

ACHIEVING A SHARED VISION OF THE ECONOMY THROUGH A EUROPEAN GREEN

INDUSTRIAL DEAL

Linnea Weiß

S4559185

Capstone Project

Global Responsibility and Leadership

University College Fryslan, University of Groningen

Supervisor: Alex Belloir

Abstract

This capstone thesis explores the concept of a European Green Industrial Deal in the context of the upcoming 2024 European elections. It examines the industrial strategies proposed by the European People's Party (EPP), the Party of European Socialists (PES), and the European Greens, highlighting their strategic goals and operative measures. The paper reviews the current challenges faced by European industry, such as the climate crisis, economic competitiveness, and security concerns, and discusses the necessity of a coherent industrial policy to address these issues. Methodologically, the thesis analyses election manifestos to identify shared visions and key performance indicators (KPIs) for a sustainable and resilient economy. The study emphasises the importance of active state intervention, reengineering financial institutions, and fostering labour mobility and training to support the green transition.

Keywords: European Green Industrial Deal, industrial policy, climate neutrality, economic competitiveness, labour policy, fiscal policy, financial institutions

Introduction

Industry makes the lives we live in the European Union possible: our smartphones, our food, the chair we sit on, and the houses we sleep in are made by industry. Not only does it produce the things we use, it also provides well-paid jobs and enables international trade. While for many decades, active industrial policy was somewhat of a taboo topic in politics—referred to by the International Monetary Fund as “the policy that shall not be named” (Cherif & Hasanov, 2019)—it has recently been put back at the centre of public debate, mainly for three reasons: its role in the climate crisis, the contribution a competitive industry offers to Europe’s wealth, and dependencies causing increased security risks (De Ville, 2023). Many actors in the private sector, policymakers, academia, and even NGOs are calling for a coherent industrial policy for Europe (Bleijenberg, 2023; European Environment Agency, 2023), yet institutions are currently unfit and unwilling to conceptualise and implement a systemic and active industrial policy (Mazzucato et al., 2018).

As the European elections are on 9 June 2024, a new college of European Commissioners and a reshuffled parliament will determine new priorities for the next legislative period. Three of the currently biggest parties in the European Parliament are calling for an active industrial policy for the next term, which is why it is relevant to explore what this could look like in practice. A structured debate might not only contribute to the swift adoption of a well-thought-out agenda, it will also enable a better understanding of the underlying mechanisms that lead to the current situation and the development of effective instruments to address them (Pralle, 2009). Looking more closely at the three overarching challenges industry is facing at the moment—climate protection, creating economic wealth, and security concerns—which became particularly clear during and after the pandemic and energy crisis (De Ville, 2023), it becomes evident that considering these challenges also holds the key to understanding the goals industrial policy should strive for.

While industry is such a determining factor in the way we live and holds the key to the green and digital transitions, industrial policy is a disputed topic in the economic policy discourse (i.e. Juhasz et al., 2023; Cherif & Hasanov, 2019). As the Washington Consensus dominated much of the economic debate of the past decades, advocating for free markets and privatisation did not contribute to a very sophisticated public debate on industrial policy, as the majority of papers questioned whether it should be done in the first place (Stiglitz, 2016). At the same time, Juhász et al. (2022) find that many high-income countries do in fact heavily intervene in their domestic production and have done so for a long time, especially after the financial crisis in 2008. The discrepancy between policy implementation and the focus of the policy discussion may have contributed to an incoherent set of policy agendas and an unstructured debate without clear goals (Colnaghi, 2024).

With the publication of the Inflation Reduction Act (IRA) by the United States of America (USA), industrial policy has been put back in the centre of the European policy debate (De Ville, 2023). The IRA is an extensive plan, mobilising trillions of dollars for investment in clean technologies, with a number of incentives for companies to improve working conditions as well as for consumers to buy products manufactured in the USA (Kleinmann et al., 2023). In reaction, the European institutions have passed a “Green Deal Industrial Plan” which includes the “Critical Raw Materials Act” (CRMA) and the “Net-Zero Industry Act” (NZIA) as well as an extension of state aid rules which were passed to support industry during the combined crisis caused by the pandemic and the Russian war of aggression against Ukraine (European Commission, 2023a). While the ambition to make the European clean-technology sectors more competitive was there, the execution has been criticised as a “paper tiger”, lacking the financial means to back up the goals as well as not addressing the key bottlenecks the clean-tech industry is actually facing (Packroff, 2024). Since the publication, Ursula von der Leyen, the current President of the European Commission, has promised an increased focus on industrial policy and competitiveness in her State of the Union Speech (von der Leyen, 2023). Moreover, the Belgian presidency of the Council of the European Union has called for a comprehensive

industrial policy (De Croo, 2024), which was echoed by a call from European heavy industry, demanding a European Green Industrial Deal with a Vice-President of the European Commission overseeing its implementation (Cefic, 2024).

As the topic becomes more and more relevant in practice, this paper aims to bring structure to the debate by analysing the programmes of different European parties to answer the question of what a European Green Industrial Deal could look like in the legislative term of 2024 to 2029. After describing the current challenges surrounding the topic, I review current academic literature suggesting that academics recommend a comprehensive industrial policy plan to partly address challenges such as climate change. By analysing shared goals between the parties as a basis for a comprehensive discussion, I find that the four most relevant parties—the European People’s Party, the Party of European Socialists, the European Greens, and the Alliance of Liberals and Democrats for Europe—share a common vision for the economy, which can be described in the form of Key Performance Indicators (KPIs), while their approaches to utilising industrial policy to make this vision come true diverge. Based on the analysis of the party programmes, I synthesise a number of strategic and operative goals that can be implemented in a European Green Industrial Deal, while critically discussing their feasibility based on a variety of opinions and sources.

Background

Despite all the benefits that industry has brought to societies, it has also caused major environmental destruction; a quarter of all energy-related CO₂ emissions are caused by industrial processes (International Energy Agency, 2023) and local environmental pollution is detrimental to many ecosystems and human health (European Environment Agency, 2024). At the same time, only through the manufacturing of so-called “clean technologies,” such as wind turbines or electric vehicles, can societies transition to net-zero economies and prevent the climate from heating further while maintaining high standards of living (Johnson et al., 2018).

So far, conventional technologies have relied on fossil fuels mainly because they were cheaper and widely available. There were few incentives provided by the free market, as the detrimental environmental and health impacts were not internalized in the prices (Harpankar, 2019). Moreover, much of the current infrastructure and even institutions are tailored towards a society reliant on fossil fuels. As the climate crisis worsens, old technologies need to be replaced more rapidly than they would usually in business innovation cycles (Stern & Valero, 2021). Not only is it essential that the products and goods are carbon-free in how consumers use them (i.e., electric vehicles through clean electricity), but also the manufacturing process itself needs to be net-zero in carbon emissions. This means that industry needs to innovate on two fronts: the end products and the production processes along their entire supply chain. The whole economy needs to adapt and find new solutions while being under immense time pressure (Kazak, 2022). If that were not ambitious enough, recent events have made it especially difficult for companies to find a business case in Europe given the current circumstances (De Ville, 2023).

Recent events have increased the pressure on European industry, causing companies to question the benefits of manufacturing in the EU. As manufacturing, especially in heavy and chemical industries, is incredibly energy-intensive, a cheap energy source is essential (Verpoort et al., 2024). As the EU was heavily dependent on Russian natural gas as a primary energy source, the war of aggression towards Ukraine also meant the end of the era of cheap energy in Europe (Kalogiannidis, 2022). The member states decided to buy their gas elsewhere, but because of the massive demand, supply was not quick enough to catch up, which increased prices massively and up to 10 times the average price of previous years in 2022 at the height of the energy crisis (IEA, 2022). Gas is essential for industry and mainly used for three purposes (McFarland, 2012): First, it is used as a feedstock for the chemical industry, for example, to produce plastic or resins. Second, gas is used to create process heat, for example, to melt metals so they can be formed. Third, gas is burned to make electricity which is then used for other processes. As gas became more expensive, so did electricity, but not only because gas prices rose, but also for two other reasons (Eurelectric, 2022): The crisis made it necessary to increase

electricity production with coal, which is additionally expensive because of the high carbon prices through the Emissions Trading System. Moreover, the insufficient deployment of renewables such as wind and solar made it impossible to fill the gap even though they are the cheapest source. As the most expensive source of electricity sets the price for the whole market, all electricity was expensive.

The energy crisis meant high profit margins for renewables, which, in combination with the high cost for other sources, created a huge incentive to speed up the roll-out of wind and solar (Herman, Nistar, & Jula, 2023). At the same time, major barriers such as lengthy permitting processes, lack of finance, and an insufficiently flexible European electricity grid are creating bottlenecks for renewables deployment (Solar Power Europe, 2022). While energy prices have settled into a stable price only slightly higher than prior to the war, the prices are expected to stay high in central Europe, as the solar potential is much lower than for example in Spain (Verpoort et al., 2024). As decarbonizing production and products means electrification to a large extent, it is critical to consider where manufacturing happens in the long term if energy is available at different prices throughout Europe and the world. This discrepancy is further reinforced by the European Emissions Trading System, risking increasing ‘carbon-leakage’ in the future (Naegele & Zaklan, 2017). Carbon leakage describes the process of companies moving their operations somewhere where they do not have to pay for high carbon emissions.

The uncertainty of how high energy prices will remain in the EU begs the question of whether it is profitable to keep heavy industry in certain parts of Europe. So far, the debate on how to manage this has been quite indiscriminate and has revolved around industry staying in the EU, but at what cost, and it moving operations to the US (Verpoort et al., 2024). The USA has made a convincing business case for long-term investments through its publication of the Inflation Reduction Act (IRA), presenting the final straw for many companies already burdened by rising energy prices and high bureaucratic costs (BDI, 2023; De Ville, 2023). The main advantage is that the IRA offers clearly defined tax incentives for the production of clean technologies for a set amount of time, effectively subsidizing operating expenses for companies

(Krebs, 2023). This results in high certainty for companies as it offers predictable cash flow which in turn mobilizes private investors as they can expect reliable returns on their investments. Currently, the EU is unwilling and unable to raise the financial support to compete with the US or China due to strict austerity rules (Dullien et al., 2024); the budget that the EU is able to spend is really small in comparison to the member states, making it difficult to implement a European funding mechanism (Buti, 2023).

The combination of bad competitiveness, high uncertainty, and expectedly high energy prices in the future raises the question of whether and how to keep industry in Europe (Sgaravatti, Tagliapietra & Zachmann, 2023). Discussing with full consideration of the consequences, it becomes evident that many well-paid jobs are in industry that also in turn create wealth. An exodus of industry would result in significant job losses and a decline in economic wealth especially in specific regions, highlighting the critical role industry plays in the European economic system (Vandeplas, Vanyolos, Vigani, & Vogel, 2022). Some regions where coal mining provided a large part of the available jobs illustrate the importance of a just transition, taking the social effects of decarbonizing our society into account. This becomes especially relevant as research suggests that populism thrives in regions experiencing long-term economic decline, as seen in the analysis of populist support in Germany, where high vote shares for populist parties are linked to both low regional welfare and the historical decline of a region's relative welfare (Greve et al., 2022).

Europe's manufacturing sector is heavily dependent on products and goods imported from other countries, and rising geopolitical tensions and the war in Ukraine have illustrated the economic and security risks of this dependency. The European industry faces high energy prices and a significant bureaucratic burden, making its products more expensive compared to international competitors (Verpoort, 2024). Additionally, both the biggest economic competitors of the EU, the People's Republic of China and the United States of America, have launched massive subsidy programs for clean technologies, which weaken European companies' competitiveness (De Ville, 2023). As global geopolitical tensions rise, politicians have also raised

the question of security, if the EU is susceptible to blackmail because of its clean tech supply chain dependency, and advocate to reduce reliance on China and enhance economic resilience (Eszterhai & Goreczky, 2022). Notably, this security risk also leads to uncertainty for the EU's green transition and ambition to become climate neutral by 2050 (Rabe et al., 2017).

Methodology

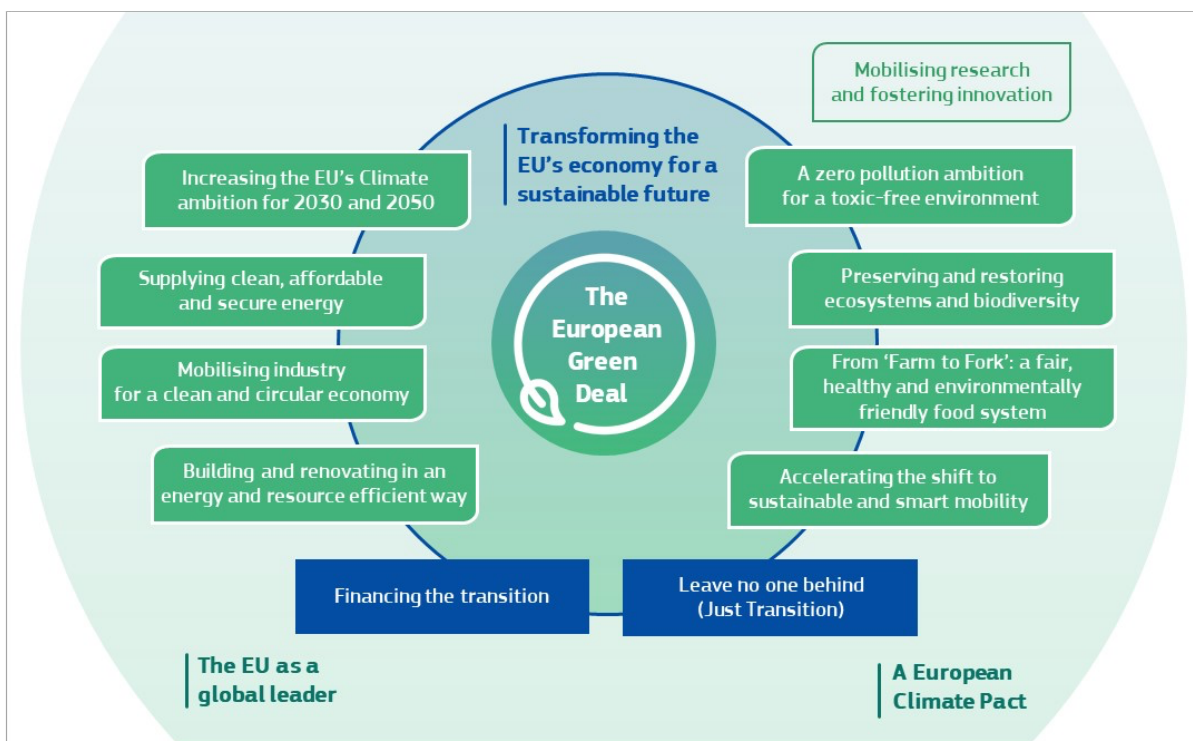
To answer the research question of how a European Green Industrial Deal could look like, I decided to focus on the election manifestos of the most relevant political parties in the European election, analysing their goals for the upcoming legislative period and critically evaluating them based on a diverse set of literature. First, I reviewed relevant academic literature, outlining major themes and gaps in the literature, whereby the relevance was established on three criteria; recency, and considerations of sustainability and a regional focus on the European Union. Based on the academic literature I conclude that a vision for the economy could help facilitate an effective industrial policy (Mazzucato 2018). Cohn (2004) and Ohnuma & Kitakaji (2015) highlight that a shared vision and common goals are inextricably linked to consensus building, especially in the context of complexity in policy areas such as sustainability and industry. Moreover, Pralle (2009) shows that setting an effective and long term policy agenda, with enough flexibility for adaptation is crucial for addressing issues like climate change. Therefore, I decided to analyse the election manifestos of the most relevant political parties in terms of shared long terms visions for the economy. Establishing the long term goals that are shared by all parties might make the political debate more focussed and streamlined, as actors are reminded they are in fact sharing a common vision for the future. This approach aims to align different stakeholders towards common objectives, fostering collaboration and reducing conflicts, leading to higher chances of collective success (Biermann et al., 2017).

I propose to label these shared and overarching goals Key Performance Indicators (KPIs) as it is an easily accessible term and implies that it is possible to measure them, which is essential for good policy making , transparency and accountability (Merry, 2011). I then

compare the priorities of the KPIs by the parties and discuss possible convergences and potential for conflict, based on widely used indicators in text-based analysis such as how many times a topic is mentioned or whether they dedicate a chapter to it (Baek, Jung & Han, 2021). To establish what a Green Industrial Deal could entail in practice, I extract the concrete policy ambitions of the parties in regard to industrial policy and related topics. I decided to distinguish between strategic and operative goals, mirroring the structure of the European Green Deal. The Green Deal entailed policy priorities that were set at the beginning of the legislature in 2019 that can be seen in Figure 1 (strategic goals) and policy initiatives (operative goals) that were then developed in the legislature to reach the strategic goals set in 2019. An example for an operative goal under the Green Deal is “Fit for 55 Package” which translates the climate ambitions into law (Council of the European Union). Finally, I will critically evaluate and discuss the proposals by the different parties based on a critical analysis of publications from a variety of stakeholders, as engaging different perspectives as it is essential for effective policy making (Haddaway et al., 2017).

Figure 1

European Green Deal Key Initiatives



Note. Adapted from “The European Green Deal,” by European Commission, 2019, EUR-Lex (<https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52019DC0640>). Copyright 2019 by the European Commission.

Using common labels such as KPIs and the distinction of operative and strategic goals as well as drawing comparisons to the Green Deal, makes the plan structured and more easily accessible to policy makers. This aims to reflect the goal to adapt to the realities of policy making, which, as Oliver & Carney (2019) highlight is a necessity for effective engagement with policy makers and entering the discourse, as well as to offer a practical perspective on industrial policy, which is so rarely the case (Juhász, Lane & Rodrik, 2023).

The methodology outlined ensures a comprehensive and adaptive approach to developing a European Green Industrial Deal, with a strong emphasis on consensus-building and the integration of diverse perspectives. This approach aims to create effective and flexible policies that align with the realities of policy-making and address the long-term challenges of sustainability and industrial transformation.

Literature Review

This review focuses on recent literature, particularly post-2008, due to the dynamic nature of current crises and technological developments, the need for an EU-centric perspective, and the essential focus on sustainability. Despite a wealth of theoretical discussion, there is still limited empirical research on practical implementation of industrial policy, particularly in the context of green initiatives in the EU. Still, a review of valuable contributions about how to make good industrial policy, offers useful insights in how to design a European Green Industrial Deal.

Criteria for Literature Selection

Three criteria for the evaluation are of particular importance: Firstly, recent publication, Secondly, EU focus and thirdly, whether the authors take environmental considerations into

account. As this paper aims to discuss and analyse industrial policy in the context of the EU elections in June 2024, it is relevant to consider when a paper was published, as technological advancements, the COVID-19 pandemic, and energy crises necessitates up-to-date research to reflect current realities. Analysing literature within the European context is critical given its unique regulatory, economic, and political frameworks. Existing literature often emphasises global or low-income country contexts (e.g. Haraguchi, Martorano, & Sanfilippo, 2019 or Kemp & Never, 2017), which may not translate effectively to the European political landscape. Lastly, considering environmental sustainability aspects of industrial policy is necessary as in the current public debate they are rarely separated and discussing industrial policy as a tool to facilitate the transition is a large part of this paper. This focus addresses the pressing need for comprehensive and environmentally responsible economic policies.

While there is an extensive body of literature on industrial policy, there are very few academic publications that take into account industrial policy as a tool for facilitating the green transition, even fewer that also focus in the European Union and none recent enough to include the most recent events that put industrial policy at the forefront of the political agenda, such as the recently published Antwerp Declaration (Cefic, 2024). This lack of literature reflects the need for more research on this topic and a development of a comprehensive framework taking practical realities into account, especially, as it is now widely discussed in politics. This gap in the literature is also identified by several authors, such as Chang & Andreoni (2020) or Juhász, Lane, & Rodrik (2023), who call for a coherent and holistic approach. Nevertheless, there is a body of literature that fulfils at least one or two of the discussed criteria, and they offer relevant insights into the current academic discourse on industrial policy, highlighting opportunities and challenges.

Definition of Industrial Policy

Industrial policy refers to state interventions with the specific goal to shape the composition of economic activity and is motivated by a long-term vision of the economy (Juhász, Lane, & Rodrik, 2023). This definition is particularly suited, as it is based on a comprehensive and recent literature review. The definition also allows for a broader range of justification for state intervention, rather than just market failures, particularly, climate mitigation. This broad definition reflects the shift in the practice of industrial policy making, as industrial policy is regarded by many decision-makers as an essential tool for the green transformation (i.e. De Croo, 2023; European Commission, 2023a; Federal Ministry for Industry and Climate Protection, 2023). The literature distinguishes between two types of industrial policy: Horizontal and vertical (Juhász et al., 2023). Horizontal policies target broad economic aspects that affect all firms, whereas vertical (or sectoral) policies target specific sectors or firms.

Industrial Policy in the Academic Discourse

Historically, the academic debate has focussed on the question whether the state should engage in industrial policy, raising concerns of government failure, and preventing the discussion from moving beyond, to the question of what good industrial policy could look like. As I aim to discuss practicalities of a European Green Industrial Deal, and not whether one should be formulated, I will focus on literature discussing the “how” rather than the “whether” of industrial policy. Juhász et al. (2023) extensively review the economic literature and show that until the financial crisis of 2008 the academic debate has reflected the public discourse, as it was considered a bad idea for governments to engage in industrial policy. Until then, policy in practice was coined as innovation policy (Soete, 2007). After 2008, the topic has become more prevalent and discussed both academically and politically (Cimoli, Dosi, & Stiglitz, 2015), but still barely transcending the neo-liberally coined discussion. Even today, Juhász et al. criticise that the academic literature has not caught up with the political practice.

Notable authors who have published on the topic for a long time and tried to answer the question of good industrial policy, against the mainstream debate in academia, are Chang, Andreoni and Scazzieri. Throughout the years they emphasise that industrial policy should transcend the ideological debates rooted in neo-liberal economics while a recent paper highlights, in contrast to most other authors in the field, is the influence of power dynamics on global value creation, distribution and sustainability and how to address the resulting global injustices (Andreoni & Chang, 2020). Another aspect that the authors draw attention to is the relevance of considering manufacturing and production in the context of learning and innovation. Andreoni and Chang (2020) illustrate how the biggest leaps in innovation are achieved in production. Moreover, Chang, Andreoni, & Scazzieri (2019) show that the predominant focus of the debate on whether a state is capable of “picking winners” neglects the need for research on institutional development, regulatory engineering and financial stability, as conditions for a successful industrial policy. Andreoni & Chang (2019) further elaborate on the importance of institutional development complementing policy ambitions and the need for strategic coordination, as well as coherent and holistic frameworks.

Dani Rodrik is another scholar who has published on the topic of industrial policy for decades, critically questioning the prevalent dogma of neo-liberal economics and regularly collaborating with different authors on the topic. Most notably, he published a paper on the potential of utilising industrial policy to mitigate climate and environmental impacts already ten years ago (Rodrik, 2014). The paper focusses on the importance of institutional frameworks to effectively implement industrial policy. He argues that well designed institutions can mitigate potential political risks that are often used as a reason to not engage in the discussion of how the state could do policy well, such as government failure, lobbying or inability to pick winners. Despite being somewhat outdated, his work underscores the importance of targeted structural changes for sustainable growth. Rodrik also wrote on the topic in collaboration with other academics more recently; Aiginger and Rodrik (2020) react to the recent surge in attention on industrial policy in the context of today’s challenges, such as competition between China, the

USA and the EU. They argue that a good policy framework is elemental for economic growth especially when considering sustainability and social aspects. The paper also highlights the shift in the political discourse, noting that industrial policy is increasingly seen as a tool for transformation in practice, while at the same time the academic discourse does not sufficiently reflect this changed dynamic. They define good policy as systemic, and being driven by societal goals, which is similar to the framework on mission-oriented innovation policy (Mazzucato, 2018). Aiginger and Rodrik advocate for industrial policy being coordinated at the highest political level to ensure coherence with other policy areas such as good-job creation. The authors' appeal is especially relevant when considering that several actors in the EU are advocating for just this (Cefic, 2024). The contributions of Rodrik also highlight that industrial policy is closely related to other areas, such as labour, climate, health and in the prevention of populism, as he has written on these topics and their interactions with industrial policy (Rodrik and Sabel, 2019 and Rodrik, 2022), highlighting the importance of thinking policy not in silos but as a system.

Entering the discourse only recently, are Mazzucato and colleagues (2015 and 2018) as well as Juhasz et al. (2023) bringing new perspectives to the table. Mazzucato advocates for mission-oriented investments that create and shape markets, criticising the focus on market failure as the only justification for state intervention. She calls for flexible and holistic evaluation methods and the restructuring of public organisations to facilitate transformative changes (Mazzucato et al., 2015). She advocates for a state to have a vision of where the economy should go, which is increasingly attempted in economic practice, (BMWK, 2023) and could also be a relevant basis for conceptualising a holistic green industrial deal. Proposing a new justification for industrial policy are also Juhasz, Lane and Rodrik (2023): They discuss the most recent shift in the literature and practice, which is reshaped by a new understanding of governance, and the chances for industrial policy to transform societies to become climate neutral.

Common themes across the literature include the recognition of industrial policy as a crucial tool for addressing climate change and promoting sustainable growth. Moreover, most

scholars call for a systemic approach on industrial policy that also takes into account different institutions and a high level priority to ensure coherence. This aspect in particular is of note in the debate on EU industrial policy, as the EU is the highest level of governance and the discussion includes establishing a Vice-President of the European Commission responsible for coordinating industrial policy (Cefic, 2024). The need for a coherent coordination is also reflected in the literature that addresses industrial policy in combination with other topics such as jobs and innovation (e.g. Rodrik 2022), illustrating that industry affects many other areas, necessitating a coordinated approach.

Despite the extensive theoretical discussions, there is a notable gap in empirical research on the practical implementation of green industrial policies in the EU. This gap underscores the need for more research to develop comprehensive frameworks that reflect the current political and economic realities. Nevertheless, the reviewed literature offers valuable insights into the design of a European Green Industrial Deal, emphasising the need for a coherent, holistic, and flexible policy framework. By integrating environmental sustainability, economic growth, and social considerations, a well-designed industrial policy can facilitate the transition towards a sustainable and resilient European economy.

Analysis and Discussion

KPIs for a Shared Vision of the Economy

Sharing common goals among actors is essential for consensus building and developing effective policies, particularly to address complex issues such as climate change (Pralle, 2009). To establish the overarching goals and a shared vision for what the European economy should look like, I will analyse the 2024 election manifestos of the four biggest parties in the European Parliament: the European People's Party (EPP), the Party of European Socialists (PES), the

European Greens, and the Alliance of Liberals and Democrats for Europe (ALDE)¹. These parties are likely to determine majorities after the upcoming elections in June 2024, and their ambitions will significantly influence the discussion on industrial policy. Based on the shared goals in the manifestos, I propose several measurable Key Performance Indicators (KPIs) that act as overarching guidance to inform the debate on which policies should be implemented to reach these goals. A vision for the economy will likely improve the quality of industrial policy, as it is no longer seen as a goal in itself, but rather a tool to serve society. This claim is supported by a range of relevant authors such as Mazzucato et al. (2018), Aiginger & Rodrik (2020), and Andreoni & Chang (2020).

Despite their different ideologies, the parties have set similar tones for their ambitions after the elections. In the introductory remarks, all four parties highlight the importance of peace, democracy, and economic growth, notably in connection to climate policies. However, the introductions also set the tone for the rest of the manifestos, which do differ in their prioritisation of a number of issues. Unsurprisingly, the Greens and the PES focus on the social aspect of the transformation and the protection of minorities and marginalised groups such as women, the LGBTQIA+ community, and youth (Greens, 2024; Party of European Socialists, 2024). The PES also highlights throughout their programme the importance of good jobs and a just transition, while the Greens have extensive and ambitious plans for climate and environmental protection. The EPP and ALDE, on the other hand, focus on protecting the freedom of citizens and Europe, highlighting the importance of better defence policies (European People's Party, 2024; Alliance of Liberals and Democrats for Europe, 2024).

¹ While Identity and Democracy (ID) and European Conservatives and Reformists (ECR) are performing well in the polls (Abboud, Kazmin, & Hall, 2023), their member parties include non-democratic entities striving for oppressive societies. For instance, Poland's PiS party has threatened democracy by undermining the fourth estate and restricting access to abortions, contrary to broad scientific and medical consensus that such restrictions endanger women's lives (Hoffmann, 2021). ID includes Georgia Meloni, whose party has removed parental rights from LGBTQIA couples and aims to introduce reforms that could undermine democratic principles (De Petris & Poli, 2024). This analysis will ensure that KPIs are aligned with the ambitions of democratic parties that prioritise a sustainable and inclusive industrial policy.

When scanning the programmes for common visions of what the economy should look like, a number of descriptors emerge that are included by all parties: All manifestos advocate for an economy that is decarbonised, competitive, digital, resilient, innovative, unbureaucratic, and circular, and creating quality jobs. As discussed in the methodology section, I will refer to them as KPIs. While this is a shared vision, the ambitions on how to reach these goals and their prioritisation do differ significantly. This becomes evident when comparing the number of times a programme mentions one KPI in comparison to the others. The EPP heavily focuses on digitalisation and innovation, mentioning them 25 and 36 times respectively, in comparison to, for example, good jobs and competitiveness, which are mentioned 14 and 15 times. However, each KPI has its own dedicated chapter outlining the policy tools to reach the KPIs. Unsurprisingly, the Party of European Socialists heavily focuses on the aspect of good jobs, mentioning it four times as much as the average of the other KPIs. The European Greens focus heavily on climate and the tools to make the continent carbon neutral. They call for a social green deal, so the aspect of good jobs is heavily referenced in their vision for the economy. Notably, the Greens do advocate for innovation as a tool for economic growth but rely more on regulatory tools. Lastly, the ALDE manifesto mentions digitalisation 49 times, more than any other indicator.

The table below lists the KPIs, the number of times they were mentioned, and whether they have a dedicated section in the manifesto. This is useful to determine which priorities the parties set; however, it is necessary to mention that the manifestos significantly differ in length, therefore one manifesto mentioning a word more often than another does not mean it is higher on the priority list. Rather, the number of times it is mentioned helps understand the priorities of one party among the KPIs.

Table 1

Key Performance Indicators and their priorities in election programmes

KPI	Mentions (EPP)	Dedicated Chapter (EPP)	Mentions (PES)	Dedicated Chapter (PES)	Mentions (Greens)	Dedicated Chapter (Greens)	Mentions (ALDE)	Dedicated Chapter (ALDE)
Decarbonisation	10	Yes	4	Yes	11	Yes	3	yes
Digitalisation	25	Yes	4	Yes	17	Yes	49	Yes
Resilience	7	Yes	2	Yes	10	No	11	Yes
Good Jobs	14	Yes	13	Yes	19	Yes	10	No
Competitiveness	15	Yes	4	Yes	14	Yes	20	Yes
Circularity	4	Yes	4	Yes	6	Yes	3	Yes
Bureaucratic Burden	5	Yes	3	No	1	No	4	No
Innovation	36	Yes	2	No	1	No	13	Yes

While all parties can agree on the importance of the KPIs, there are significant differences in prioritisation. This could lead to friction in the next legislative period when the Parliament negotiates policy initiatives to reach these goals. For example, the EPP and ALDE might rely on digitalisation and innovation more than regulation as policy tools, unlike the Greens. However, it is worth mentioning that circularity and decarbonisation have dedicated chapters discussing the best way for the economy to become more environmentally friendly, which might offer hope for reasonably ambitious climate policies in the next period.

Even more interesting than the shared goals for the economy in the context of a European Green Industrial Deal is whether the parties want to utilise active industrial policy as a tool to shape the economy and achieve the goals. Indeed, all analysed parties are calling for a version of an industrial deal, except for ALDE. The Greens (2024) are advocating for a Green and Social Transition Fund equivalent to at least 1% of EU GDP (p. 32) to actively invest in transforming the economy and industry. The PES is advocating for a “Made in Europe Strategy” (p. 8) to strengthen the European clean tech industry. The EPP argues for industrial policy to be combined with defence policy (p. 4) as well as promoting companies to be designated as “champions” (p. 11) to compete at the international level. In contrast to the focus on active industrial policy, ALDE promotes the single market as the tool to promote innovation and scale

up the manufacturing of clean technologies, explicitly mentioning that the EU should not try to pick winners or industrial “champions” (p. 11). This explicit clash of two party programmes might present a point of friction when establishing the priorities for industrial policy after the elections, or indeed whether to even have an Industrial Plan in the first place.

A European Green Industrial Deal?

Each party of the European Greens, the EPP, and the PES are calling for their own version of an industrial strategy, highlighting the importance for a successful transition of the economy. The EPPs main strategic goals are the proposition to promote European champions capable of competing globally, particularly against economic competitors like China and the US as well as a strategy called "Made in Europe 2030" to bolster European manufacturing and innovation similar to the Inflation Reduction Act of the United States (EPP, 2024, p.11). Similarly, the PES is advocating for a “Made in Europe Strategy” and an investment plan to reindustrialise the European economy (2024, p. 8). The Greens also advocate for an investment plan, in the form of a “Green and Social Transition Fund equivalent to at the very least 1% of EU GDP per year, mainly financed by joint borrowing at the EU level” (European Greens, 2024, p. 34). The aim is to invest in green industries to fight deindustrialisation and to increase global competitiveness. While all three parties recognise that more investments are needed, they differ in where that additional money should come from. The EPP is arguing that the focus should be on mobilising private investment alongside the European Investment Bank (EIB) and the already existent EU Invest programme (p.6). The Greens on the other hand argue for a mix fiscal policy, public investment, and private initiatives (p. 31) revising current institutions such as the mandate for the European Central Bank (ECB) by implementing a second interest rate for green investments to mobilise private capital. Moreover the propose more progressive taxes for example on windfall profits of energy companies and revising the EU debt rules (p. 33). This call for revising institutional frameworks aligns with the arguments of Andreoni and Chang (2020) who call for reengineering financial institutions as part of a comprehensive industrial policy.

Moreover, a dual interest rate for green projects has the advantage that it would mobilise investment not only in innovation but also in production facilities. Andreoni & Chang (2020) also argue that production is where most of the innovation and efficiency gains are made, as scaling effects are achieved when altering organisational and production processes such as raw materials. Therefore, the aspect of financing not only innovation but also scaling up investments is so essential. The benefits of altering the mandate of the ECB to adapt to the need for increasing investments for the green transition is further highlighted by Philippa Sigl-Glöckner et al. (2021). In line with the Greens' ambition, the PES also emphasises a strong role for public investment, advocating for a permanent EU investment capacity, taxing the wealthy and revising EU fiscal rules (p.17). In contrast to that, ALDE (2024) is promoting less bureaucratic burden and strengthening the single market to mobilise private investors, arguing that the EU is already spending enough money on public investment in industry (p. 10).

Krebs (2023) argues that one of the core strengths of the IRA is that public financial support is tied to good working conditions. This policy is also advocated for by the Greens and PES. The question of labour policy is closely tied to industrial policy, as with the green transition and decarbonising the economy, different skills are needed, while there is already a skills shortage at the moment (Vona et al., 2018). To address this issue, the Greens are proposing Introduce a Lifelong Learning Directive to protect the right to paid training leave (p. 28) as well as the right to training during paid working time through the Just Transition Fund and Social Climate Fund (p. 28). The PES argues for a Strengthened European Labour Authority (p.9) and protecting trade union rights, and encouraging collective bargaining and social dialogue (p. 13). Meanwhile, the EPP (p. 6) focusses on promoting labour mobility and avoid burdensome bureaucracy for small and medium sized enterprises (SMEs) which is echoed by ALDE (p. 19). The emphasis on the importance of maintaining good jobs in Europe through ensuring re-skilling of workers is echoed by European trade unions such as IndustryALL Europe (2023) and academics (Rodrik, 2021).

As energy intensive industry provides many well-paid jobs in Europe, considering the industries' competitiveness is essential. A determining factor is the price of energy which is projected to continue to stay higher in parts of Europe than in other regions with different renewables potential, raising the question whether to try to keep heavy industry in Europe (Verpoort, 2024). Not only for heavy industry this is relevant but also for other sectors in the economy, which is why it should be a pillar of any comprehensive industrial policy. The EPP is advocating for investments in the development of electricity and gas network interconnections between EU Member States (p. 6), as well as staying technology neutral. The Greens advocate for a market reform as well as the PES.

Based on the priorities and policy areas the European parties advocate for in their election programmes, the most important strategic goals for a Green Industrial deal are supporting industry to become climate neutral and fostering competitiveness in the global context. An industrial deal should also include a section on energy policy as energy prices are determinant of competitiveness and cost of business. The goal all parties can agree on the importance of fighting industrialisation, investments to support industry as well as creating good jobs and supporting the re- and ups killing of workers to meet the labour demand in the green transition and fight job losses. To achieve these goals, the industrial deal could include the following policy initiatives in the form operative goals to meet the strategic ones: To mobilise investment, reengineering financial institutions and fiscal rules, including a dual interest rate for green investments as well as establishing a permanent EU investment facility. A strengthened labour agency, tying public investment to labour conditions and reforming the energy market to ensure low energy prices.

While the election programmes do offer an insight into what a green industrial deal could look like, the realities of making compromises in politics cannot be predicted until after

the elections. Analysing the policy priorities and shared goals could help facilitate a structured debate and ensure that the plan is comprehensive, as well as addressing systemic change.

Conclusion

In this paper I explore what a potential European Green Industrial Deal could look like by analysing the election manifestos of the European Peoples Party, the Party of European Socialists, the European Greens and the Alliance of Liberals and Democrats for Europe, as well as a comprehensive literature review. The literature review identifies that industrial policy has historically been a contentious topic, often overshadowed by neo-liberal economic principles that favoured market solutions over state intervention. However, recent crises and the increasing urgency of climate action have shifted the discourse, bringing industrial policy back into the spotlight. Authors like Juhasz, Lane, and Rodrik (2023), as well as Mazzucato (2018), emphasise the need for a comprehensive, holistic, and flexible industrial policy framework. They argue that well-designed industrial policy can facilitate the transition to a sustainable and resilient economy by considering environmental sustainability, economic growth, and social aspects.

The analysis of the party manifestos reveals that despite their ideological differences, the EPP, PES, and Greens share common strategic goals for the European economy. These include promoting competitiveness, supporting European manufacturing and innovation, investing in green industries, enhancing energy policy, and fostering good jobs and worker training. These shared goals provide a strong foundation for developing a unified European Green Industrial Deal.

Based on the analysis I find that all parties share common goals for what the economy should look like which can be synthesised in the form of Key Performance Indicators. All manifestos advocate for an economy that is decarbonised, competitive, digital, resilient, innovative, unbureaucratic, and circular, and creating quality jobs. Despite all parties being able

to agree on the overarching goals, their opinion on using industrial policy to reach them differs. The analysis highlights that while there are differences in their approaches, all parties except ALDE recognise the critical importance of an active industrial policy for achieving climate neutrality, enhancing global competitiveness, and addressing security concerns. The literature review and analysis underscore the importance of shared goals for a cohesive and effective industrial strategy.

The EPP's strategy focuses on mobilising private investments and leveraging existing EU financial instruments like the European Investment Bank (EIB) and the InvestEU program. This approach aims to minimise the fiscal burden on member states but may face challenges in ensuring sufficient and timely investments for large-scale green projects. The Greens propose a more interventionist approach, advocating for significant public investments funded through joint borrowing and progressive taxation. This model promises substantial financial support for green initiatives but may encounter resistance due to its reliance on new tax measures and potential impacts on fiscal stability. The PES focusses on social and labour aspects as central parts of the transition. The common ground that all parties agree on offer the hope that the debate on industrial policy in the next legislative period will be more focused on evidence and less on ideology, as it has been so far. However, the divergences in ambition, especially in regards to the financial mechanisms might bring conflict and difficulty to agree on compromises while maintaining an ambitious plan.

To answer the research question of what a European Green Industrial Deal could look like, I establish several strategic goals, similar to the Green Deal of the last legislative period which then is implemented through operative policy initiatives throughout the following five years. Based on the analysis, several key policy areas emerge as strategic goals for a European Green Industrial Deal. These include a cheap and reliable energy system, good financial mechanisms to ensure sufficient investment to facilitate the green transition for industry, as well as promoting innovation, competitiveness and good labour policies.

To reach these strategic goals, possible operative policy initiatives could include the deal could include measures such as reengineering financial institutions and fiscal rules, implementing a dual interest rate for green investments, and establishing a permanent EU investment facility. Strengthening labour policies involves implementing robust protections for workers, promoting re-skilling and up-skilling initiatives, and ensuring training through mechanisms like the Just Transition Fund and Social Climate Fund. Reforming energy markets to ensure stable and competitive energy prices is also essential, as is investing in energy infrastructure and supporting the development of renewable energy sources. Public investments could be tied to good working conditions and money from European funds could be used to support the re- and ups killing of workers. Through targeted support for innovation, to invest in in green technologies, encouraging the growth of SMEs and start-ups, and supporting the development of European champions in key industries, the EU's economy could stay competitive. Considering all these aspects in a EU Industrial Deal would ensure a comprehensive approach that shifts, in comparison to the previous decades, the political debate on the benefits of industrial policy to the center stage, which in turn could help facilitate long term and systemic change.

The benefits of systemic change are underscored by the academic literature, which highlights the importance of a coherent, holistic, and flexible policy framework. Authors like Andreoni and Chang (2020) and Rodrik (2022) emphasise the need for coordinated industrial policy that integrates various policy areas and addresses long-term challenges. By aligning different stakeholders towards common objectives, a European Green Industrial Deal can foster collaboration, reduce conflicts, and increase the chances of collective success.

In conclusion, a European Green Industrial Deal can be considered essential for achieving the EU's climate goals, enhancing economic competitiveness, and ensuring energy security. While the EPP, Greens, ALDE and the PES have different approaches to industrial policy, their shared strategic goals provide a strong foundation for developing a comprehensive and cohesive industrial strategy. By focusing on shared goals and implementing a mix of public

and private investments, robust labour policies, energy market reforms, and supportive regulatory frameworks, the EU can create a sustainable and resilient economy. This approach will not only address current challenges but could also help establish a position of the European Union as a global leader in the green transition. The success of a European Green Industrial Deal will depend on the willingness of political actors to collaborate and make compromises, but by aligning their efforts towards common objectives, the EU can ensure that its industrial policy is effective, inclusive, and capable of driving the necessary transformations for a sustainable future.

References

- Abboud, L., Kazmin, A., & Hall, B. (2023, June 4). *Meloni and Le Pen: The relationship at the heart of European politics*. Financial Times. <https://www.ft.com/content/21d1e0a4-ba03-4080-b9d7-8f12435cbdde>
- Acemoglu, D., Aghion, P., Bursztyn, L., & Hémous, D. (2010). The Environment and Directed Technical Change. *ERN: Innovation (Topic)*. <https://doi.org/10.2139/ssrn.1668575>.
- Aiginger, K., & Rodrik, D. (2020). Rebirth of Industrial Policy and an Agenda for the Twenty-First Century. *Journal of Industry, Competition and Trade*, 20, 189-207. <https://doi.org/10.1007/s10842-019-00322-3>.
- Alliance of Liberals and Democrats for Europe. (2024). *Your Europe, Your Freedom: Delivering Change for You* [Election Programme]. https://www.aldeparty.eu/the_manifesto
- Andreoni, A., & Chang, H. (2019). The political economy of industrial policy: Structural interdependencies, policy alignment and conflict management. *Structural Change and Economic Dynamics*. <https://doi.org/10.1016/J.STRUECO.2018.10.007>.
- Andreoni, A., Chang, H., & Scazzieri, R. (2019). Industrial policy in context: Building blocks for an integrated and comparative political economy agenda. *Structural Change and Economic Dynamics*. <https://doi.org/10.1016/J.STRUECO.2018.11.003>.
- Baek, S., Jung, W., & Han, S. (2021). A critical review of text-based research in construction: Data source, analysis method, and implications. *Automation in Construction*. <https://doi.org/10.1016/j.autcon.2021.103915>.

- BDI. (2023, May 8). Öffentliche Anhörung zur Europäischen Antwort auf den US Inflation Reduction Act [Position Paper]. <https://bdi.eu/publikation/news/europaeischen-antwort-auf-den-us-inflation-reduction-act>
- BDI. (2023, 11 August). *The Inflation Reduction Act: Climate Protection with a Catch* [Article]. <https://english.bdi.eu/article/news/the-inflation-reduction-act-climate-protection-with-a-catch>
- Biermann, F., Kanie, N., & Kim, R. (2017). Global governance by goal-setting: the novel approach of the UN Sustainable Development Goals. *Current Opinion in Environmental Sustainability*, 26, 26-31. <https://doi.org/10.1016/J.COSUST.2017.01.010>.
- **Bleijenberg, A. (2023, December 18). *T&E's view on industrial policy*. Transport & Environment. https://www.transportenvironment.org/articles/te-views-on-industrial-policy**
- Bloom, N., Van Reenen, J., & Williams, H. (2019). A toolkit of policies to promote innovation. *Journal of economic perspectives*, 33(3), 163-184.
- Buti, M. (2023, 07 December). *When will the European Union finally get the budget it needs?* [Analysis]. Bruegel. <https://www.bruegel.org/analysis/when-will-european-union-finally-get-budget-it-needs>
- Cimoli, M., Dosi, G., & Stiglitz, J. (2015). The rationale for industrial and innovation policy. *Revista do Serviço Público*, 66, 55-68.
- Cohn, D. (2004). The Best of Intentions, Potentially Harmful Policies: A Comparative Study of Scholarly Complexity and Failure. *Journal of Comparative Policy Analysis: Research and Practice*, 6, 39 - 56. <https://doi.org/10.1080/1387698042000222781>.
- Colnaghi, W. B. (2024, March 21) *The precarious political economy of European industrial policy. The precarious political economy of European industrial*

- policy*. East Asia Forum. <https://eastasiaforum.org/2024/03/21/the-precarious-political-economy-of-european-industrial-policy/>
- Chang, H. (1998). Evaluating the Current Industrial Policy of South Africa. *Transformation: Critical Perspectives on Southern Africa*, 51-72.
- Chang, H., & Andreoni, A. (2020). Industrial Policy in the 21st Century. *Development and Change*, 51, 324-351. <https://doi.org/10.1111/dech.12570>.
- Cherif, R., & Hasanov, F. (2019). *The return of the policy that shall not be named: Principles of industrial policy*. International Monetary Fund.
- Ciuriak, D. (2013). The Return of Industrial Policy. *Political Economy: Comparative Political Economy eJournal*. <https://doi.org/10.2139/SSRN.1929564>.
- Colnaghi, W. B. (2024, March 21). The precarious political economy of European industrial policy. *East Asia Forum*. <https://eastasiaforum.org/2024/03/21/the-precarious-political-economy-of-european-industrial-policy/>
- Council of the European Union. (n.d.). *The European Green Deal*. Retrieved June 4, 2024, from <https://www.consilium.europa.eu/en/policies/green-deal/#:~:text=The European Green Deal is a package of policy initiatives,a modern and competitive economy.>
- De Croo, A. (2023, May 22). Speech at the Wirtschaftsrat Deutschland. Berlin, Germany. https://www.premier.be/sites/default/files/articles/20230522_speech_WirtschaftsratDE_final.pdf
- De Petris, A., & Poli, E. (2024, April 26). *Meloni's constitutional reform: Between the myth of government stability and the risk of authoritarian drift* (cepAdhoc No. 8/2024). cepAdhoc Network. <https://www.cep.eu/eu-topics/details/melonis-constitutional-reform.html>
- De Ville, F. (2023). The return of industrial policy in the European Union. *Ghent Institute for International and European Studies*. <https://www.ugent.be/>

ps/politiekewetenschappen/gies/en/research/publications/gies_papers/2023-global-energy-crisis/pdf-files/10-the-return-of-industrial-policy-in-the-european-union-ferdi-de-ville.pdf.

- Dent, C. (2022). Neoliberal Environmentalism, Climate Interventionism and the Trade-Climate Nexus. *Sustainability*. <https://doi.org/10.3390/su142315804>.
- Dirix, J., Peeters, W., & Sterckx, S. (2015). Is the EU ETS a Just Climate Policy?. *New Political Economy*, 20, 702 - 724. <https://doi.org/10.1080/13563467.2014.999758>.
- Dullien, S., Gerards I. S., Hüther, M. & Rietzler, K. (2024). *Herausforderungen für die Schuldenbremse. Investitionsbedarfe in der Infrastruktur und für die Transformation* [IW-Policy Paper]. Köln. <https://www.iwkoeln.de/presse/pressemitteilungen/michael-huether-simon-gerards-iglesias-600-milliarden-euro-fuer-eine-zukunftsfaehige-wirtschaft.html>
- Eszterhai, V., & Goreczky, P. (2022). To Decouple or not to Decouple? How to Address China's Dominance in the European EV Battery Supply Chain. *KKI Elemzések*. <https://doi.org/10.47683/kkielemzesek.ke-2022.61>.
- Eurelectric. (2022, 30 September). *How are EU electricity prices formed and why have they soared?*. Eurelectric. https://www.eurelectric.org/in-detail/electricity_prices_explained
- European Chemical Industry Council. (2024). *The Antwerp Declaration for a European Industrial Deal*. <https://antwerp-declaration.eu>
- European Commission. (2019). *The European Green Deal* (COM(2019) 640 final). <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52019DC0640>

- European Commission. (2023a, 1 February). *The Green Deal Industrial Plan: putting Europe's net-zero industry in the lead* [Press release]. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_510
- European Commission. (2023b, March 17). *EU Commission's new initiative for green industrial policy* [Press release]. https://ec.europa.eu/commission/presscorner/detail/en/IP_23_1563
- European Commission. (2023c, March 16). *Commission proposes Green Deal Industrial Plan to enhance competitiveness of EU net-zero industry* [Press release]. https://ec.europa.eu/commission/presscorner/detail/en/IP_23_1523
- European Environment Agency. (2023, November 7). *Investments in the sustainability transition: Leveraging green industrial policy against emerging constraints*. Publisher. <https://www.eea.europa.eu/publications/investments-into-the-sustainability-transition>
- European Environment Agency. (2024). *The costs to health and the environment from industrial air pollution in Europe – 2024 update* [Briefing]. <https://www.eea.europa.eu/publications/the-cost-to-health-and-the>
- European Greens. (2024). *Courage to Change: European Green Manifesto 2024* [Election Programme]. https://www.datocms-assets.com/87481/1713876249-manifesto_2024.pdf
- European People's Party. (2024). *EPP Manifesto 2024* [Election Programme]. <https://www.epp.eu/papers/epp-manifesto-2024>
- Federal Ministry for Industry and Climate Protection. (2023, October 24). *Industriepolitik in der Zeitenwende: Industriestandort sichern, Wohlstand erneuern, Wirtschaftssicherheit stärken* [Government Strategy]. <https://www.bmwk.de/Redaktion/DE/Publikationen/Industrie/industriepolitik-in-der-zeitenwende.html>

- Haraguchi, N., Martorano, B., & Sanfilippo, M. (2019). What factors drive successful industrialization? Evidence and implications for developing countries. *Structural Change and Economic Dynamics*. <https://doi.org/10.1016/J.STRUECO.2018.11.002>.
- Haddaway, N., Kohl, C., Silva, N., Schiemann, J., Spök, A., Stewart, R., Sweet, J., & Wilhelm, R. (2017). A framework for stakeholder engagement during systematic reviews and maps in environmental management. *Environmental Evidence*, 6, 1-14. <https://doi.org/10.1186/s13750-017-0089-8>.
- Harpankar, K. (2019). Internal carbon pricing: rationale, promise and limitations. *Carbon Management*, 10, 219 - 225. <https://doi.org/10.1080/17583004.2019.1577178>.
- Herman, R., Nistor, C., Jula, N.M. (2023). The Influence of the Increase in Energy Prices on the Profitability of Companies in the European Union. *Sustainability* **2023**, 15, 15404. <https://doi.org/10.3390/su152115404>
- Hoffmann, M. (2021). [PiS]sing off the courts: The PiS party's effect on judicial independence in Poland. *Vanderbilt Law Review*, 51(4), 1153. <https://scholarship.law.vanderbilt.edu/vjtl/vol51/iss4/5>
- IEA. (2022). Never Too Early to Prepare for Next Winter. International Energy Agency. Paris. <https://www.iea.org/reports/never-too-early-to-prepare-for-next-winter>
- IEA. (2023). *Tracking Clean Energy Progress 2023*. International Energy Agency. Paris. <https://www.iea.org/reports/tracking-clean-energy-progress-2023>
- IndustriAll Europe. (2023, December 19). Institutional pressure within the EU for a Just Transition Directive. Retrieved from <https://news.industriall-europe.eu/Article/1006>

- Johnson, E., Anderson, C., Mansfield, B., Krupar, S., Corwin, J., Prudham, S., & Goldstein, J. (2018). Planetary Improvement: Cleantech Entrepreneurship and the Contradictions of Green Capitalism. *The AAG Review of Books*, 8, 109 - 97. <https://doi.org/10.1080/2325548X.2020.1722485>.
- Juhász, R., Lane, N., Oehlsen, E., & Pérez, V. (2022). The Who, What, When, and How of Industrial Policy: A Text-Based Approach. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4198209>.
- Juhász, R., Lane, N., & Rodrik, D. (2023). The New Economics of Industrial Policy. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4533252>.
- Kalogiannidis, S., Chatzitheodoridis, F., Kalfas, D., Kontsas, S., & Toska, E. (2022). The Economic Impact of Russia's Ukraine Conflict on the EU Fuel Markets. *International Journal of Energy Economics and Policy*. <https://doi.org/10.32479/ijeep.13493>.
- Kazak, T. (2022). European Green Deal. *Yearbook of the Law Department*. <https://doi.org/10.33919/yldnbu.20.9.12>.
- Kemp, R., & Never, B. (2017). Green transition, industrial policy, and economic development. *Oxford Review of Economic Policy*, 33, 66-84. <https://doi.org/10.1093/OXREP/GRW037>.
- Kleimann, D., Poitiers, N., Sapir, A., Tagliapietra, S., Véron, N., Veugelers, R., & Zettelmeyer, J. (2023, February 23). *How Europe should answer the US Inflation Reduction Act* [Position Paper]. <https://www.bruegel.org/policy-brief/how-europe-should-answer-us-inflation-reduction-act>
- Krebs, T. (2023). Industriepolitische Zeitenwende. Ein europäischer Inflation Reduction Act. FES diskurs.

- Mazzucato, M. (2018). Mission-oriented innovation policies: challenges and opportunities. *Industrial and Corporate Change*. <https://doi.org/10.1093/ICC/DTY034>.
- Mazzucato, M., Cimoli, M., Dosi, G., Stiglitz, J., Landesmann, M., Pianta, M., Walz, R., & Page, T. (2015). Which Industrial Policy Does Europe Need?. *Intereconomics*, 50, 120-155. <https://doi.org/10.1007/S10272-015-0535-1>.
- McFarland, E. (2012). Unconventional Chemistry for Unconventional Natural Gas. *Science*, 338, 340 - 342. <https://doi.org/10.1126/science.1226840>.
- Merry, S. (2011). Measuring the World. *Current Anthropology*, 52, S83 - S95. <https://doi.org/10.1086/657241>.
- Naegele, H., & Zaklan, A. (2017). Does the EU ETS Cause Carbon Leakage in European Manufacturing?. *PSN: Natural Disasters (Topic)*. <https://doi.org/10.2139/ssrn.3050323>.
- Ohnuma, S., & Kitakaji, Y. (2015). Social Dilemma as a Device for Recognition of a Shared Goal : Development of “Consensus Building of Wind Farm Game”. , 475-490. https://doi.org/10.32165/JASAG.25.2_107.
- Oliver, K., & Cairney, P. (2019). The dos and don'ts of influencing policy: a systematic review of advice to academics. *Palgrave Communications*, 5, 1-11. <https://doi.org/10.1057/s41599-019-0232-y>.
- Party of European Socialists. (2024). *PES manifesto for the 2024 European elections* [Election Programme]. https://pes.eu/wp-content/uploads/2024/03/2024_PES_Manifesto_EN.pdf
- Packroff, J. (2024, 26 April). Europe's net-zero industry law will do little for manufacturing ambitions, experts say. *Euractiv*. <https://www.euractiv.com/section/economy-jobs/news/europes-net-zero-industry-law-will-do-little-for-manufacturing-ambitions-experts-say/>

- Parijs, P. (2012). What Makes a Good Compromise? 1. *Government and Opposition*, 47, 466 - 480. <https://doi.org/10.1111/j.1477-7053.2012.01371.x>.
- Pralle, S. (2009). Agenda-setting and climate change. *Environmental Politics*, 18, 781 - 799. <https://doi.org/10.1080/09644010903157115>.
- Rabe, W., Kostka, G., & Stegen, K. (2017). China's supply of critical raw materials: Risks for Europe's solar and wind industries?. *Energy Policy*, 101, 692-699. <https://doi.org/10.1016/J.ENPOL.2016.09.019>.
- Rodrik, D. (2014). Green industrial policy. *Oxford Review of Economic Policy*, 30, 469-491. <https://doi.org/10.1093/OXREP/GRU025>.
- Rodrik, D. (2022). An industrial policy for good jobs. *Hamilton Project—Policy proposal*. Washington, DC: Brookings Institution.
- Rodrik, D., & Sabel, C. (2020). *Building a good jobs economy*. Cambridge: Harvard Kennedy School, John F. Kennedy School of Government.
- Sigl-Gloeckner, P., Krahe, M., Schneemelcher, P., Schuster, F., Hilbert, V., & Meyer, H. (2021). Eine neue deutsche Finanzpolitik. Forum New Economy [Working Paper No. 2/2021]. [newforum.org/wp-content/uploads/2022/01/FNE-WP02-2021-1.pdf](https://www.newforum.org/wp-content/uploads/2022/01/FNE-WP02-2021-1.pdf)
- Soete, L. (2007). From industrial to innovation policy. *Journal of industry, competition and trade*, 7, 273-284.
- Solar Power Europe. (2022). *RES Booster Stocktake: Time for Implementation* [Position Paper]. Solar Power Europe. https://api.solarpowereurope.org/uploads/RES_BOOSTER_permitting_benchmark_public_5dd11ffcc6.pdf?updated_at=2023-09-22T08:31:36.027Z
- Stiglitz, J. E. (2016). Industrial policy, learning, and development. In J. Page & F. Tarp (Eds.), *The practice of industrial policy: Government–business coordination*

in Africa and East Asia (pp. 23-45). United Nations University World Institute for Development Economics Research (UNU-WIDER).

Stiglitz, J. E., Lin, J. Y., & Monga, C. (2013). Introduction: the rejuvenation of industrial policy. In *The industrial policy revolution I: The role of government beyond ideology* (pp. 1-15). London: Palgrave Macmillan UK.

Sgaravatti, G., Tagliapietra, S., & Zachmann, G. (2023, May 17). *Adjusting to the energy shock: The right policies for European industry*. Bruegel. <https://www.bruegel.org/policy-brief/adjusting-energy-shock-right-policies-european-industry>

Tagliapietra, S., & Veugelers, R. (2020). *A green industrial policy for Europe* (S. Gardner, Ed.). Bruegel. <https://www.bruegel.org/publications/blueprint/a-green-industrial-policy-for-europe/>

Vandeplas, A., Vanyolos, I., Vigani, M., & Vogel, L. (2022, December). *The possible implications of the green transition for the EU labour market* (Discussion Paper 176).

Verpoort, P. C., Gast, L., Hofmann, A., & Ueckerdt, F. (2024). Impact of global heterogeneity of renewable energy supply on heavy industrial production and green value chains. *Nature Energy*, 1-13.

von der Leyen, U. (2023, September 13). *State of the Union Address* [Speech transcript]. European Commission. https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_23_4426.

Vona, F., Marin, G., Consoli, D., & Popp, D. (2018). Environmental Regulation and Green Skills: An Empirical Exploration. *Journal of the Association of Environmental and Resource Economists*, 5, 713 - 753. <https://doi.org/10.1086/698859>.

Warwick, K. (2013), "Beyond Industrial Policy: Emerging Issues and New Trends", *OECD Science, Technology and Industry Policy Papers*, No. 2, OECD Publishing. <http://dx.doi.org/10.1787/5k4869clwoxp-en>

Wu, M., & Salzman, J. (2014). The Next Generation of Trade and Environment Conflicts: The Rise of Green Industrial Policy. *International Political Economy: Trade Policy eJournal*.