU markets (Lipke et al., 2024). Their expertise in lithium iron phosphate batteries and their vast industrial capabilities explain these cost efficiencies. Despite the EU's efforts to diversify manufacturing, China's control over mineral extraction and refining remains strong, complicating the diversification efforts in the near term (Garcia Herrero, Grabbe, & Kaellenius, 2023). China's rising dominance in the battery market is a wakeup call for the EU, who faces challenges in securing sustainable supply chains in this key sector, potentially undermining its economic security.

Figure 4: EV batteries dependency (Garcia Herrero et al., 2023)



6.3 EVs

More recently, the speed of uptake of China's share in the EV market has been impressive - not to say alarming. The European automotive industry is particularly vulnerable. The sector employs 13.8 million people, contributing 6.1% of total EU employment, and responsible for 7% of the EU's economic output (Patey, 2024; Lipke et al., 2024). EVs are a key strategy of the EU's green transition, with the Fit for 55 legislation outlawing the sale of commercial combustion engine cars and light vehicles from 2035 onwards (European Parliament, 2023a). But EV's can pose a security risk. They have been referred to as 'mobile phones on wheels' as they integrate advanced technologies like AI and robotics, which makes them vulnerable to cyberattacks, data breaches, and hacking (Muhammad et al., 2023). Losing ground here could be highly damaging for the EU. Chinese companies like BYD have already surpassed global competitors such as Tesla in exports, which demonstrates the seriousness of this problem (Lipke et al., 2024). China's massive government expenditure in the sector (see figure 6) is raising concerns over unfair practices. The EU - very much aware of this issue - launched an anti-subsidy investigation on EVs in October 2023 and has since imposed tariffs of up to 38.1% on Chinese EVs in July (European Commission, DG Trade, 2024). Mario Draghi's recent speech "Radical Change - Is What is Needed" calls for a new strategy for EU competitiveness to secure the EV supply chain (Patey, 2024; Mario Draghi, 2024). Although Chinese EVs currently hold only a small market share in Europe, their growth trajectory is evident and expected to continue (see figure 5), necessitating urgent policy responses to safeguard domestic security, economic prosperity, and climate goals (Lipke et al., 2024).

Figure 5: (Projected) uptake of Chinese EVs (Patey, 2024)

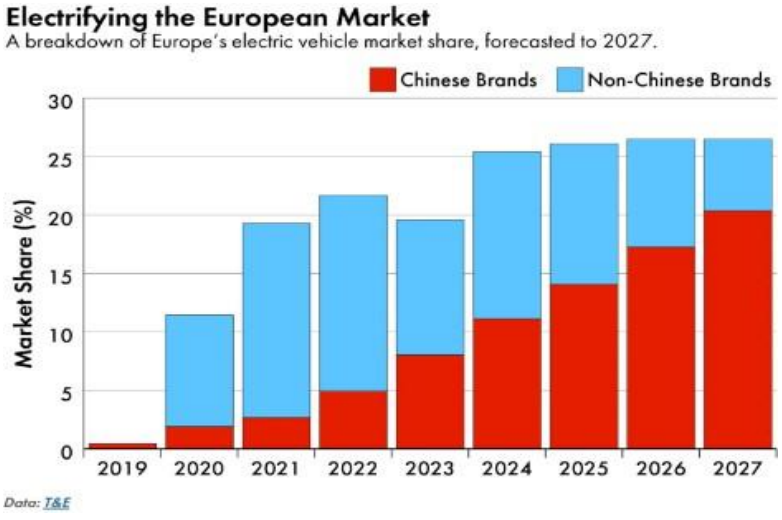
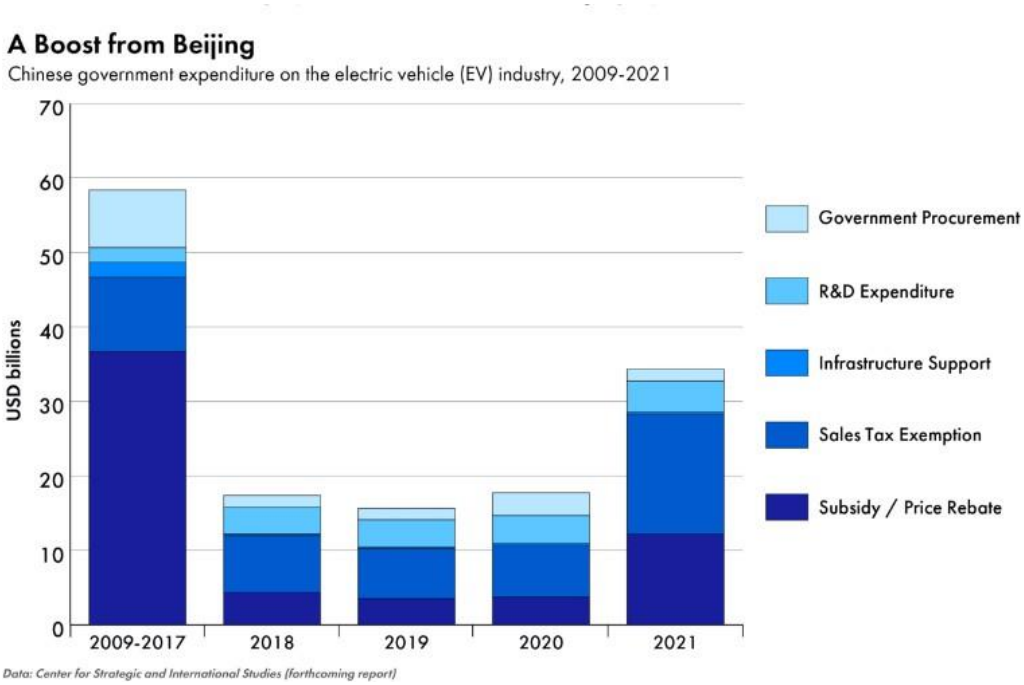


Figure 6: Chinese government EV expenditure (Patey, 2024)

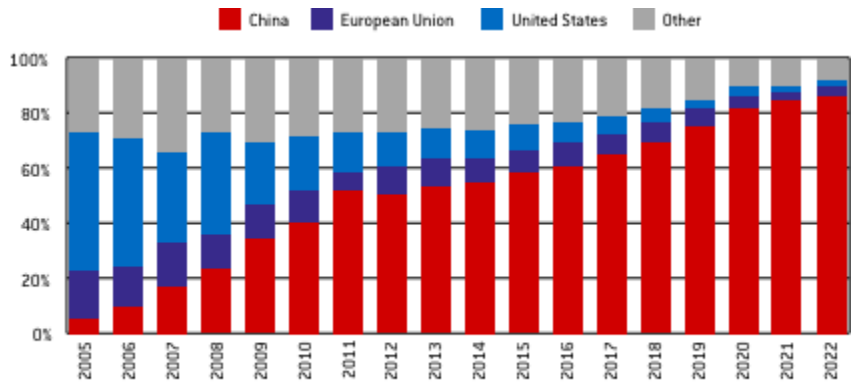


6.4 Renewable Energies

In addition to these competitive pressures in EVs and their batteries, the EU faces significant dependencies on China for production in net-zero energy technologies. Nearly all solar Photovoltaic modules and fuel cells are today imported from China, which benefits from supportive industrial policies, access to low-cost energy and materials, and a large workforce (Dahlström et al., 2023). Since the early 2000s, China has taken the industry by storm (see figure 7). Japan and Germany used to have thriving Solar companies but these lost most of the market share due to China's massive state subsidies through state owned banks and dumping practices (Yu, Popiolek & Geoffron, 2016). In 2022, 96% of EU imports of solar panels were Chinese (Garcia-Herrero et al., 2023). For wind energy the share is smaller, although growing (see figure 8). Trade in finished wind turbines between the EU and China is limited compared to trade in its intermediate components. This is mainly because transporting complete wind turbine units between Europe and China is expensive, leading to localised production and fragmented regional markets (Garcia-Herrero, et al., 2023). While the EU's reliance on China for most components is

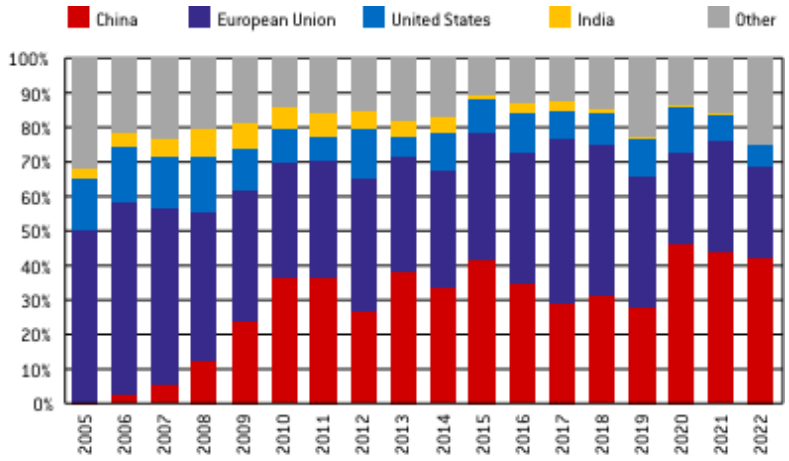
moderate, there is a significant dependence on China for certain technologies, such as permanent magnets, with 91 percent of EU imports coming from China in 2022. Furthermore, China accounted for nearly half of global low-carbon spending in 2022, with $546 billion invested in clean energy, compared to the EU's $180 billion (Dahlström et al., 2023). This share is even greater depending on the specific renewable energy and demonstrates that if the EU is to be a serious competitor in renewable energies, it must also invest the necessary amounts to be able to compete.

Figure 7: Share of solar panels, all-components manufacturing (Garcia Herrero et al., 2023)



Source: Nataxis.

Figure 8: Share of global wind turbines manufacturing (Garcia Herrero et al., 2023)



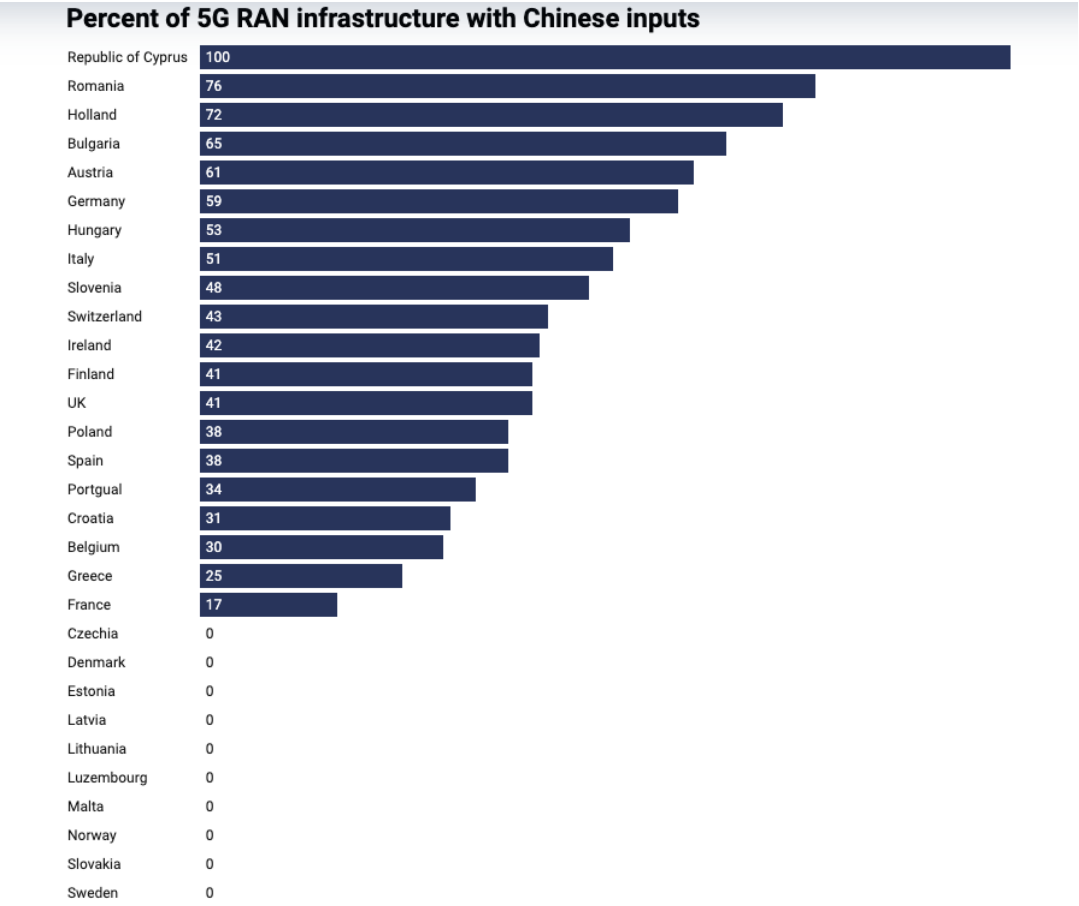
Source: Natixis.

6.5 Telecommunication: Huawei

As part of the twin transition (Green and Digital), the needed uptake of rapid digital infrastructure poses yet another dilemma between choosing cheap or choosing European. Member states chose their own respective strategies, and we consequently observe new Chinese dependencies in telecommunication infrastructure (see figure 9). These are particularly strategic and vulnerable sectors. Member states have not had a coordinated strategy in this sector; despite efforts to coordinate the roll-out of 5G infrastructure, significant divergences remain across Europe, with Chinese Huawei hardware representing a substantial portion of installed 5G infrastructure in several countries (Strand, 2023; Kaska et al., 2019). 59 % of Germany's 5G Radio Access Network (RAN) came from Chinese vendors in 2022 (Strand, 2023). For Cyprus, Huawei hardware makes up 100% of 5G RAN infrastructure, while it represents 72% in the Netherlands (Strand, 2023) and 17% in France. Some Member States opted out of Huawei infrastructure entirely. The disparities between Member states is enormous and the lack of coordination and common strategies regarding Chinese dependencies makes it difficult to have a credible EU position and response on the matter.

The reliance on Huawei for 5G infrastructure demonstrates the risks related to cybersecurity and data breach issues the EU will face in the renewable energy sector, especially as these become increasingly connected. The integration of advanced technologies like AI and IoT into renewable energy solutions, such as smart grids and connected EVs, mirrors the issues seen in digital infrastructure. It is therefore crucial to ensure secure and resilient supply chains for these technologies to avoid similar vulnerabilities. To tackle these issues, the European Commission has communicated plans for an EU-coordinated risk assessment for connected cars, similar to the approach taken for 5G under the NIS2 (Network and Innovation) directive (Shmaryahu, 2024). This would allow it to flag risks associated with dependencies on non-EU technology providers, protecting against cyber security threats and data breach risks related to connected vehicles.

Figure 9: Member states' Chinese dependence telecommunication infrastructure (Centre for European Analysis, 2023)



7 Climate Targets and Policies

Aware of its dependency-issues which undermines its economic security in green technologies, the EU has come up with an ambitious policy toolbox to mitigate risks, improve its supply chain resilience, and competitiveness. Section 6 has analysed the EU's dependencies in key green technology sectors. Before providing a brief analysis, this section examines the EU's policy responses.

7.1 EU Key Climate and Manufacturing policies

The EU has established ambitious climate and manufacturing targets through key policies like the NZIA, CRMA, Fit for 55 package, and EU Green Deal.

The NZIA, introduced earlier, has the ambition of increasing the EU's net-zero technology manufacturing capacity to 40% by 2030. This act simplifies permitting procedures, provides funding, jobs, and enhances research and development in green technologies, securing the EU's position in the global green technology market. It promotes local manufacturing of solar panels, wind turbines, and batteries, mitigating economic risks associated with over-reliance on Chinese imports (European Commission, 2023d).
Similarly, the CRMA has set targets aiming to secure the supply chain needed for this crucial sector at the heart of the green transition. The CRMA targets reduce dependency on a single country for any key raw material to less than 65%, recycling at least 15% of CRMs in the EU, extracting 10% and processing 40% of its annual needs domestically. This policy contributes to economic security by securing access to essential materials, preventing supply chain disruptions that could hinder the production of green technologies (European Commission, 2023e).

The Fit for 55 package aims to reduce net greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels. Its policies aim to create a resilient and prosperous domestic market for green technologies, ensuring competitiveness and economic security for the EU. It includes measures such as revising the EU Emissions Trading System (ETS), introducing a Carbon Border Adjustment Mechanism (CBAM) to create a market that allows for the needed balance between competitiveness, de-risking, and climate objectives.

In line with its ambition to lead in hydrogen and circular economy technologies, the Hydrogen Strategy and Circular Economy Action Plan (CEAP) supports the development of sustainable and competitive energy and material sectors in the EU (Vivanco-Martin & Iranzo, 2023; European Commission, 2020a; 2020b). The EU has the potential and ambition to become a true leader in these sectors, so continued investment to retain its competitive advantage is essential to avoid repeating past mistakes that led to losing key industries.
These policies and their targets reflect the EU's comprehensive approach to its climate and manufacturing targets, ensuring both economic resilience and strategic autonomy.

7.2 Cross-sectoral projects of Strategic Importance:

The Strategic Technology European Platform (STEP) and the Important Projects of Common European Interest (IPCEI) are initiatives that aim to boost the EU's technological and industrial capacities. STEP focuses on advancing key technologies like digital infrastructure and green tech through partnerships and public-private collaborations. It helps the EU by promoting innovation and reducing reliance on imports, particularly from China, while also supporting climate goals through the development of eco-friendly tech (European Parliament and Council, 2024). Similarly, IPCEI brings together EU states and companies for critical projects like hydrogen tech and semiconductor manufacturing, strengthening economic resilience and fast-tracking green technology deployment (European Commission, 2023f). Both initiatives advance the manufacturing and innovation objectives of the EU, helping to secure supply chains, and drive progress in energy and green tech, crucial for the EU's climate ambitions.

7.3 Analysis

This chapter has examined the EU's dependence on China in many critical sectors. These dependencies increase China's influence in the EU, not only economically but also politically and strategically (Vandermeeren, 2024). The risks are not only related to loss of market share and competitiveness, but also include technological vulnerabilities, potential intellectual property theft, and compromised supply chain security (Rühlig, 2024).

To mitigate these risks, the EU must adopt a united strategy. In recent years, the policy toolbox to mitigate dependencies, improve competitiveness, coordinate responses, and protect critical industries kept expanding. The EU has implemented ambitious policies like the NZIA and CRMA to reduce dependency, increase competitiveness, diversify sources, and secure (alternative) supply chains. These initiatives aim to balance economic security with climate objectives through a mix of diversification, remanufacturing, self-sufficiency, local innovation, and sustainable practices.

However, achieving these goals requires overcoming internal disparities and increasing domestic production, particularly in CRMs and battery manufacturing. The EU has responded to these

needs by implementing the above policies to support the transition to sustainable energy and material sectors while ensuring economic resilience and strategic autonomy. These policies also address China's dominance in global markets, particularly in batteries and renewable energies. The EU's efforts to diversify supply chains and strengthen domestic capacities testifies to its commitment to secure sustainable energy solutions and maintain competitiveness in the global green technology landscape.

This Chapter has analysed the EU's dependencies in strategic sectors, the risks of these dependencies, and the consequent policy responses. The following chapter will examine the balance between economic security and climate objectives in the EU-China relation and the potential trade-offs that arise within this context.

Chapter III: Balancing Economic Security and Climate Objectives

8 Balancing EU-China Climate Cooperation

Balancing economic security and climate objectives is a crucial challenge in EU-China relations. The EU and China are two of the largest economies and traders in the world, with mutual trade interests. A collaborative, multilateral approach to climate change should logically be the fastest and most efficient way to achieve the world's green transition. However, considering recent geopolitical tensions, trade imbalances, and China's unfair trade practices, the EU must consider its economic interests to protect its long-term economic security, global standing, values, and democracies. Despite these challenges, there remain some areas in climate action where they should and do cooperate.

8.1 Can a Balanced EU-China Climate Cooperation be Achieved?

The 2023 Council conclusions on China communicate the EU's complex China approach, where it is perceived as a partner, competitor, and systemic rival, especially in the context of climate ambitions (Council of the EU, 2023a). China accounts for 35% of global CO2 emissions, so having them on board is of paramount importance (IEA, 2024). The EU recognizes the need for a partnership with China to achieve more ambitious actions and constructive dialogue on environmental issues to meet global climate goals (Council of the EU, 2023a). However, as a competitor, China's fast growth in green technologies present significant competitive challenges to the EU's green industries and economic security. While this competition isn't all bad - it provides momentum for innovation and investment within the EU - it also raises concerns about maintaining a level playing field and fair market practices (Council of the EU, 2023a). Yet, China's role as a systemic rival becomes increasingly evident. Its targeted strategies to advance its global influence on climate policies and technologies leave little room for interpretation. The EU's strategy to de-risk and diversify its supply chains, particularly in critical sectors like renewable energy technologies, conveys the need to reduce vulnerabilities associated with over-dependence on Chinese imports. However, the difficulty lies in collaborating in a manner that is both fair and

does not impede on the EU's economic security and technological sovereignty (Council of the EU, 2023a). The next sections will analyse the difficulties the EU faces in collaborating with China on climate in a manner that is both fair and balanced, and will delve into diversification strategies to remedy this asymmetry.

8.2 From partner to Rival

In the 2023 joint communication following the fourth EU-China high-level environment and climate dialogue, the European Commission and China communicated their ambition to make "green" the hallmark of their collaboration (European Commission, 2023g). Both sides identified critical areas for collaboration, including the transition to clean energy, climate adaptation, circular economy, and tackling plastic pollution. The communication conveys a shared understanding that global challenges require a global effort, and that the EU and China will continue to work together on environmental governance, aiming to set an example for global climate action and policy alignment. Furthermore, a partnership with China to address climate change could be an area where their roles, know-how, potential, and priorities converge, providing an opportunity for collaboration that advances the green transition globally (Gurol & Starkmann, 2021; Van Wieringen, 2022).

Yet, collaborating with China on climate issues presents significant challenges. As both the EU and China want to become leaders in green technologies, there is inherent tension between balancing cooperation and competition. The race for market shares of green technology sectors leads to competition between powers. The strategicness and vulnerability of these sectors, examined in sections 5.1-6.5, adds another layer of difficulty. Furthermore, China's trade practices do not allow for a level playing field, making it hard to partner in this area.

The EU faces difficulties in ensuring fairness, given China's practices of state subsidies, dumping, and providing loans through state banks to its green tech companies. These practices distort the market, leading to competition where Chinese companies may have an unfair advantage over European firms. This affects the economic viability of the EU's green technology sector and complicates efforts to establish mutually beneficial and fair collaboration on environmental initiatives. Without addressing these disparities, a truly cooperative relationship

that advances global climate goals without undermining the competitiveness of EU industries does not seem viable.

The EU has defined areas of climate cooperation that are low-risk, where a partnership is possible and desirable, and areas where cooperation is not viable due to strategic interests and economic security. Both sides identified critical areas for collaboration, including the transition to clean energy (but this is contested), climate adaptation, circular economy, and tackling plastic pollution (European Commission, 2023g). However, as examined in Chapter II, de-risking is necessary in areas of strategic importance, for technologies where security risks are high, and to avoid excessive dependencies and disproportionately high trade deficits -all relevant for green technologies. This is why the EU and China are increasingly moving from partners to rivals in climate cooperation, despite relevant climate related reasons not to. De-risking requires finding alternatives to Chinese dependencies - the following section will delve more deeply into the ideas of diversification, nearshoring, reshoring, and friendshoring - necessary initiatives to achieve the sought-after balance between economic security and climate objectives.

9 Green Transition: Adapting Supply Chains to China's new Rival status

9.1 Diversification

Diversification is essential for de-risking strategic areas of the green transition. As analysed in sections 6-6.5, the EU relies heavily on China in many green technology sectors, posing various risks. Section 5-5.1, drawing on Lipke et al. (2024), examines green technology security risks related to overdependence on China. By diversifying partners for critical components and final products in green technologies, we can reduce over-dependencies and associated risks. Diversification allows greater flexibility in responding to geopolitical tensions, supply chain interruptions, and market fluctuations, protecting sovereignty and promoting sustainable growth.

While this thesis supports diversification to counter excessive dependencies, some scholars view it as an imperfect solution. Ghiretti and Maull (2023) argue that while companies naturally diversify to manage market risks, government-led strategies can be costly and burdensome.

These costs often fall on corporations, consumers, or taxpayers, and over time, the urgency for supply chain security diminishes, making high expenses harder to justify. Historical examples, like the oil crises of the 1970s, show that low production costs can outweigh political risks, limiting diversification efforts. Additionally, using subsidies or trade protectionism to achieve diversification can lead to inefficient production and powerful lobbies that distort markets, as seen with the EU's Common Agricultural Policy (Ghiretti & Maull, 2023). Yet, the EU's ESS views diversification as central to economic security, stating that strengthening and diversifying partnerships is needed for a secure green transition (European Commission, 2023h). It is seen as essential to reduce dependency on external suppliers for CRMs, crucial for many green technologies (see 6.- 6.3). Moreover, diversification ensures resilience against supply disruptions, bolsters economic security, and strengthens strategic autonomy in green technologies.

9.2 Reshoring

Reshoring is defined by Goldense (2018, p.1) as "bringing operations which had been offshored or nearshored back onshore." It involves relocating manufacturing activities back to the domestic market. The EU's NZIA includes an ambitious reshoring plan to expand net-zero technology manufacturing within the EU, ensuring that by 2030, at least 40% of the EU's annual requirements for strategic net-zero technologies are met domestically (European Commission, 2023d). However, policymakers recognize that reshoring entire supply chains is impractical due to increased labour and overhead expenses (Garcia Herrero, 2023b). Therefore, reshoring is intended only for strategic sectors crucial for national security reasons (Garcia Herrero, 2023b).

9.3 Nearshoring

Nearshoring refers to bringing (back) parts of the supply chain to countries that are geographically closer than, for example, Southeast Asia (Goldense, 2018). Nearshoring allows for outsourcing to a nearby country with lower wages while benefiting from various forms of proximity such as cultural, linguistic, geographical, and economic likeness (Van Hassel et al., 2022). According to Thomas (2023), the main reasons for choosing to nearshore are

geographical proximity, cultural affinity, and the need for a skilled workforce. The EU considers Turkey and Morocco relevant countries for nearshoring (Needham, 2014) and has increased its manufacturing and supply chain partnerships in Africa and the Middle East (Evans, 2024).

9.4 Friendshoring

Geopolitical tensions threaten Europe's green transition by disrupting supply chains. 'Friendshoring' involves selecting suppliers based on political alliances rather than just efficiency or proximity (Ciuriak, 2023). This concept has gained importance amid concerns about supply chain weaponization, especially in the geopolitical rivalry between the US, Europe, and China. 'Friendshoring' with allies reduces dependency risks, but China's dominance complicates supply chain redesign (Rizzi, 2023). Europe must balance risk by focusing on friendshoring with close allies and expanding partnerships in less sensitive areas like CRMs, sustainable agriculture, and mature renewables (Rizzi, 2023). This approach ensures both supply chain resilience and environmental progress. Government interventions, such as legislation promoting resilience, support this shift. Companies are now considering redirecting production away from China due to diversification needs and its worsening economic outlook (Garcia Herrero, 2023b). Recent shifts, such as increased investments in India and ASEAN countries, indicate strategic changes influenced by economic and geopolitical factors (Garcia Herrero, 2023b). In this setting, friendshoring emerges as an essential approach to strengthen the durability of global supply chains in an uncertain environment (Garcia Herrero, 2023b).

9.5 Complementarity of Reshoring, Nearshoring, and Friendshoring Strategies

As explained in this section, balancing cooperation and competition in EU-China climate relations is no easy feat. On one hand, collaborating strategically on low-risk sectors can be mutually beneficial and advance global climate objectives. Conversely, ensuring EU competitiveness and fair market conditions is essential to safeguard economic security and achieve a balanced partnership. While diversification strategies help mitigate over-dependence on China, they are not necessarily compatible, interchangeable, or equally valuable.

Aligning reshoring, nearshoring, and friendshoring strategies depends on industry needs, geopolitical considerations, and economic priorities. These strategies must balance national security concerns with global supply chain efficiency. Reshoring - the opposite of diversification - should focus on critical technologies that are highly sensitive for economic security and vulnerable to cyber and data breaches. Nearshoring should be considered for its logistical advantages and reducing transport emissions. Friendshoring strengthens supply chain resilience through political alliances, which mitigates dependency risks without compromising economic efficiency. The strategies are not interchangeable, but rather each have their place and purpose. They are compatible and complementary, providing solutions to diversify supply chains and mitigate risks related to over-dependencies. This analysis shows how reshoring, nearshoring, and friendshoring can complement each other to balance economic security and climate objectives amid geopolitical tensions, providing diverse solutions to mitigate over-dependency risks.

10 Challenges and Trade-offs in Achieving a Balance between Economic Security and Climate Objectives

Clarke (2024) identifies four competing forces that governments must carefully navigate. These are consumer demand for low-cost products, cheap environmental goods, safeguarding against cheaper foreign imports, and reducing reliance on China without provoking retaliation (Clarke, 2024).

These competing forces are currently at the centre of political debates in many EU member states. Recent political events and election outcomes have demonstrated citizens' discontent with the cost of living. A French yellow vest demonstrator infamously said, "they are talking about the end of the world and we are talking about the end of the month" (Mcnicoll, 2018). Many citizens want a cost-effective green transition and a pragmatic approach to EU-China relations if this keeps prices down, with some even questioning the necessity of the green transition. This sharp contrast in public opinion creates significant challenges for governments trying to navigate these issues. The trade-off between a fast green transition and one that ensures economic security is another case of contention. Balancing the need to reduce dependency on China with the urgency of meeting climate targets reveals many difficult trade-offs. This section examines these closer to understand

how these dilemmas reveal the challenges in finding the right balance between economic security and climate objectives.

10.1 Trade-off: European and Secure Vs Fast and Cost-Effective

The trade-off between a European and a cheap, speedy transition is a central issue in de-risking from China. Prioritising European-made green technologies ensures adherence to labour and environmental standards, reduces economic and security risks associated with sensitive technologies, and diminishes dependencies that could be weaponized. A European green transition also cuts transport emissions and allows for greater control over environmentally friendly production methods. Although developing domestic or diversified supply chains is costlier, it mitigates environmental and security risks linked to overreliance on China (Mazzocco, 2024; Garcia Herrero et al., 2023). This approach could create jobs, boost innovation, and attract investment within the EU. However, it may slow the EU's ability to meet its emission reduction targets, but it promises a more secure transition that safeguards long-term economic security.

Conversely, a cheap and speedy transition relies heavily on inexpensive Chinese goods, accelerating emissions reductions but increasing dependence on China (Lipke et al., 2024). This may lower production costs and consumer prices, benefiting economically disadvantaged populations. However, China's immense manufacturing capacity and state subsidies make its green technologies hard to match in price. Prioritising cost-effectiveness over economic security could lead to path-dependence, hindering long-term innovation and the development of sustainable technologies less reliant on Chinese CRMs (Mazzocco, 2024; Garcia Herrero, 2023a). Additionally, a rapid, cost-effective transformation could constrain European economies, posing risks to economic security and competitiveness in the long run (Godement, 2024).

This brings us to the question: can we fully prioritise climate risks over the EU's economic security and the risks to its autonomy and sovereignty? Valuing the EU's sovereignty, its stance on human rights, environmental abuses, and its international influence necessitates economic security and independence in critical sectors. The trade-off involves balancing the protection of strategic sectors and long-term interests with providing affordable goods and speeding up the green transition.

It becomes evident that balancing the urgency of climate change while ensuring economic security requires careful consideration of transition timelines and supportive policies to ensure that the climate transition does not come at the cost of long-term, irreversible problems that damage the very existence of the EU and its fundamental values. The trade-off is clear: a European-led transition may be slower and more expensive, but it promises greater control, security, and adherence to values. Conversely, a cheap and Chinese-led transition may be faster and more affordable, but it risks compromising on economic security, innovation, and the EU's strategic autonomy.

10.2 Trade-off: Open Market vs National Security

The EU has long championed the ideas of multilateralism and open trade. Its stance is in favour of an open world, upholding the values of liberal, open trade (Bauer, Zilli, Pandya, 2023). In recent years however, bilateralism, protectionist measures and trade barriers are on the rise. Although embracing open markets and international collaboration can stimulate innovation, enhance competitiveness, and promote economic growth, increased openness may also expose critical industries and technologies to foreign influence or exploitation, posing risks to national security (Garcia Herrero 2019; 2023).

The US, which was once the central advocate for market liberalisation and open trade, has now shifted its perspectives and priorities (Kleimann et al., 2023). Its IRA could not be clearer in exemplifying this shift. It is now deploying protectionist measures and government incentives such as state subsidies or tax measures, and reinstalling trade barriers, especially against China (Kleimann et al., 2023). Hence, the EU must not be naively advocating for an open market and multilateralism into the void (Garcia Herrero, 2019). Perhaps it should assess whether entire trade openness is feasible, given the current geopolitical climate and the necessity to protect its strategic industries and competitiveness (Garcia Herrero, 2019). This realisation is reflected in its policy measures and initiatives such as the NZIA, STEP, IPCEI and others. This trade-off reveals how finding the right balance between trade openness and national security involves finding a balance between measures to protect critical sectors, while fostering a conducive environment for innovation and collaboration.

10.3 Trade-off: Securing CRMs from Africa vs Green Colonialism

The EU is reliant on China for certain CRMs for more than 90%. Aware of this issue, the EU's CRMA prioritises diversification. This means finding new partners, strengthening its existing partnerships and increasing its presence in certain regions to achieve the needed diversification in its CRM supply chain (European Commission, 2023e).

The EU has a close relationship with Africa due to its colonial history and geographical proximity (Acheampong, 2024). The EU is strategically strengthening its partnerships with African countries to secure CRMs and support its green transition goals (Acheampong, 2024). To this end, the EU has taken measures to form closer partnerships with African countries. Notably, at the 2023 Global Gateway forum, the EU signed two strategic partnerships on CRM value chains with the DRC and Zambia (Neema, 2024). In the car manufacturing sector, the EU is strengthening its ties with Morocco, where Peugeot and Opel are investing in EV manufacturing (Murphy & Tanchum, 2021). Additionally, the EU is partnering with Namibia, DRC, and Mozambique, among others, for CRM sourcing. It is also collaborating on renewable energy projects, such as hydrogen and solar, with many African countries through flagship initiatives (European Commission, 2023i). Moreover, the EU is part of the US-led Critical Minerals Partnership and the Minerals Security Partnership (MSP). The MSP Forum supports sustainable critical minerals projects and fosters policy dialogues to ensure sustainable production, regulatory cooperation, transparency, and local capacity-building in CRM supply chains (European Commission, 2024b).

By securing CRMs from Africa, the EU can safeguard essential supply chains, ensuring economic stability and growth (Grüning, 2023). However, these efforts must address historical injustices and environmental concerns, avoiding exploitative practices linked to neo-colonialism. The EU has been criticised for its condescending tone and unequal partnerships with African countries (Carbone, 2023; Shiferaw & Di Ciommo, 2023), often accused of imposing rather than listening and empowering.

This section shows how the EU must find a balance between the need for resource security and ethical and sustainable sourcing practices that requires engaging with African partners in mutually beneficial ways, while respecting their sovereignty and environmental rights. This involves

managing the trade-off between deepening collaboration with African countries and avoiding the pitfalls of neo-colonial exploitation of resources to meet the EU's CRMs requirements.

10.4 Challenge: Member States' Competing Interests: United we Stand, Divided we Fall

A major challenge affecting the EU's ability to balance economic security and climate objectives is the difficulty of getting Member States to 'rally around the flag'. Member states have competing interests and tend to protect their national champions, making it difficult to adopt a unified strategy. The diverse economic interests, trade relations, and levels of dependency on China among Member States hinder consensus. Differing views on de-risking and the acceptance of Chinese investments further complicate matters.

Member States have varied experiences with China's economic rise, leading to different stances. Germany, with a positive trade balance with China, has close ties and significant interests in China, making it difficult to adopt a harsh stance (Brattberg & Le Corre, 2020). Germany benefits from deep connections in the automotive and manufacturing sectors, advocating for a balanced approach (Garcia-Herrero, 2023a). However, their car industry may be hit hard by a flood of Chinese EVs. France, with significant economic relations in aerospace and luxury sectors, supports a strategic partnership and calls for a unified EU position. On the other hand, Lithuania's stance has hardened after facing economic coercion following its decision to open a Taiwan representative office in Vilnius, leading to a significant decrease in trade with China. Meanwhile, Hungary has embraced Chinese investments, particularly in the EV sector, and participates actively in China's BRI, complicating the formation of a cohesive EU strategy (Kratz et al., 2024; Dahl, 2024). Hungary's recent acceptance of substantial Chinese investments in infrastructure, including a €501 million investment for a Chinese-owned EV factory, demonstrates its divergent stance within the EU (Dahl, 2024). Pal & Roberto (2024) explain how China uses Hungary as a 'trojan horse' to 'divide and rule,' making de-risking policies less likely or severe. Additionally, Hungary's veto power against such policies further complicates EU unity (Pal & Roberto, 2024).

A unified EU approach is thus essential to effectively manage the economic risks posed by China while balancing economic interests with climate goals. The divergent member states'

approaches, varied understanding of risks, and differing degrees of openness to Chinese investments make achieving a united stance difficult. A more cohesive strategy would allow for a stronger EU position in negotiations with China, ensuring economic engagements of member states are aligned with the EU's strategic interests and climate objectives.

10.5 Challenge: Friendshoring - Friends or Frenemies? Bilateral Agreements to the Rescue

Basing diversification strategies on like-mindedness makes a lot of sense when considering that the main issue with the Chinese partnership is the lack thereof. According to Rieck (2022), this includes commitments to human rights, economic liberalism, and engagement with international institutions. However, the term "like-mindedness" remains broad and vague, allowing for varied interpretations. In a world of shifting alliances, hedging, and great power influences, questioning whether like-mindedness can be a reliable reason for forming alliances becomes increasingly relevant.

While the EU maintains strategic partnerships where like-mindedness is important, it is not the sole criteria. Partnerships with Japan, India, South Korea, and ASEAN countries are based on principles of a rules-based international order and open markets, despite their diverse political systems and values (Rieck, 2022).

While the concept of like-mindedness provides a foundation for the EU's diversification strategies, it has limitations. This struggle can be seen in the friendshoring attempts in Southeast Asia. China has significantly increased its presence and investment in the region, making ASEAN its largest export market in 2023 (Manca, 2024). The Regional Comprehensive Economic Partnership (RCEP) and China's BRI further demonstrate ASEAN's close ties with China. Additionally, the heterogeneity among ASEAN countries and the lack of strong institutions complicates forming alliances based on like-mindedness with the group as a whole.

Similar challenges are found in regions such as Mercosur and Africa, where diverging interests and levels of economic development hinder multilateral efforts. Consequently, bilateral agreements are often easier to negotiate. The EU has bilateral FTAs with Japan, South Korea, New

Zealand, Vietnam and Singapore, and ongoing FTA negotiations with India, the Philippines and Thailand. This demonstrates how bilateral partnerships are increasingly resorted to over multilateral partnerships, facilitating friendshoring efforts. However, multilateral partnerships still play a role, as seen in forums like the G7 where common interests and like-mindedness support constructive and resilient partnerships among like-minded countries. Therefore, while like-mindedness can guide strategic decisions, it may not be best suited for multilateral agreements, and may no longer suffice to navigate the complexities of geopolitical dynamics, requiring alternative bases for diversification.

10.6 Trade-offs and Challenges: an Analysis

Chapter IV has analysed how balancing economic security and climate objectives involves several trade-offs and challenges. A European-led transition, prioritising local green technologies, ensures adherence to high labour and environmental standards and reduces dependency on China, but it is more costly and slower, which could slow down the green transition. Conversely, relying on cheaper Chinese goods accelerates emissions reductions but increases strategic vulnerabilities and dependence. Furthermore, open markets can drive innovation and growth but also exposes critical industries to foreign influence, necessitating protective measures to ensure national security. Securing CRMs from Africa presents another complex trade-off. While it can strengthen the EU's supply chain and reduce reliance on China, it risks perpetuating "green colonialism" if not managed ethically. This requires a careful approach that respects the sovereignty and environmental rights of African partners while ensuring mutually beneficial agreements. Moreover, the varied interests and priorities of EU member states complicate forming a unified strategy against China. Differing national interests, energy policies, and industrial priorities demonstrate the need for a cohesive EU approach that balances these competing factors to ensure long term economic security and prosperity. Similarly, "friend-shoring" and forming partnerships based on like-mindedness face practical challenges. Changing alliances and shifting power dynamics make it hard to maintain stable partnerships solely based on shared values. A more pragmatic approach through bilateral strategies is often easier to navigate these complexities. Nevertheless, multilateral strategies such as the G7 allow for strong partnerships based on likemindedness and should be favoured when possible.

This section has explored the complexities involved in balancing the EU's economic security with its climate objectives. It aimed to identify and analyse the competing factors and difficult decisions that policymakers face in this context. By examining these trade-offs and challenges, the section provided a detailed understanding of the strategic choices and their potential impacts. By identifying key trade-offs and strategic choices, this provides a foundation for stakeholder insights and informed policy recommendations that aim to achieve a de-risked green transition while ensuring economic security.

Chapter IV Interviews

11 Expert Interviews

11.1 Semi-Structured Interviews : Data Collection

Four expert interviews were conducted to complement the research. The selection criteria was based on expertise in EU-China relations, economic security, and EU climate policy, and ensured a balance between the experts' backgrounds. The interviews were anonymized, and the interviewees are referred to as P1, P2, P3, and P4. It is important to note that the responses reflect the interviewees' views alone, and not their institutions'.

P1 leads the World Economic Forum's collaboration with the European Commission and oversees the CEO Action Group for the European Green Deal. With a background in economics and experience at the Swedish Central Bank, IMF, and private sector, P1 provided a unique perspective on de-risking and balancing economic security with climate objectives.

P2, a senior administrator at the Council of the European Union with over two decades of experience in European affairs, EU-Asia Pacific relations, international negotiations, connectivity, and foreign policy, offered insights from an EU institutional perspective, focusing on EU-China relations.

P3, a sinology researcher at the Royal Military Academy of Belgium, specialises in China's political economy and economic coercion, they provided a perspective on economic security while remaining open to trade and cooperation with China.

P4, with over 30 years as a top diplomat and negotiator, including as Head of the EU Delegation to the WTO and UN, shared valuable insights on balancing economic security and climate objectives in the EU's de-risking approach to China.

11.2 Interview Process

The 45-60 minute interviews were semi-structured, with guiding questions and key topics (Annex 2). Follow-up questions were asked as needed to redirect focus. Questions were adjusted based on the expert's field and to ensure high quality. The experts completed a consent form (attached in

the annex), agreeing to the anonymous use of their input. The interviews were conducted online via Microsoft Teams, recorded, and transcribed. The analysis was based on the transcripts and interview notes. The content was divided into 'problems identified' (Annex 1) and 'policy tools and recommendations', categorised by themes related to balancing economic security and climate objectives during de-risking from China. The analysis will be presented in the following section.

11.3 Key Problems and Expert Insights

The experts identify several key problems in EU-China relations. Economic security and dependency on China pose significant risks to critical sectors, threatening the EU's competitiveness and democratic integrity. The climate transition brings economic challenges, such as ensuring cost-effectiveness in the adoption green technologies. Asymmetric relations and unfair trade practices, including state subsidies and dumping, undermine the EU's competitive position. Geopolitical dynamics further complicate matters, with China's "divide and rule" strategy affecting EU member state unity. The absence of a robust regulatory framework and a true Single European energy market exacerbates these issues. Additionally, strategies like reshoring, nearshoring, and friendshoring face economic and environmental hurdles, while ethical sourcing and complex international relations add further layers of complexity. A detailed table is provided in Annex 1.

11.4 Policy tools and recommendations

EU strengths

The experts unanimously agreed that in order to find a balance between economic security and climate objectives in the EU's approach to de-risking from China, it is important for the EU to play to its strengths. The EU has many strengths and weaknesses, and it should tap into these strengths to build a long-term and sustainable approach to de-risking. The EU's strengths are considerable, beginning with its Single Market, which grants significant market power. Its adherence to the rule of law, democracy, and transparency further strengthens its credibility on the global stage. As a champion of multilateralism, the EU's soft power and its regulatory power, often

referred to as the 'Brussels effect', sets global standards. Moreover, the EU has a demonstrated ability to learn and grow stronger from crises, positioning it well to navigate the challenges of de-risking from China while balancing economic security and climate objectives. The policy recommendations resulting from the expert interviews are presented below.

Single Market Integration and EU Cohesion

Strengthening Single Market integration:

- The EU must leverage the full potential of its Single Market by achieving full market integration, especially in critical sectors like energy and transport. It should **increase coordination** in areas of **competitive advantage** such as circular economy and green innovation. (P1, P2, P4)
- A Strengthened Single Market is more capable of resisting crises such as the Russia-Ukraine war. (P4)
- The EU institutions must speak with **one voice** to have a united stance on China. (P2, P4)
- The EU must use trade as a tool to overcome handicaps related to unanimity. It must **use trade to achieve a more coordinated EU response** and overcome competency challenges. (P2, P3, P4)

Social Support and Equity

- To find the right balance between economic security and achieving the green transition targets, the EU will need to provide additional **support to lower income households.**
- It should expand its Social Fund or add new mechanisms to ensure the lower income households are not disproportionately affected by the green transition. (P1, P3)

Diversification and Friendshoring

- The EU must **diversify its export market and investments.** (P2, P4) Friendshoring partnerships should favour mature democracies with equivalent economic capacities, but the EU must remain lucid over countries' nationalist driven interests. (P4, P3)

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- The EU should form a **Green Alliance** with Canada, South-Korea, New Zealand, Norway, and Iceland. These countries have similar values and needs in terms of de-risking from China. This Green alliance should then **reach out to third country partners.** (P4, P2)
- Australia and the USA are not considered priority partners due to their nationalist interests and their demonstrated unreliability. (P4)
- While engagement with the region is important, ASEAN should not be considered a friendshoring partner for strategic sectors as its internal diversity and unstable democracies do not make its countries long term reliable partners. Furthermore, Singapore, Malaysia and Indonesia benefit from large Chinese investments. Some countries could potentially divert trade from China into Europe similarly as Chinese goods enter the US market through Mexico. (P4)

Strengthening the partnership with Africa

- The EU should strengthen its relations with African Countries, key for securing **CRMs,** to achieve effective de-risking and diversification. (P1, P2, P3, P4)
- The EU should focus on **strong and equal partnership building**, based on **mutual economic benefits and cooperation.** It should make greater efforts not to impose and lecture African countries in its negotiations. (P1, P3)

Funding and Public-Private Partnerships

- The EU should **institutionalise and regularise dialogue** between public and private stakeholders. (P1)
- Public-Private partnerships should be leveraged for investments and funding in the green transition (P1, P3)
- The EU should, in accordance with the Letta report, **mobilise capital** which is abundant on the capital market to invest in green technologies. (P3, P4)

Increase EU competitiveness

- The EU must focus on its comparative and competitive advantages, Green innovation, circular economy, Single Market. (P1)
- The EU should install **policies to avoid brain drain** by creating an innovation climate. (P3, P1)
- The EU should incentivise and encourage youth to study **STEM** subjects**.** (P3)
- The market can be made more attractive and competitive by fully leveraging the Single Market and creating a more attractive regulatory environment. (P1, P2, P4)
- The EU should make the **market more attractive for green investments through financial incentives** such as bonds, subsidies, and market-led initiatives. (P2)
- The EU should make its market more attractive for reindustrialisation by **removing administrative barriers** and providing **easier access to permits.** (P3)
- The adoption of **EVs should be delayed** so as not to lose the automobile industry. (P2)
- SMEs should be supported in their digitalisation and adoption of green technologies. They should also be supported in their regulatory reporting duties and be provided easier access to grants and loans. (P1, P2)
- When China invests in the EU, they should hire Europeans, utilise European supply chains, and collaborate on certain non-strategic elements of the green transition. (P3)
- The EU should continue its efforts to **revitalise the WTO** to revive multilateralism systems and the rules-based international order. (P2, P4)
- The EU should find the right balance between strengthening regulations that prevent over-dependencies while **not discouraging risk-free investments**. It should continue its efforts of strengthening procurement and anti-subsidy regulations. (P4)

11.5 Analysis

The EU faces complex challenges in balancing economic security, the climate transition, and maintaining competitiveness amidst dependency on China. The experts emphasised the necessity of de-risking by leveraging the EU's substantial strengths, such as its Single Market, adherence to the rule of law, and regulatory power. To achieve a sustainable approach, the EU must strengthen its market integration, support lower-income households through the green transition, and diversify its trade partnerships. Strengthening relations with African countries, fostering public-private partnerships, and encouraging innovation and STEM education are also considered essential. Additionally, the EU should focus on creating an attractive market environment for green investments, revitalising multilateral systems, and ensuring regulations strike a balance between preventing over-dependencies and encouraging investments. These solutions were highlighted as needed for the EU to navigate the challenges posed by its dependency on China while ensuring economic resilience and climate objectives.

Chapter V: Looking ahead: Policy Recommendations

12 Strategies and Policy Recommendations for De-risking from China

The research has analysed the various elements which must be considered to achieve effective de-risking from China while considering the balance between economic security and Climate targets. It has analysed the existing policies the EU has deployed to address these issues and has considered the trade-offs and challenges in achieving this balance.
The following section will look more deeply into specific strategies and tools the EU can deploy to achieve the desired balance between economic security and climate objectives in its approach to de-risking from China. These strategies and tools are based on the findings from the literature analysis and are complemented by the expert interviews.

12.1 Strengthening Partnerships - Going Beyond Friendshoring: a Green Tech Partnership

Recognizing the need for collaboration for the green transition, the EU has strengthened partnerships and alliances, focusing on diversification and green initiatives to strengthen EU competitiveness. This is reflected in the external dimension of the EU Green Deal (European Commission, 2022), which extends initiatives beyond its borders, forming strategic partnerships, and using political and economic influence to promote circular economy, biodiversity, renewable energy, and sustainable development (Montesi, 2020).

Despite an era associated with 'protectionism,' 'slowbalisation,' or 'deglobalisation,' these efforts show that global engagement and cooperation remain an EU priority and reality. However, not all partnership-building efforts have been smooth. The Mercosur trade agreement caused diplomatic frictions over deforestation in the Amazon and environmental standards, stalling progress. The EU's dynamics with the US, with differing trade and climate policies, and negotiations with India for a comprehensive trade agreement also show difficulties in reconciling market access and sustainability standards. As explored in section 9, diversification is key to

mitigate overdependence on China. The EU employs strategies like reshoring, nearshoring, and friendshoring. It is reshoring parts of its most strategic sectors to boost self-sufficiency in green technologies, batteries, and CRMs. However, reshoring alone is insufficient and economically irrational. Achieving the NZIA's goal of 40% domestic production of green technologies and the CRMA's targets of 10% extraction and 40% refining appears unlikely within the set time frame (Albright Stonebridge Group, 2023; Walstad, 2024), due to high economic costs, political resistance, and regulatory obstacles. Therefore, new supply chains and alternative partnerships need to be built, mitigating risks from concentration of extraction, refining, and innovation in a single country (Garcia Herrero et al., 2023).

Friendshoring, a discussed diversification tool, faces significant challenges. As noted in section 10.5, like-mindedness is relative and not always sufficient for functional partnerships. Many Southeast Asian countries considered for friendshoring are neither stable democracies nor free from significant Chinese investments, making partnerships more about diversification than true friendshoring. Long-term friendshoring faces challenges due to democratic fragility, fluctuating foreign policies, and big power influences, making it an imperfect solution.

An alternative to friendshoring examined by Garcia Herrero, Grabbe, and Kaellenius (2023) is a green tech partnership. The EU would form an alliance to advance the green transition and deploy green technologies to offer a viable alternative to China's proposals. The partnership should be based on (1) a common objective of decarbonizing while ensuring economic security, and (2) different comparative advantages to ensure a fully integrated supply chain at minimal cost (Garcia Herrero et al., 2023).

A green tech partnership would provide supply security of decarbonized goods and enable partners to control production methods, ensuring they are genuinely green. The objective is not to replace the Chinese supply chain but to complement it by including countries that are resource-rich, have strong innovation capabilities, or possess cost-efficient extraction, refining, or manufacturing infrastructure (Garcia Herrero et al., 2023). Such a partnership would allow the EU to form long-lasting, solid partnerships that go beyond like-mindedness, forming a diversification strategy based on common economic security and comparative advantages for cost-effectiveness. This pragmatic approach may be more resistant to economic and political shocks, allowing the EU to balance economic security and climate objectives in its de-risking strategy.

12.2 Regulatory and Policy Measures

As evident in sections 3 and 8.2, China does not play by the same rules. To overcome unfair competition and protect its economic security and prosperity, the EU has implemented trade defence instruments and other mechanisms. These instruments help mitigate economic security risks from China, particularly in promoting green technologies. Key instruments include anti-subsidy and anti-dumping measures, investment screening regulations, and foreign subsidy regulations, designed to protect the EU's economic interests, ensure fair competition, and uphold the integrity of its internal market.

The EU's anti-dumping measures impose duties on imports sold below market value, ensuring a fair competitive environment for EU producers, especially in sectors crucial for green technologies. Anti-subsidy regulations counter unfair trade practices by imposing countervailing duties on subsidised imports, levelling the playing field for EU industries (European Parliament & Council of the EU, 2016). Before imposing anti-dumping measures or countervailing duties, four conditions must be met: the imports must be dumped; there must be material injury or threat to the EU industry; a causal link between dumped imports and injury; and the measure must not harm the overall economy more than it helps the affected industry (European Union, 2016).

A significant issue in the green technology sector is over-subsidisation. Excessive subsidies, as seen in China, lead to market distortions, inefficiencies, and unsustainable dependency on government support. The EU must ensure that subsidies are targeted and efficient, fostering innovation and competitiveness without creating long-term market distortions or dependency. On June 12th, the European Commission communicated its provisional conclusions on the anti-subsidy investigation of Chinese EVs. It determined that the EU value chain in China benefits from unfair subsidisation, threatening EU EV producers (European Commission, 2024d). In response, the Commission has initiated discussions with Chinese authorities to address these findings. If no satisfactory agreement is reached, the Commission plans to impose provisional countervailing duties on imports of EVs from China starting July 4th, with rates specified for producers such as BYD (17.4%), Geely (20%), and SAIC (38.1%), and general rates for other producers (European Commission, 2024d). The Foreign Subsidy Regulation (FSR) tackles distortions from non-EU subsidies, including those from China, granting the Commission

authority to examine financial support provided by non-EU governments to companies operating within the EU (European Commission, 2024d).

The investment screening regulation enables scrutiny of Foreign Direct Investments (FDI), particularly in critical sectors like technology and energy, where Chinese investments have been significant (European Commission, 2024c). The regulation allows member states to maintain some autonomy but aims to foster a coordinated response to prevent FDI from jeopardising EU economic security (European Commission, 2024c). This protects strategic EU sectors and assets from risks associated with Chinese ownership or influence. These instruments protect sectors crucial for the EU's green transition, ensuring that domestic producers of green technologies can compete without being undermined by cheaper, subsidised alternatives.

The EU's Anti-Coercion Instrument (ACI) is a legislative framework aimed at protecting against economic coercion by third countries. It allows the EU to respond to situations where non-EU countries use economic tactics like trade barriers or investment pressures to influence EU policies. Through the ACI, the EU can impose countermeasures such as tariffs, quotas, or restrictions to counteract coercion (European Commission, 2023j). This instrument complements the existing measures.

Combined, this regulatory toolbox equips the EU to safeguard its sovereignty and economic security. Together, the FSR, anti-subsidy, and anti-dumping measures protect the EU's industries from unfair trade practices, including those from China. These measures are increasingly relevant in green technologies, where China competes unfairly, hindering the EU's ability to balance economic security and climate objectives. Combined with policies to reinforce the EU's self-sufficiency and diversification efforts, this regulatory framework, if used in a robust manner, allows the EU to better balance economic security and climate objectives, mitigating dependencies on green technologies due to unfair trade practices.

12.3 Strengthening EU competitiveness

The expert interviews emphasised the need to increase the EU's competitiveness to ensure economic security in the green technology sector. Boosting competitiveness is part of the

'Promote' strategies in the EU's ESS (2023h), calling for strengthening the Single Market, the economy's resilience and competitiveness, investments in human capital, research, and innovation, and boosting technological and industrial sectors.

In 2024, the EU's brightest minds have published reports and delivered paradigm-shifting speeches on the necessity of boosting competitiveness and productivity. Ex-prime ministers and key economists Mario Draghi and Enrico Letta have highlighted the main challenges and provided solutions to increase the EU's competitiveness. In mid-April 2024, Letta released a report identifying insufficient integration within the EU's single market as a significant barrier to growth. Draghi gave two speeches, "Radical Change - is what is needed" and "An Industrial Strategy for Europe," anticipating his report on EU competitiveness. Both acknowledge the challenges the EU must overcome to enhance competitiveness, emphasising the urgency for strategic action in the green technology sector.

12.3.1 Reforming the Single Market: Letta's Single Market Dream, Draghi's call for Radical Change

To position the EU as a competitive force in the changing geopolitical landscape and the green transition, leveraging the full potential of the Single Market is imperative. Letta's report, "Much more than a Market," emphasises integrating the fifth freedom-research, innovation, and education-into the Single Market to address fragmentation and disparities, transforming them into growth opportunities. Additionally, Letta highlights the necessity of integrating strategic sectors like finance, electronic communications, and energy into the Single Market. Removing remaining barriers to cross-border activity is crucial for achieving scale and competitiveness, especially in the digital and technology sectors where the EU lags behind the US (Draghi, 2024a; 2024b).

A strong political commitment is necessary to empower a new Single Market framework, ensuring a level playing field and supporting a fair green and digital transition. Letta emphasises the need for political will to drive the required speed, scale, and financial resources, requiring unanimous and collaborative efforts among Member States. With the entry of new Eurosceptic MEPs and a general political shift towards far-right nationalism, achieving this remains uncertain.

12.3.2 Creating an attractive Research and Innovation Climate

Strategies for a more competitive EU fall under the 'promote pillar' of the EU's economic security strategy (European Commission, 2023c). Brinza et al. (2023) call these 'offensive de-risking' strategies, focusing on strengthening the EU's capacities. This includes investments in research, innovation, and human capital to foster green technology innovation and deployment. Draghi (2024b) states that Europe must reconsider its innovation landscape, as European firms invest only half as much of their GDP in research and innovation compared to the US, resulting in an annual shortfall of €270 billion (Draghi, 2024b). The translation of fundamental research into commercialised ideas is underdeveloped, impeding the EU's ability to achieve necessary de-risking. To become a Green innovation leader, the EU must invest in human capital, developing attractive research programs and opportunities to mitigate brain drain, and support lifelong training, upskilling SMEs, and incentivizing STEM education.

Achieving scale and size is another crucial element. The EU has struggled to create 'giants,' negatively affecting its competitiveness. Helping European firms grow to a size where they can invest in new technology and train workers to use it effectively is key (Draghi, 2024b). This involves removing barriers to cross-border activities within the Single Market, especially in digital areas (Draghi, 2024b). Regulatory burdens slow down long-term investments and competitiveness for 61% of EU companies (Draghi, 2024a). A more attractive regulatory environment is needed, supporting SMEs in regulatory reporting duties, reducing regulatory burdens, and providing easier access to loans and grants. Financial incentives and supportive measures are essential to foster innovation and competitiveness in green technologies. Greater Single Market integration, combined with necessary human capital and investments, can make the EU truly competitive.

12.4 Funding the de-risked Green Transition

The expert interviews discussed the challenge of funding the green transition. The EU's de-risked green transition requires massive investments which will require the EU to come up with new ways to leverage both public and private capital (Draghi, 2024b). Between China's state subsidies and America's IRA, the EU must leverage the needed funding to stay competitive.

As it does not benefit from the same budget and exclusive competencies in many areas crucial for innovation, deployment, and adoption of green technologies, the EU must find creative ways to leverage capital through alternative means.

To meet the financing demands of the green and digital transitions, the EU must look beyond public spending and engage private capital. Given the limited fiscal space at both national and EU levels, the bulk of these investments will need to come from the private sector (Draghi, 2024b). Draghi explains that to mobilise private savings on the necessary scale, beyond the capacity of the banking sector, the EU must deepen its markets for risk capital, equities, and bonds. He explains that issuing public debt for investments with high multipliers, such as grid infrastructure and research, could potentially be self-financing. As with NextGenEU, public debt could also play a key role, especially for investments that offer high returns, like grid infrastructure and research (Draghi, 2024b).

While funding at the European level is still controversial, it has the potential to offer the needed solutions. Draghi (2024a) explains that yesterday's funding mechanisms, which brought stability and prosperity, are no longer suited for the current era of national and economic security threats and a deteriorating rules-based international system. Therefore, new funding mechanisms, such as innovative financial instruments and increased public-private partnerships, are essential. These mechanisms could unlock private investments and ensure that capital is directed towards strategic sectors, driving the green and digital transformations forward. This approach will help the EU stay competitive on the global stage and achieve its ambitious sustainability goals.

12.5 Policy recommendations

The analysis of Chapter V, combined with the findings of this thesis and expert interviews, enables the development of policy recommendations that aim to balance economic security and climate objectives in the EU's attempt to de-risk from China.

First, the EU should strengthen partnerships to balance economic security with climate objectives through diversified, green-oriented collaboration. Given the increasing complexity of aligning

trade and environmental goals, the EU should prioritise partnerships with countries committed to green technologies and sustainability.

Second, regulatory measures are crucial for protecting the EU's economic interests against unfair practices, particularly from China. To increase effectiveness, the EU should ensure rigorous enforcement of existing mechanisms and regulations, quickly adapting to evolving market conditions. Yet, it should be wary and prepared for potential retaliation, ensuring that its defensive measures do not escalate trade tensions or undermine broader economic interests. This involves maintaining diplomatic channels, engaging in continuous dialogue with trade partners, and being ready to adapt strategies to mitigate any adverse impacts on the EU's economic landscape.

Third, the EU should strengthen its competitiveness through deeper Single Market integration, increased investments in research and innovation, and creating an attractive climate for green technology development. This involves deepening Single Market integration, streamlining regulatory processes, and reducing barriers to innovation. Increasing funding for research and development in green technologies and creating incentives for private sector investment is also vital.

Fourth, innovative funding mechanisms are critical for supporting the green transition, especially leveraging private capital and public-private partnerships. The EU should create clear and stable regulatory frameworks to reduce investor uncertainty and provide targeted incentives for investments in green technologies. Establishing public-private partnerships can help share the risks and benefits of investing in green technologies.

Finally, the EU must address political fragmentation and rising Euroscepticism. Building consensus for necessary reforms requires engaging with diverse political stakeholders and addressing public concerns about the costs and benefits of the green transition. Launching public awareness campaigns to highlight the necessity and long-term benefits of the green transition and engaging with member states to align national policies with EU-wide objectives is essential for a coordinated approach. Lastly, unanimity voting in the Council remains an obstacle that must be overcome if the EU wants to truly become the climate leader it aims to be while ensuring economic security and resilience on its continent.

13 Analysis and Conclusion

13.1 Conclusion

This thesis has revealed inherent tensions between economic security and climate objectives. Achieving a balance between these goals in the EU's de-risking strategy encompasses many challenges that necessitate a more integrated and strategic approach. The EU's over-reliance on China for CRMs and green technologies exposes it to significant risks, which have been closely examined. Strategic initiatives like the CRMA and the NZIA aim to reduce these dependencies by promoting local production and diversifying supply sources. However, these policies must overcome internal and external challenges. Internally, the divergent economic interests and strategic priorities of member states create fragmentation and hinder cohesive policy implementation. Externally, competitive pressures from China's state-backed enterprises and aggressive market strategies make it difficult for the EU to maintain a level playing field.

Without necessary revisions, the EU's de-risked transition may have to compromise on its climate targets. Its de-risked green transition might be slower and more costly than one that excessively relies on China due to the need to diversify and re-shore supply chains. While diversification can spread risks, it often comes at the cost of higher supply chain complexity and increased expenses. Furthermore, reshoring and nearshoring initiatives are limited by the economic realities of higher labour and operational costs in Europe compared to China. Thus, prioritising economic security introduces new challenges that could slow the uptake of green technologies and increase their cost. However, the real risks of supply chain weaponization, cybersecurity, data privacy, and compromising EU competitiveness and long-term economic prosperity are compelling reasons to consider economic security as highly relevant for the EU's green transition.

Furthermore, the current EU regulatory and policy framework lacks integration and cohesion between member states and EU bodies. This results in no single, cohesive strategy that aligns economic security initiatives with climate goals, reflected in the disparities between member states on the matter. The expert insights also emphasise the need for a more unified approach, pointing out how varying stances of member states towards China create internal divisions that weaken collective bargaining power and the EU's ability to align economic security needs with its climate ambitions. This is essential to drive EU competitiveness in green technologies.

This thesis argues that the EU must critically re-evaluate its strategy to achieve a de-risked green transition, without compromising climate targets and autonomy in strategic sectors. To avoid prioritising economic security over climate targets, the analysis has examined the inherent trade-offs that arise when de-risking the EU's green transition. It has examined the strategies and tools for the EU to achieve a balanced approach, providing policy recommendations focused on increasing competitiveness, forming green tech partnerships, leveraging funds through public-private partnerships, strengthening the Single Market, and ensuring EU cohesion. It has examined why economic security related to green technologies is crucial for the EU's long-term prosperity considering the changing geopolitical landscape and has investigated strategies to achieve this.

Looking forward, the EU has the potential to turn these challenges into opportunities by embracing a unified and strategic approach. The resilience and adaptability demonstrated by the EU in past crises, along with its significant economic power and regulatory influence, provide strong foundations for achieving these goals. By boosting competitiveness and creating an environment conducive for innovation, speaking with one voice, and leveraging the needed funds, the EU can lead the global transition towards a greener and more secure future.

13.2 Limitations and Recommendations for Further Research

This research has several limitations. The reliance on qualitative data from semi-structured interviews may introduce biases based on the perspectives of the selected experts. Efforts were made to balance these perspectives with extensive literature review, but the subjective nature of interviews remains a constraint. Additionally, the rapidly evolving geopolitical landscape means that some data and policies analysed may become outdated, affecting the relevance of the findings.

Further research should focus on several areas to build on this study. A quantitative analysis of the economic impacts of de-risking from China, particularly in specific industries, would provide a more comprehensive understanding of the costs and benefits involved. Longitudinal studies tracking the long-term outcomes of the EU's de-risking strategies could offer valuable insights into their effectiveness and adaptability. Lastly, comparative studies involving other regions facing

similar challenges, such as the US, Japan, Australia, or South Korea, could provide a broader perspective and potentially identify best practices that the EU could adopt.

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Annexes

ANNEX 1: Interview Data: Identified Problems and Challenges

Economic security and dependency: Risks for critical sectors	P1 argues that the EU has been naive in becoming too dependent on China and emphasises the need for de-risking to maintain competitiveness. P2 and P3 highlight risks from trade deficits and supply chain dependencies in critical sectors, advocating for diversification. P4 warns that these dependencies pose long-term threats to democracies due to China's influence.
Climate transition and economic consideration	P1 expresses concerns over prioritising cost-effectiveness in the green transition, potentially disenfranchising the lower class. P2 discusses the economic implications of the EU's green transition benefiting China, stressing the need to protect EU businesses from unfair practices. P3 also emphasises the challenge of balancing climate goals with economic feasibility, while P4 points out the risks of deindustrialization and price increases if China dominates green technologies.
Asymmetric Relation and Unfair Trade Practices	P2 and P3 highlight the lack of a level playing field between the EU and China, citing state subsidies, dumping practices, and support from

	state banks as competitive disadvantages for the EU. They acknowledge that dependency on China is somewhat natural given market dynamics.
Geopolitical Relations and Trade Dynamics	P1 advocates for a more equitable partnership with Africa and stresses the need for global cooperation. P2 highlights China's penetration into the EU market and changing political stances of EU member states due to China's "divide and rule" strategy. P3 discusses the complexities of EU-China relations, balancing climate cooperation with technological competition. P4 emphasises the difficulty of balancing EU's partnerships with economic interests, noting the influence of Germany in EU-China relations.
Regulatory Framework, Competition, and Market Dynamics	P1 and P2 discuss the regulatory burdens on SMEs and the lack of reciprocity in the procurement market with China. They stress the need for a regulatory framework to protect EU businesses from unfair competition.
Single Market and Member State Interests	P1, P2, and P3 point out the absence of a Single European Energy Market and the need for a

	true Single Market. P4 discusses challenges from member state disagreements on subsidies and their impact on EU competitiveness. P2 highlights China's divide and rule policies, which exacerbate divisions among EU member states.
Reshoring, Nearshoring, Friendshoring	P3 raises concerns about the costs and environmental impact of reshoring. P1 finds reshoring economically unviable for most industries. P4 notes that EU reshoring ambitions may struggle due to prioritisation of defence and agriculture.
Additional Concerns	P4 discusses the EU's relationship with the US, including trust issues and historical ties. P3 raises the issue of ethical and sustainable sourcing practices, especially concerning Africa.

ANNEX 2: Semi-structured Interviews: Guiding Questions (these were merely for guidance and to ensure topics were covered, questions were changed and follow up questions redirected the interview based on answers and the experts' fields of expertise)

Main Risks of Dependencies (5 minutes)

1. Economic and Strategic Risks
    - What do you see as the primary risks associated with the EU's economic dependencies on China?
    - particularly related to critical industries and supply chains?

   (Any specific sectors where you see this dependency as a key risk?)

2. Impact on Climate Goals
    - How might these dependencies impact the EU's ability to meet its climate targets? (especially considering the reliance on Chinese technology and raw materials for renewable energy projects)

Tools and Policies to Mitigate Dependencies (20 minutes)

3. Policy Measures for De-Risking
    - What specific policy measures should the EU implement to reduce economic dependencies on China while maintaining economic security?
    - How can trade policies specifically be used to support de-risking efforts?

4. Regulatory Framework
    - Do you see a need for changes in the regulatory framework? (especially for large companies - Beyond the FSR)

5. De-risking strategies
    - **How should the EU develop alternatives to Chinese imports?** (particularly in the fields of technology and CRM for renewable energy)
    - **What is your opinion on the feasibility of friend-shoring and re-shoring? (CRMA and NZIA targets)**

6. Public-Private Partnerships
    - What should be the role of private public partnerships for achieving these goals and how can the EU enhance public-private partnerships to mitigate dependencies on China and foster innovation in sustainable technologies?

7. International Collaboration
    - **Which countries or regions should the EU prioritise** for building stronger partnerships, and what forms should this collaboration take? **(like-minded/friends shoring/nearshoring/alliances?)**

Conclusion (5 minutes)

8. Final Recommendations
    - What are your key recommendations for EU policymakers to effectively balance economic security and climate objectives while de-risking from China?
    - Are there any additional tools or policies you believe are critical that we haven't discussed?
    - What is your prediction for this trade-off between economic security (effective de-risking) and achieving the climate targets in a timely manner?
    - Anything you would still like to add?

ANNEX 3: Expert interviews - Transcriptions

Interview P1

Researcher: OK, so as I explained a little bit in the email, the thesis looks at the trade-off between the EU's economic security and its ability to meet its climate targets by 2030 and 2050.

Researcher: So the first question is what do you see as the primary risks associated with the EU's economic dependencies on China, especially when we look at critical industries, critical sectors, supply chains, etc.?

P1: So I think the dependencies we have on China became very obvious during the pandemic actually. And it's funny when you think about how we today think about de-risking and the need for diversification and how that is the result of several years of discussions. You know, if you think back to when Donald Trump was elected in the US, he was talking about supply chains and the risk of being overly dependent on China. Many policymakers, at least externally, were saying that his anti-globalization stance was risking our global economic order. And the truth is that the pandemic, which was an external shock, made it very clear that he was right in some respects. The fact that the West was overly dependent on one supplier for many inputs became clear in an objective way, regardless of where you are on the political spectrum.

For example, when we were not able to get semiconductors or inputs for semiconductors during the pandemic, it was a clear example of industries, especially within the manufacturing sector, where they needed manufactured input products. I think the EU has some incredible leaders, but it has clearly been very naive. Everyone knows that when you think about a business, you would never be over-reliant on one supplier. This has been shown time and time again, not only with the invasion of Ukraine but also with the dependencies on China that the EU has not been thinking very strategically about the resilience of their supply chains.

Just objectively speaking, there has been an over-reliance, which means that our economies have been dependent in a way. It was a wake-up call during the pandemic, and now the EU is sort of waking up to that. I think it is a huge risk to say that you fully decouple from China. I'm not an expert on China or Chinese policies, but what we hear from the EU is, of course, that we are de-

risking. But what is also clear is that China is decoupling from us. The question is, then, how far does that go? I'm an economist by training, so I don't believe in import substitution. I don't believe in supporting industries that are not competitive. The question is, how do you manage a transition phase without completely losing a seat at the table? I think I'll stop there. We have so much to talk about, and I know you only had five minutes allocation, but feel free to follow up with questions if needed.

Researcher: Thank you, that is very insightful. As a follow-up, how do you think these dependencies impact the ability to meet climate targets? Because obviously, de-risking implies a slowing down of maybe the targets that we've set for ourselves. What is your view on that, especially when we look at the targets we set for ourselves in the Critical Raw Materials Act and the Net-Zero Industry Act, which were very ambitious in terms of reshoring and ensuring that we are not reliant by more than 65% on a single partner?

P1: Clearly, if we focus only on the EU climate targets, our legally binding targets for 2050, you can think about that and then think about a globally sustainable situation. If we're thinking about meeting the Paris Accord globally, then that's a different question. The fact that the EU meets its climate targets is not going to make a significant difference for global climate sustainability. It might have a dent, but we are not the majority contributors.

When de-risking started with Russia, it was a huge accelerator for the green transition. Even people on the side who were not very positive about climate got on board with the net-zero targets because it suddenly became about energy sustainability rather than just climate. People who were hesitant became convinced that a net-zero future for Europe is the best thing because it meant more energy security than being reliant on Russia. When it comes to China, there are certain technologies where we are lagging behind net-zero technologies. Moving away from buying input materials from China would have a cost effect, meaning our population would have to bear a higher burden for the climate transition.

The EU doesn't have a very good standing in some of the other countries with which we need strong relationships. There has been complacency about what leverage the EU has in negotiations, for example, on trade agreements and green diplomacy. The EU has done impressive work with green diplomacy in setting targets and trying to get their trade partners on board with the climate transition, but it has also ostracised many trading partners. Look at Africa, which has a lot of the critical materials we need. We definitely need strong relationships with African countries, not only because they are closest to us but because it makes sense for regional collaboration. However, many African countries are not interested in closer relationships with EU governments due to the colonial past and the EU's approach to negotiations.

The last 5-6 years have been positive for the climate transition, and I believe we will meet the 2050 targets. The question is more about the transition period and the economics of it. How do we ensure that we don't create pockets of our population that suffer from increased prices? As in a business, you should buy where you can get lower prices and have a plan for the transition. You can have a vision for producing certain products at a certain price in a few years, but during the transition, you need to continue collaborating with those who can produce cheaper. Import substitution has shown to be a failure, as you cannot protect industries that are inefficient.

Overall, we are in a good position to reach the 2050 targets, but the climate discussion should always consider the global community, including China, India, and the developing world.

Researcher: And then I have two follow-up questions. You said that we will absolutely meet our 2050 targets. Do you see a potential risk of EU countries voting for more far-right parties that are more sceptical about the transition? Could this potentially hamper meeting our targets, or is that not something you're concerned about?

P1: I'm very concerned about people voting for far-right parties, both for the climate transition and broader issues like Euroscepticism. The DG Energy and DG CLIMA are very clear that they believe we will meet 2050 targets and don't see that as a problem. The question becomes more precarious for 2040, about reaching a certain level of reduction by 2040. If far-right parties gained more traction than expected, it would create a challenge.

If national governments start backtracking on certain things, it's unclear what the impact will be. However, I find it hard to believe they would backtrack significantly, especially because businesses are so invested in the 2050 targets. Policymakers rolling back on 2050 would mean billions invested by businesses would be sunk costs. The far-right usually focuses on immediate costs like electricity prices rather than systemic changes for 2050, which businesses are already working towards. So while I'm worried about populism, I believe the private sector's investment in 2050 targets will help maintain focus.

Researcher: Thank you. Another follow-up regarding cost-effectiveness: you mentioned that cost-effectiveness will be crucial for speeding up the transition. Do you see a potential issue with choosing cheap over choosing European, and what could that mean for the EU in terms of protecting its democracies or critical sectors?

P1: Cheapest should never be the only argument. Quality should be the most important thing. If Chinese companies can produce something with the same quality and lower emissions, we need to consider it. But we also need to think about the long-term impact. If we overnight decided to produce everything at home, it would cost consumers significantly more, and the burden would fall disproportionately on lower-income households.

Price can never be the only factor; quality should be the priority. But during a transition period, we need to continue buying from where we can get minimum quality at a lower price to ensure diversification and give ourselves time to build up local production. We cannot build something overnight. We need targeted support for low-income households to ensure they don't bear the cost of the climate transition. The EU needs to support households through targeted measures, ensuring the transition doesn't create financial hardships for lower-income households.

Ireland, for example, had a climate transition path with fiscal incentives for households implemented for a 10-year period, insulated from political shifts. The EU needs to provide certainty and long-term plans for the climate transition to avoid economic instability.

Researcher: You started talking about some policy measures that are crucial for facilitating the transition while protecting economic security, such as ensuring that low-income households are

not hit the hardest. Do you see other important policy measures in terms of ensuring this trade-off goes smoothly?

P1: We need to think about the EU as a holistic market. Single market integration is crucial. Companies won't move back to the EU if it's still a fragmented market. The EU needs to be seen as one market from day one and build policy decisions from there. We need to harness the power of the single market, which is a cliché but true. If the EU were a single market, there is so much we could do, especially for the climate transition.

Finance is key for the climate transition. The EU needs to catalyse additional private finance for the transition without replicating the US capital markets. We need to integrate financial markets while maintaining national differences. The EU is moving in the right direction, but we need to continue this momentum.

Private-public collaboration is also crucial. The Commission has done well in improving

collaboration with the private sector. Institutionalising and regularising clean industry dialogues would be an excellent way forward. We can learn from private-public collaboration in the US, where the executive works clearly with private sector commitments for significant investments. The EU could benefit from similar strategies.

Researcher: I have an additional question on friend shoring. In terms of partners and regions, which ones should the EU focus on? We often talk about collaborating with like-minded partners and diversifying to different Asian countries, but these democracies are not necessarily stable. What is your perspective on this?

P1: It's a very difficult question. We need to work closely with our neighbours and regional partners. Africa is a key prospect, but the question is how to reset those relationships. We need to create partnerships based on trust and humility, avoiding a colonial mindset. Using special envoys from countries without a colonial past could help improve relationships. For example, the Czech Republic has excellent relationships with African leaders, who see them as objective representatives. We need to think strategically about creating these relationships based on trust. We also need to consider global competition and collaborate with countries that are geographically close. From a climate perspective, it makes sense to reduce transportation distances. We should continue collaborating with countries at the forefront while being cautious about over-reliance.
In terms of China, we need to maintain research and development exchanges while ensuring transparency. Collaboration in research and tech development is beneficial, but we need to be open to learning from other countries and avoid a lecturing mindset.

Researcher: Where do you see the risks of overreliance on China, especially in key strategic sectors? Could this overdependence make us less capable of setting certain standards in trade relations and impact our democracies?

P1: I don't think we are at risk of deepening our reliance on China at this point. China is an authoritarian regime, and they will use their tools to maintain oversight. This is not aligned with how we want to live in Europe. I'm not a fan of deepening those relationships.
I'm not aware of dependencies as severe as the reliance on energy infrastructure with Russia. Currently, given the policy direction, I'm not worried about additional exposure to China. We need to be cautious about sectors where overreliance could impact our security, but I'm not seeing major concerns in that area right now.

Researcher : Thank you. In general, I think we've covered everything. I wanted to look into if you have the time for one additional question. What do you see as the best and worst-case scenarios for Europe looking towards 2050?

P1: At the forum, we think a lot about strategic scenarios. I believe we need to have a tangible vision for Europe in 2050. Young people have lower trust in democratic institutions, and we need to address that. We should not just rehash visions like the US but focus on our competitive advantage as Europe. We have a diverse place at the forefront of climate innovation.
Europe 2050 should be a circular economy with sustainable growth, dynamic small and medium enterprises, integrated financial infrastructure, high-speed railways, and green areas. We should maintain our national identities but see ourselves as Europeans first to maintain geoeconomic influence.
The worst-case scenario is complacency, where we think the EU is still at the top and make demands on others. This creates distrust and inefficiency, leading to a fragmented Europe. We need to avoid a fragmented region where self-interest rules, as that has never worked in European history. The only positive vision is a deeper, more integrated Europe.

Researcher: Thank you, that's a very nice way to wrap this up. It's a positive perspective on what we could become as the EU. I'm very optimistic, but I also see challenges. It's important to stay hopeful and see what we can do.
P1: I agree. The current Commission understands the need to move forward, and it's an exciting time for Europe. Hopefully, we will not backtrack.
Researcher: Thank you so much for your time. This has been very insightful and useful for me. I'll keep in touch and share the material in my thesis as well.
P1: Thank you, and I look forward to reading it. If you have any follow-up questions, feel free to email me.

Interview P2

Researcher:[00:01:16] Okay. So my first question is, what do you see as the primary risks associated with the EU's economic dependencies on China?

P2: [00:01:27] The main risk we have, talking bluntly, is that in 2022, we had a huge trade deficit with China, almost 400 billion. Coming out of COVID, we have had trade deficits with China of sizable amounts for the last ten years. But 2022 was an eye-opener because the trade deficit doubled in one year. The latest figures for 2023 show that the trade deficit is being reduced but not as considerably as it should be. Basically, the only country that had a positive trading relationship with China was Germany, and Germany had a trade deficit last year for the

first time. So the idea is that in aggregate terms, the relationship is very much deficit-oriented with China. This reflects that China is becoming extremely competitive in sectors where the EU was previously competitive, and we are losing market share in other parts of the world. Our markets in Asia, Africa, or Latin America have been taken over by China. So China is definitely a competitor to reckon with. This is the first measure.

The second measure, we have to see the trend since the EU implemented its strategy in 2016, revised in 2019, with the outlook and the contribution that the European Commission and the High Representative gave to the discussions at the European Council with the ten action points focused on economic issues.
At the same time, the Commission and the EU decided to launch the Green Deal with the plan to become carbon neutral by 2050. That has implications because the EU will have to invest between €1 to €1.5 trillion per year to meet the goal of being carbon neutral. So it has to double the amount already invested every year into climate. If you see what contributes to the reduction of carbon emissions, we can count from the energy point of view: reduction of coal consumption, huge investments into renewables, and within renewables, the most salient areas are solar and wind. The transport sector needs to electrify both private and public transport. In all these areas, China is now extremely competitive. For example, the solar industry in Germany could not compete with China.

Researcher: [00:05:26] Yes, and how this is happening with electric vehicles now.

P2: [00:05:31] Exactly. The EU invested heavily in China, and China developed some of the industries in which Europe was competitive. At the same time, China did not allow as much investment from the EU as the Chinese invested in the EU. The issue of the level playing field, especially in industrial and infrastructure markets, was restricted. The Chinese could invest in European industries and markets, but the EU could not reciprocate. We called for reciprocity in the 2016 strategy and again in the 2019 revision, realising that China was unlikely to reciprocate. China used its domestic markets and provided huge subsidies for export-led industries to dominate European markets. This realisation became more obvious during COVID, highlighting the risk and need to diversify because we were very much dependent on China in many sectors. For example, in the digital and climate transitions, a lot of critical raw materials are controlled almost 100% by China. They control not only the supply but also the refining of those products, which are extremely important for batteries in electric vehicles.

Researcher: [00:07:49] The refining of those products.

P2: [00:07:50] Yes, refining. This led to the concept of de-risking and diversification. The EU became more aware of the threat posed by China to our economy and welfare. This was reflected in EU documents, the 2008 outlook, and the language used by the European Council in its 2023 conclusions. The Commission, as the main trading actor, is now carrying out investigations to understand to what extent Chinese products are subsidised, potentially leading to tariffs on imports. It's not only electrical vehicles; these investigations will probably approach many other products. The concept of strategic autonomy, though not necessarily linked to China, became salient during Russia's war against Ukraine. The EU was very much dependent on Russian gas, and renewables were helping us to have competitive energy prices. Our energy prices are much

higher than in China and the US. To remain globally competitive, we need to tackle the energy mix in the EU, becoming more self-sufficient with renewables. However, solar and wind markets are dominated by Chinese operators, presenting a tough challenge.
So, the policies to deal with Chinese competition and the impact from the US, as this is a global issue, must be considered. We must also look into what the US is doing to face Chinese competition and its impact on us. Diversification is also key, with European investment in China decreasing, except for Germany. We need to develop partnerships with countries or regions that share our situations, like Japan, with whom we are signing agreements on hydrogen. Similar agreements are being made with Australia on critical raw materials, and partnerships are being developed with African countries like Namibia, Kenya, and Angola.

Researcher: [00:12:47] Regarding diversification, do you think we should focus on partnerships with like-minded countries or also consider regions that are less developed economically, like Africa or other ASEAN countries?

P2: [00:13:50] I think the first call will indeed be like-minded countries, such as Japan and Korea. We have partnerships on digital and Green Alliance and free trade agreements with both. We are trying to go deeper in terms of cooperation with these countries and also explore cooperation in third countries with them. Something similar is happening with Australia, even though the free trade agreement did not go through last year. But we aim to retake that after Japan's elections. These countries face similar pressures from Chinese competition as we do. Some have invested heavily into China but are now reinvesting back into their own countries, like Japan. The EU, as a global actor, is focusing on as many countries as possible, including African countries for raw materials. We are competing with China, as the relationship with China has shifted from cooperation to competition and now rivalry. The weight is moving more towards competition and rivalry, though we still try to cooperate with China on climate. However, on the industrial and trade fronts, we are clearly competing with China to mitigate the risks and potential devastation to European industry. If we need to invest a trillion to 1.5 trillion to meet our carbon targets, we must consider whether that wealth will be transferred to China, making it richer while Europe becomes less so.

Researcher: [00:17:02] Could you elaborate on that?

P2: [00:17:07] When investing in wind energy, solar energy, or electric vehicles, the question is whether these will be Chinese products, which would mean our trade deficit with China will increase. This implies that our investment would go towards industrialising Europe and creating jobs and services, but it could end up making China richer instead. Politically, the US and Europe are trying to industrialise to avoid transferring all this wealth to China. We need to balance the need for Chinese investment and companies with the aim of not transferring Europe's wealth to China. Everyone is very much aware of this. The EU is trying to use multilateral trading arrangements like the WTO, which has not been functioning as intended. We accepted China as a member of the WTO as a developing country, benefiting them economically. However, now the costs seem to outweigh the benefits.

Researcher: [00:19:22] Would you recommend the EU put efforts into revitalising the WTO?

P2: [00:19:36] Yes, the EU is in favour of reforming the WTO to make it more attractive for the current global economy. However, it requires international consensus, and key actors like China do not want to change. The EU benefits from these multilateral mechanisms, but it's challenging.

Researcher [00:20:39] Regarding reshoring and re-industrialization in the EU, do you see this as feasible given our lack of competitive advantages compared to countries we outsourced to, including China?

P2 [00:21:25] It's about incentivizing and making economic sense. The EU cannot force private businesses to reinvest in Europe but can provide economic incentives like subsidies and fiscal arrangements. For example, German companies have invested heavily in Hungary, Slovakia, and Poland in the car industry, and Chinese companies are trying to invest in Europe, particularly in the electric vehicle and battery sectors. The private sector decides where to invest, and we face competition with the US and other countries. The EU still invests heavily in the US, but companies are also diversifying their supply chains by investing in Vietnam or Southeast Asia. There's no one answer; it needs to be approached sector by sector. The EU is trying to make the market more attractive, but giving subsidies alone is not always effective. The Next Generation EU funds aim to invest in green and climate areas, but the process is complex and requires reforms. It's difficult for some countries to spend the allocated funds. German investors and others find it hard to invest more in China and are looking for other places, including the US. We need to develop partnerships with countries like Japan or Korea to diversify.

Researcher: [00:25:28] Regarding subsidies, should the EU implement additional regulatory frameworks beyond subsidies to mitigate economic security risks?

P2: [00:26:24] I'm not an expert on trade defence, but reciprocity is crucial. The EU public procurement market is open, but China's market is closed to European businesses. We should allow Chinese companies to bid for public procurement contracts only if European companies can do the same in China. This ensures a level playing field. Chinese companies benefit from state financing and subsidies, making it questionable whether they are genuinely private. The issue of economic security is critical, especially with technology and hard security resources. For example, the debate on allowing Huawei to invest in the 5G network in Europe highlighted these concerns. Economic security and security elements have become more important in the last five years.

Researcher: [00:30:18] Do you see public-private partnerships as a solution to competing with China on green technologies?

P2 [00:31:17] Yes, Europe needs to work with the private sector. The amounts of money needed for investments are in our capital markets. The problem is mobilising that money. The EU is aware of this and is trying to create a more attractive market for green finance. It's about making the market more attractive for investments. The EU is trying to develop a more attractive regulatory market, but it's challenging to compete with the US. The US attracts a lot of investment due to its regulatory framework and attractive rates of return. The EU still functions as a single market, but there are differences between member states.

Researcher: [00:34:48] Can you elaborate on the challenges of leveraging the full potential of the single market, particularly in the energy sector?

P2: [00:36:06] The energy market in the EU is less competitive than in the US or China. We have big differences in energy mix and interconnections. For example, the Iberian Peninsula is not well connected with the rest of Europe due to a lack of investment in interconnections through France. We are still competing with each other despite the single market being established in 1986. We saw the impact of the energy crisis in 2022 after Russia invaded Ukraine. Energy prices varied significantly across member states, unlike in the US or China. The insurance market is another example where national markets are closed to competition. We have a lot of work to do in integrating our markets.

Researcher: [00:42:32] Should we consider the potential for economic retaliation from China when de-risking and protecting our critical industries?

P2: [00:43:18] There will be retaliation from China. They work on the basis of power relationships. We saw it when the EU imposed human rights sanctions on some Chinese individuals, and China retaliated by imposing sanctions on MEPs, think tanks, and the PSC. Sanctions against Lithuania and tariffs on cognac are examples. China uses a divide-and-rule strategy, so it's crucial for the EU member states and institutions to maintain unity. Germany, in particular, might be most afraid of economic retaliation due to its significant trade with China. The Chinese need the European market as we are the largest importers of Chinese goods. They cannot afford to suffocate the European market. We should also consider how Chinese exporters might divert trade to the EU in response to US tariffs.

Researcher: [01:00:13] How does the competition between the Global Gateway and the Belt and Road Initiative relate to the debate on green technologies?

P2: [01:01:20] The Global Gateway is an initiative to compete with China, not to cooperate. We tried to cooperate with China on the connectivity platform, but it was impossible. Regarding green technologies, we aim to meet global targets, but China is not imposing the same targets on themselves. They are the largest emitters of CO2. Politically, it's challenging to justify transferring wealth to China to meet our goals while China is not committing to the same targets. This can lead to political backlash within the EU, with citizens and farmers opposing the Green Deal. The trade-off between economic security and de-risking from China involves deciding whether to go Chinese and cheap or EU and slow but more expensive. This is difficult to argue with the working class, who feel they are paying for the green transition.

Researcher: [01:05:02] In light of the trade-off between economic security and de-risking from China, do you see a feasible path for the EU?

P2: [01:05:21] The European elections will highlight these debates. Right-wing parties are becoming more cautious about the Green Deal, admitting they may have been naive or too quick. Politically, it's difficult to push for an ambitious Green Deal while depending on Chinese products. If we slow down and develop European companies to compete, it will be challenging, especially in markets dominated by Chinese products like solar. However, in areas like wind and

electric vehicles, Europe can still compete. The Chinese have strategically invested in these sectors, and they are doubling down on these industries. The EU must learn from past experiences and adapt its strategies accordingly.

Researcher: [01:09:24] What recommendations do you have for policymakers to navigate the balance between economic security and achieving climate targets?

P2: [01:11:05] The EU faces institutional constraints, unlike China or the US. However, we have a rich debate and should not be too negative. Learning from past experiences, the EU is aware of the situation. Key decision-makers share a common analysis, but the response depends on each country's strength and how we manage our relationship with the US and geopolitical threats. Your paper should focus on 2-3 key elements, acknowledging trade-offs. The EU often responds in crisis situations, which can be frustrating. There's now more clarity on the EU-China relationship and the necessary actions. The upcoming European and US elections will significantly impact our policies and relationships.

Researcher: [01:15:59] Thank you very much for your insights.

P2: [01:16:06] It's about being realistic and pragmatic. The Green Deal was idealistic, aiming to be climate neutral by 2050. We need to be pragmatic, understanding that our relationships with others, including China, are crucial to achieving these targets. The EU is recognizing China's unfair approach and focusing on de-risking and diversifying. We need to develop stronger partnerships with other countries. Politics will always impact our economy, and we must adapt our policies based on political changes. Good luck with your paper. Feel free to reach out if you need any further assistance or clarification.

Researcher: [01:18:22] Thank you very much.

P2: [01:18:28] We covered a lot of ground. I'll send you two articles that will be useful for your work. Good luck with the next steps, and don't hesitate to come back if you need any help.

Researcher: [01:20:17] Thank you very much.
P2: [01:20:42] Okay. Bye and good luck with the next steps.

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Interview P3

Researcher: [00:00:02] Okay. Well, my master's thesis explores the trade-off between de-risking from China, (economic security), and the EU's ability to achieve its climate targets. I'll start with the first question: What do you see as the primary risks associated with the EU's economic dependencies on China?

P3: [00:00:46] Well, for the EU, the main issue often discussed is dependence. This is a key technology for the future, and we don't want to become highly dependent on China. I still hear a lot of EU officials emphasise the dependency issue. But there are also other issues, like the playing field not being level, especially in the EV industry where China is strong due to its

industrial policies. It raises concerns about dependency on China, especially if their companies have advantages our companies don't. There's also the issue of data collection from electric vehicles, which are like mobile phones on wheels. The data collected from drivers and locations is a significant concern.
Depending on your perspective, people are more or less willing to work with Chinese companies and allow them into the EU market. If you're worried about broader security beyond economic security, you might say we can't have them here. If it's just about avoiding dependency, there might be things we can do. For example, if we believe they've had an unfair advantage, we could still work with them under conditions that align with European standards and benefit our economy. But I see a lot of focus on avoiding dependency on China for critical future technologies.

Researcher: [00:03:43] Yes. Thank you. You mentioned EVs. Are there other sectors and industries that you see as highly critical where dependency might be an issue?

P3: [00:03:57] For the EU, there are many sectors where dependency is critical. Historically, we haven't been very strategic about this, partly due to our open market model. China's dominance in manufacturing makes us naturally dependent. For example, when China first went to Africa, the focus was on political and debt implications, not on critical raw materials. Western companies sold off assets to Chinese companies without considering the long-term implications. Now, we realise we are very dependent on China for these materials, but this wasn't a major discussion point back then.

Researcher: [00:05:44] Yes, the issue with critical raw materials is significant. For some, we are dependent on China for over 90% of our supply, which is crucial for our green transition.

P3: [00:06:01] Indeed. There's an advocate at KU Leuven for European mining, but the dilemma is whether we're willing to live with the environmental impact. Europe has ambitious climate targets, and mining contradicts these goals. Yet, the Critical Raw Materials Act suggests we should produce, refine, and extract some materials in the EU, which is complex to navigate.

Researcher: [00:07:22] It's a big dilemma because mining is super polluting. Europeans don't want polluting industries, yet we have ambitious climate targets. The Critical Raw Materials Act suggests producing some materials locally, which is complex. What's your opinion on that?

P3: [00:07:22] This highlights a bigger issue of double standards. We've been dependent on China for many industries without worrying about their environmental and labour standards. Now, as China competes in critical industries, we're more alert. I think economic security is the main reason for de-risking, not environmental or labour concerns. These other issues have been around much longer without triggering current actions.

Researcher: [00:09:43] Yes, it seems economic security is the driving force. Moving to policy measures, do you think there are specific policies the EU should leverage to balance economic security, de-risking from China, and achieving climate targets?

P3: [00:10:10] There's a lot of discussion about allowing Chinese investors to establish production in the EU under conditions similar to what China did with foreign companies. This could help us catch up in critical technologies. However, this strategy could lead to competition among EU countries for Chinese investment, undermining EU unity. If we open up to Chinese investment, every country would compete to attract it, potentially causing divisions within the EU.

Researcher: [00:11:58] Yes, this competition among member states can be problematic. We saw significant Chinese investments in Hungary, which could undermine European cohesion and unity.

P3: [00:13:00] Yes, that's a real risk. For example, there's work by Ilaria Mazzocco in the US suggesting collaboration with China on EVs makes more sense than trying to build our own industry from scratch. Despite the US having a more developed EV industry than the EU, she argues for collaboration.

Researcher: [00:14:02] That's an interesting perspective, especially given the US has a more developed EV industry. Considering the EU's target of no more combustion engines by 2035, how do we make this shift affordable?

P3: [00:14:59] We need to make electric vehicles affordable, considering all the changes in building regulations and the current economic climate. Trade is becoming more costly, and the cost of living is a major issue for people. We can negotiate with China, but we can't negotiate with the climate. If a superstorm destroys your European-made car, insurance may not cover it as it's a major natural calamity. So, achieving climate targets is crucial.

Researcher: [00:16:24] That's a compelling point. How do we balance doing it cheaply versus doing it European? Some suggest heavily subsidising the working class during this transition to avoid political backlash. What's your perspective?

P3: [00:17:27] I support that idea, but question its feasibility. Small countries like Belgium struggle with industrial policy due to limited resources. Our financial situation is also strained. We have multiple priorities, like defence and education, requiring investment. Political discussions often overlook these trade-offs. Industrial policy is costly and complex, involving subsidies and other incentives, and must be balanced with fiscal constraints.

Researcher: [00:19:38] Yes, balancing these priorities is challenging. China supports industry, not consumers, providing subsidies to producers rather than consumers. This model is hard to replicate in our systems.

P3: [00:20:15] Yes, and we follow open market rules, unlike China's state-subsidised, non-compliant practices. While it makes economic sense to buy cheaper buses, it's challenging to compete with heavily subsidised Chinese industries. Emphasising China's non-compliance sometimes overshadows our own market shortcomings. We need to improve our competitiveness and innovation.

Researcher: [00:21:16] Agreed. Beyond emphasising China's industrial policy, we should focus on our innovation and competitiveness. How do you see the possibility of reforming the EU's single market to push further integration?

P3: [00:24:46] There's momentum for deeper integration, but it's uncertain if we can move fast enough. Despite frustrations, the EU remains the most successful union of its kind. We must accept the reality of nation-state dynamics and work towards leveraging our single market's full potential.

Researcher: [00:26:20] Trade policy can be a tool for achieving economic security and de-risking. How can it be utilised effectively?

P3: [00:27:14] Trade policy is a viable avenue for a unified European approach, but it may face criticism for lacking democratic legitimacy compared to individual countries. Nonetheless, it's important for addressing broader issues like economic security and climate goals.

Researcher: [00:28:07] Considering the ambitious Net-zero Industry Act, do you think its industrial policy goals are realistic and beneficial?

P3: [00:29:03] Industrial policy has its challenges, including high costs, inefficiency, and corruption. While it's crucial for the green transition and global South development, we must recognize its historical disadvantages and approach it cautiously. Pretending it's a new solution is risky, given its mixed track record.

Researcher: [00:31:09] Yes. Moving to de-risking strategies, what's your view on the idea of friendshoring and near-shoring to diversify away from China?

P3: [00:34:10] Friendshoring is interesting but could be misleading. Investing in Southeast Asia or Mexico might just divert trade without truly decoupling from China. We must be realistic about these countries' ties to China and their economic dynamics. Africa is a strategic region for diversification, but engaging there requires convincing private companies of mutual benefits, which can be challenging.

Researcher: [00:37:27] Regarding diversification, are there specific regions or partners the EU should focus on?

P3: [00:37:58] Africa is a logical choice due to its strategic importance. Instead of lecturing, we should lead by example, demonstrating what's possible through our own actions. Engaging with Africa and other regions should be a priority, despite the challenges and costs involved.

Researcher: [00:39:59] How do we convince our own private companies to diversify, considering their significant interests in China?

P3: [00:41:12] One way is to make Europe more attractive for business, ensuring quick permitting and reducing administrative burdens. Companies need to see Europe as a viable

alternative. Industrial policy shouldn't just be about money; it's about creating a conducive business environment.

Researcher:[00:43:12] Improving the business environment is crucial. What's your view on leveraging public-private partnerships and funding for the green transition?

P3: [00:46:10] Public-private partnerships and leveraging private funds are essential. Europe has significant financial resources but lacks effective mobilisation. We need innovative ideas within our system to maximise these resources.

Researcher: [00:47:02] Any specific policies to enhance public-private partnerships and funding?

P3: [00:47:19] I'm not an expert on specific policies, but it's clear we need better strategies to mobilise private capital for the green transition. The EIB's approach of leveraging private funds is promising, but more needs to be done to streamline and direct investments.

Researcher: [00:48:56] Learning from China's successes and challenges can be valuable, especially in green technologies. How can we balance collaboration and competition with China in this sector?

P3: [00:50:03] That's the billion-dollar question. Collaboration in areas like climate change is essential, but we must be cautious of security and economic repercussions. Finding the right balance is crucial.

Researcher: [00:51:00] Yes, this trade-off is central to my thesis. How do we navigate the need for collaboration in green technologies while ensuring economic security?

P3: [00:52:10] It's a complex dilemma. If climate change is the greatest emergency, certain options should be off the table. We need more interdisciplinary discussions to connect the dots between climate urgency and geopolitical challenges.

Researcher: [00:54:23] The EU describes China as a partner, competitor, and rival. This complicates our approach to green tech collaboration. How do we reconcile these roles?

P3: [00:54:26] China's stance on partnership complicates things, as their economic security also depends on selling to the EU. We must carefully navigate these relationships, balancing competition and collaboration.

Researcher: [00:56:07] Yes, and the fear of dependency weaponization, as seen with Russia, adds to the complexity. How do we ensure we're not vulnerable?

P3: [00:56:57] Dependence doesn't guarantee smooth political relations. The West and China may have severe conflicts of interest, especially concerning Taiwan. We must prepare for potential geopolitical challenges.

Researcher: [00:57:50] It's indeed a complex time. Working on this thesis has made me aware of the difficult trade-offs involved.

P3: [00:58:08] It's crucial for the EU to develop its own policies and viewpoints, independent of the US. We have market power and should leverage it while being realistic about global dynamics.

Researcher: [00:59:12] How do we balance this with rising costs of living and political challenges?

P3: [01:00:50] Explaining the economic implications to the public is challenging. Politicians are reluctant to admit that life will become more expensive. We need to find ways to support the working class during this transition to avoid political backlash.

Researcher: [01:01:51] Yes, supporting the working class is crucial. In France, for example, high social spending and deficits complicate this further.
P3: [01:02:09] Exactly. And the Global South could also suffer from rising costs and diverging technical standards, making their economic situation even more challenging.
Researcher: [01:03:22] Yes, it's a significant dilemma. Thank you for this insightful discussion.
P3: [01:03:35] You're welcome. I'll fill in the form and send it to you.
Researcher: [01:03:58] Thank you. This has been very useful. I'll stay in touch.
P3: [01:04:01] Thank you. Good luck with your thesis. Feel free to reach out if you need any further information.
Researcher: [01:04:16] Thank you very much.

Interview P4:

Researcher: [00:00:04] Okay, so whenever you're ready, I will start asking some questions.

P4: [00:00:11] Yes. Go ahead.

Researcher: [00:00:12] Okay. Perfect. So what do you see as the primary risks associated with the EU's economic dependencies on China?

P4: [00:00:23] I think the primary risk is that it will allow China to influence the European economy and ultimately the political processes in Europe. If Europe is too dependent on Chinese technology, that obviously creates risks for democracy. The more immediate risk is that excessive dependency on China will raise prices for consumers in Europe because once China has a monopoly on the supply of particular technologies or materials, it will be tempted to raise prices. This will affect consumers and governments that procure this technology, for example, green tech. It will also impede Europe's aim to develop or protect its own domestic industrial capacity. In everything from electric vehicles to wind turbines to solar panels to semiconductors, Europe may struggle to develop industrial sectors due to high economic costs, political resistance, and regulatory obstacles. Therefore, new supply chains and alternative partnerships need to be built to mitigate risks from concentration in a single country.

P4: [00:02:38] The current European Commission has been trying to establish a new industrial policy, particularly in strategic sectors like AI, robotics, green technology, and semiconductors, to avoid dependence on China. They aim to create jobs and growth in Europe, but I haven't seen many results yet. There will likely be continued attempts to de-risk and reduce dependency on China, but achieving consensus across the EU is challenging. The concept of picking winners and subsidising specific sectors is a questionable economic policy and constrained by WTO rules.

Researcher: [00:04:47] Yes. Thank you very much. That's very insightful. I want to pick up on two things you've said. You mentioned that excessive dependencies will raise prices, which is interesting as it contrasts with the current rhetoric. Can you elaborate on that? Also, regarding industrial policy, you said we might not reach our NZIA targets. Are there particular sectors we should prioritise?

P4: [00:06:15] On the first point, if you look at Japan and Korea in the 1970s and 1980s, they sold goods to Europe at low prices until they wiped out the competition, then raised prices. This is standard industry behaviour, especially when the Chinese government heavily subsidises production and export. Given China's domestic economic difficulties, they might seek to maximise profits in Europe once they have market dominance. On industrial policy, there's potential for the EU in robotics, AI, semiconductors, and diversifying access to critical raw materials like lithium, nickel, and copper. The EU is making efforts to secure agreements with countries like Kazakhstan, Mongolia, Australia, and Chile for these materials. Diversifying sources of supply is crucial to reducing dependency on China.
P4: [00:08:47] The EU has limited domestic resources for critical raw materials but is trying to diversify its sources of supply through agreements with various countries. The COVID pandemic highlighted the importance of diversification. You can't rely on one supplier or solely on domestic supply; you need to diversify both markets and sources.

Researcher: [00:10:09] Thank you. Now that we're on the topic of diversification, what is your perspective on friendshoring and how should the EU approach it?

P4: [00:11:22] I'm conflicted about friendshoring. It should be feasible to have agreements with like-minded democracies, but countries look after their own interests. There are sufficient shared values between the EU, Japan, Korea, and Canada, but I'm not convinced about the USA, especially if Trump gets elected. Some Southeast Asian countries welcome Chinese investment, making alliances challenging.
P4: [00:13:21] India is a big question mark. Their foreign minister has noted that overdependence depends on the relationship with the country. For India, being dependent on a friend is not an issue. This perspective is crucial to understanding dependency.

Researcher: [00:14:59] Moving on to European companies, how can we truly convince them to de-risk from China and what role should the EU play?

P4: [00:15:40] The anti-subsidy regulation, inward and outward investment screening regulations, and international procurement regulation are wise and prudent measures to prevent excessive dependency on China. While not always welcomed by companies, these measures are

critical for the European economy to avoid dependence on a totalitarian regime. The EU must apply these instruments wisely and not across the board.

Researcher: [00:17:44] Balancing de-risking with maintaining China as a partner is challenging. How should the EU navigate this?
P4: [00:18:11] The EU is still trying to figure out how to strike this balance. It often plays both the partner and rival cards with China. We will see more clearly after the European Parliament elections and the new European Commission's stance. It's likely the EU will continue to try to balance partnership and rivalry.

Researcher: [00:20:25] Thank you. What is your perspective on this balance in the long term?

P4: [00:20:40] In the long term, China will likely become more dominant globally and in Europe's economy. The EU must manage this dominance in a way that doesn't destabilise markets while continuing to create jobs and grow.

Researcher: [00:21:59] What strengths should the EU focus on to remain relevant?

P4: [00:22:30] The EU's biggest strength is its foundation on democracy, the rule of law, and transparency. It also has strong sectors like pharmaceuticals, chemicals, services, and biotech, as well as excellent universities and research capacities.

Researcher: [00:23:28] Quite some people I've interviewed have mentioned the challenge of the EU not being a fully functioning single market. What's your perspective on this and on public-private partnerships?

P4: [00:24:04] The single market is one of the EU's biggest strengths, but it's still unfinished business in areas like energy and transport. Completion of the single market would benefit Europe's economic prosperity. Public-private partnerships are also important for growth, as demonstrated by the success of Silicon Valley, which was built on public funding and support.

Researcher: [00:27:40] How important is Africa as a partner for the de-risking agenda?
P4: [00:28:21] Africa is an important partner, but it's underperforming economically. The EU needs to help Africa become more self-sufficient and develop a continent-wide economy. Breaking down barriers between African countries and developing infrastructure are key to this development.

Researcher: [00:31:25] Do you see Africa as a potential partner for nearshoring or friendshoring?
P4: [00:31:35] It's difficult to generalise about Africa due to its diversity. Some African countries with significant mineral resources could be useful partners, but many others are unreliable. Partnerships will depend on the specific country and sector.
Researcher: [00:34:38] Thank you. I think we've covered a lot of ground.
P4: [00:34:46] Yes, we've done a tour around the world.
Researcher: [00:34:47] Thank you. This has been very useful.
P4: [00:34:48] When will you complete your thesis?

Researcher: [00:44:52] In two weeks. I can send it to you beforehand.
P4: [00:44:56] I'd love to read it.
Researcher: [00:45:08] Your name will be anonymised in the thesis.
P4: [00:45:17] That's fine.
Researcher: [00:45:18] Thank you very much.
P4: [00:45:22] All the best.
Researcher: [00:45:25] Thank you.
P4: [00:45:27] Bye-bye.

ANNEX 4: Consent Form

Information Sheet for Interview Partners

Research project Master's thesis: EU Trade and Climate Diplomacy
Researcher Ms. Johanne Monfret
Institution Luiss Guido Carli, Centre International de formation Européenne
Date of interview June 2024

Study description
This study focuses on the ability of the EU to maintain a balance between economic security and achieving its Climate targets.

Your voluntary participation in the study
You are asked to choose your preferred way of contributing to the study according to your preferences and schedule. Option 1 entails a 30-45 minute online interview conducted via Microsoft Teams, which will be recorded and subsequently transcribed for analysis. Alternatively, Option 2 offers a written questionnaire featuring open-ended questions, providing you with the flexibility to respond at your convenience.
The participation is voluntary. It is based on Art. 6 (1) (a) GDPR, §17 DSG NRW. You can terminate the interview or ask for a break at any time. You can also withdraw your consent for the usage and storage of your interview answers afterwards. This withdrawal applies to all future data processing and analysis, not to past ones.

Purpose and usage of interview material
The interviews are conducted for the purpose of answering research questions posed in the master's thesis of the programme presented above. The interview material is used only within that thesis and within related scientific presentations or publications (e.g. research papers). In case other usage is envisioned, the interview partner will be contacted and asked for consent.

Recording and anonymization of interview material
With your consent, the interview will be recorded, transcribed as text and the audio file will be deleted. During the transcription process, the interview answers are anonymized so that no identification of the interview partner is possible from the text. In scientific publications, only parts of the interview are cited so that the identity of the interview partner is not disclosed. The interview data is saved in a way that no connection to the interview partner can be established. Upon request, the examination board of the university can get access to the interview material.

Collection and storage of personal data
Your personal data is saved on the personal computer of the interviewer. This digital data is inaccessible to third parties. After the submission of the research results in June 2024, your personal data is deleted unless you agree to a further storage of the data. You can always withdraw your consent regarding a longer storage of your personal data.

Contact for further information
You are eligible to information, rectification and restriction of processing and deletion of your personal data. For that, you may contact Johanne Monfret at johanne.monfret@student-cife-eu.

Informed Consent Form

I, the undersigned, confirm that (please tick box as appropriate):

1.	I have read and understood the information about the study, as provided in the Information Sheet.	□
2.	The procedures regarding confidentiality and anonymity have been clearly explained to me.	□
3.	I have been given the opportunity to ask questions about the study and my participation.	□
4.	I voluntarily agree to participate in the study.	□
5.	I understand that I can withdraw at any time without giving reasons and that I will not be penalised for withdrawing nor will I be questioned on why I have withdrawn.	□
Participation mode - CHOOSE ONE OF THE FOLLOWING OPTIONS:		
6.	I choose to participate in the study via a **30-minute online interview on Microsoft Teams**	□
7.	I choose to participate in the study and record my answers via a **written questionnaire with open-ended questions**.	□

Participant:

Name of Participant	Signature	Date