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# Industrial policy: old dog, new tricks?

# Executive Summary



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- **Industrial policies and subsidies are back with a bang, especially in major economies such as the US, China, India, Germany and Brazil.** Governments are increasingly getting involved in setting industrial priorities and supporting strategic industries through subsidies to promote innovation and technology diffusion. The 2,642 industrial policy measures implemented in 2023 were driven by efforts to secure strategic competitiveness and mitigate climate change, as well as an increasing emphasis on national security. But industrial policy is not a perfect solution and can even be counterproductive, leading to tit-for-tat reactions. And fiscal capacity is the main constraint for financing industrial policy. Subsidies averaged 0.3% of GDP in EU27 economies in 2023. As more and more countries face constraints from budget deficits, public debt and fiscal pressures, this emphasizes the need for well-considered fiscal policies to promote innovation while being mindful of potential economic distortions.
- **For investors and businesses, the return of industrial policy offers short term gains for some but can also create longer-term challenges.** Over the short run, transition-related and tech sectors will gain the most from industrial policies, especially low-carbon technologies, metals (steel, aluminum and critical materials), advanced technologies, semiconductors and defense-related sectors. Companies should benefit from a significant profitability boost: The average renewable/green tech manufacturer could see its gross profit margin double by 2025 compared to a baseline without tax credits. Industrial policy will also allow investors to play the commodities playbook at the expense of corporates and consumers. As the supply-demand gaps for some metals are becoming increasingly evident and inflationary risks loom, prices will increase in the future. Large corporates looking to finance projects eligible for industrial policy subsidies through green bonds could also benefit from significantly lower financing costs as industrial policies could lower risk. However, investment can eventually turn into over-investment and lose its efficiency. And industrial policy could lead to a crowding-out effect as large corporates are taking the lion's share of receipts. For instance, only seven very large global firms will benefit from 75% of the CHIPS program grants that have already been allocated (USD29.3bn). This needs to be addressed by smarter, more efficient industrial policies.

- **The EU's industrial policy faces challenges as it aims to balance the green and digital transition, maintain the Single Market, foster innovation and retain national control over policies.**

The EU's industrial strategy focuses on key sectors such as semiconductor technologies, hydrogen, industrial data, space launchers and zero-emission aviation to achieve targets such as producing 10mn tons of green hydrogen by 2030 and securing a 20% share of the global microchips market. EU cross-border projects are supported with EUR80bn in approved investments across the chips, battery and hydrogen sectors, while allocating 32.6% of the total EU budget between 2021 to 2027 towards climate tech. But technological neutrality in EU industrial policy has led to less targeted support for innovative technologies compared to the US. Moving forward, EU policymakers should mainly target countries with high emissions and carbon prices just at or below the EU ETS price of USD61.3, such as Germany, France, Spain, Italy or Poland. To achieve strategic competitiveness, climate goals and resilient supply chains, the focus should be on industry, energy supply and agriculture.

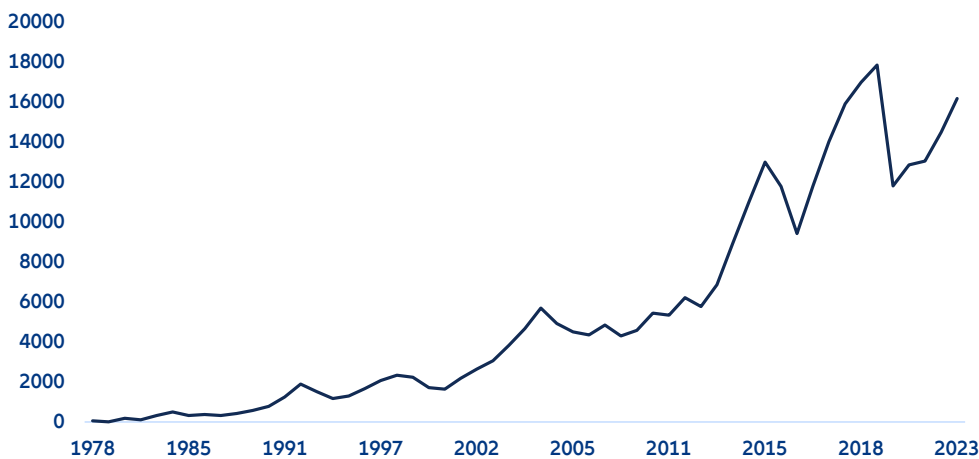
- **In this context, we argue that the EU needs to design smart, horizontal, conditional and complementary policies that help the bloc leap forward instead of chasing the US and China.** The bloc should (i) focus on horizontal policies, designing a mobility policy instead of a standalone EV policy for example; (ii) coordinate policies considering member states' specializations and taking advantage of complementarities between countries and sectors; (iii) implement strong conditionality on sustainability and domestic content of projects before unlocking public support, without increasing red tape, (iv) ensure policymakers are made accountable for industrial policies through relevant KPIs and design policies with multiple stakeholders, including scientists and civil society, (v) place the innovation ecosystem at the core and think "two steps ahead" instead of chasing the US and China and (vi) share risks and profits with the private sector through blended industrial policy (PPS, mixed financing).

# The return of industrial policy

**Industrial policies and subsidies have made a strong comeback on the global stage, driven by both economic and non-economic motives.** While industrial policy<sup>1</sup> is not new, some economies that avoided it in the past are now embracing it with new motives. In 2023, new industrial policy was mentioned by 16,230 newspapers (Figure 1). This reflects the new context of rising competition between economic blocs and geopolitical tensions, as well as the

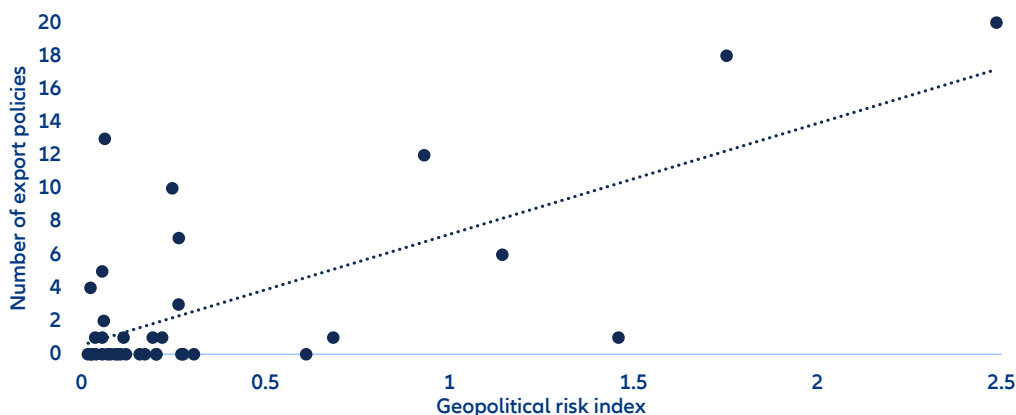
proliferation of ambitious national targets for climate neutrality. Indeed, countries counter higher geopolitical risk with more export policy measures (Figure 2), subsidies and sanctions, while higher economic policy uncertainty between 2020 and 2023 led to a +13.4% higher likelihood of governments implementing industrial policy measures, with export-related policies being more likely by +36% and subsidies by +21%.

**Figure 1:** Newspaper mention of “industrial policy”



Sources: GTA, Allianz Research.

**Figure 2:** Geopolitical risk index and number of export policies



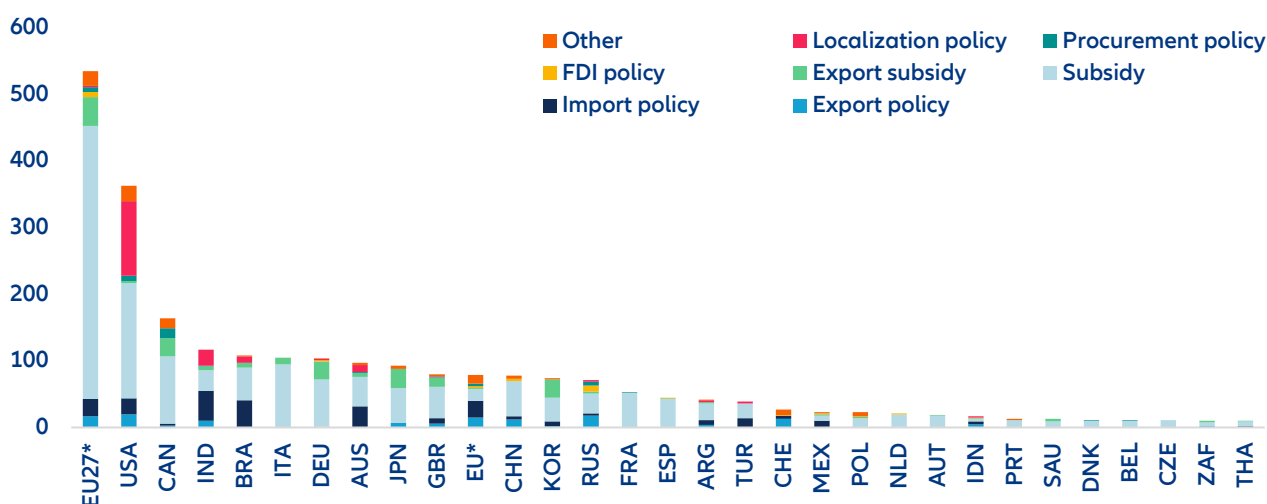
Sources: GTA NIPO, Caldara and Iacoviello (2022), Allianz Research.

<sup>1</sup> We use the New Industrial Policy Database’s (NIPO) definition of industrial policy, i.e. targeted government interventions to support specific domestic firms, industries or economic activities for national economic or non-economic objectives. Included policies must align with criteria such as new motives (climate change, national security, geopolitical concerns, strategic competitiveness or security of supply), strategic products/services (low-carbon tech, semiconductors, critical minerals, advanced tech, medical, IT and digital services or military or civilian dual-use) and high-level plans and strategies spanning multiple years that relate to multiple subsequent policies and interventions. Policies related to the Covid-19 pandemic and the Russia-Ukraine conflict are excluded from our analysis.

**Governments implemented 2,642 industrial policy moves in 2023, mainly in the form of subsidies favoring local firms. The current wave is specifically targeting manufacturing sectors to enhance comparative advantages.** Industrial policy can take many forms and mobilize a variety of tools, including investment in R&D, direct subsidies to firms and industries, tax incentives for corporates and households, regulations and industry standards and the development of infrastructure. But

subsidies for local firms are the most popular tool: The annual implementation of subsidies has more than tripled over the past decade. The US, China and India have been the top users of industrial policy over the last decade, followed by Germany and Brazil. Notable examples include the Inflation Reduction Act (IRA) and the CHIPS and Science Act in the US, the European Green Deal and the Digital Europe program in the EU, along with China’s Made in China 2025 program.

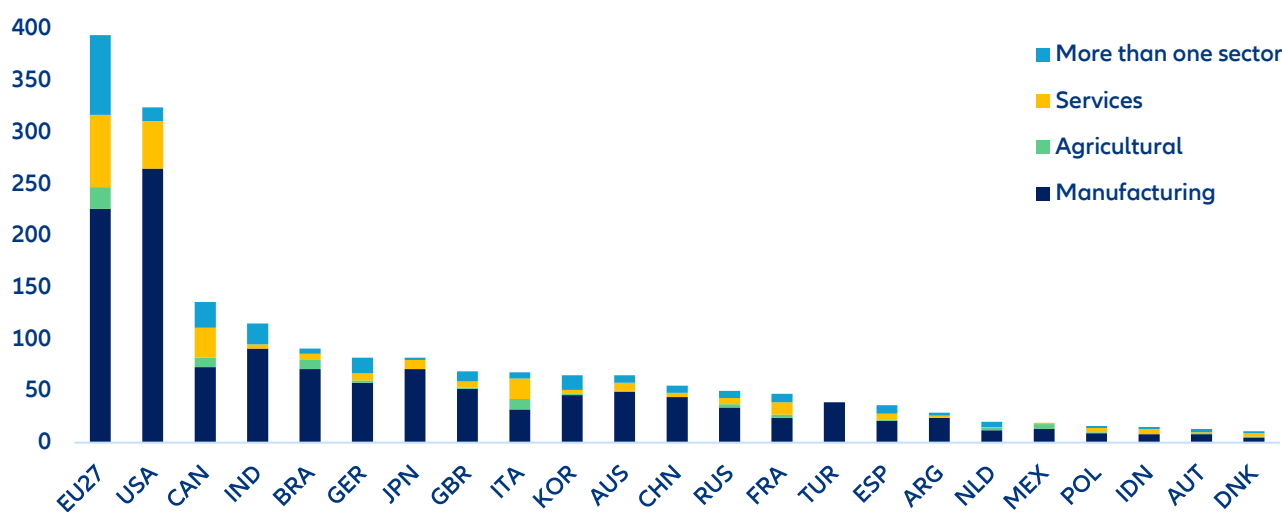
**Figure 3:** Number of industrial policy measures implemented across countries, by policy in 2023



Notes: EU27 is the aggregate including policies from all 27 EU member states and the EU Commission itself. The EU comprises industrial policy measures undertaken by the EU Commission itself.

Sources: GTA NIPO, Allianz Research.

**Figure 4:** Number of industrial policies, by sector in 2023



Notes: The sector count includes only policies that target the specific sector. The difference to the total is policies that target more than one sector.

Sources: GTA NIPO, Allianz Research.

**Despite the growing emphasis on national security and resilience of supply chains, strategic competitiveness and climate-change mitigation were the primary drivers behind industrial policy in 2023.**

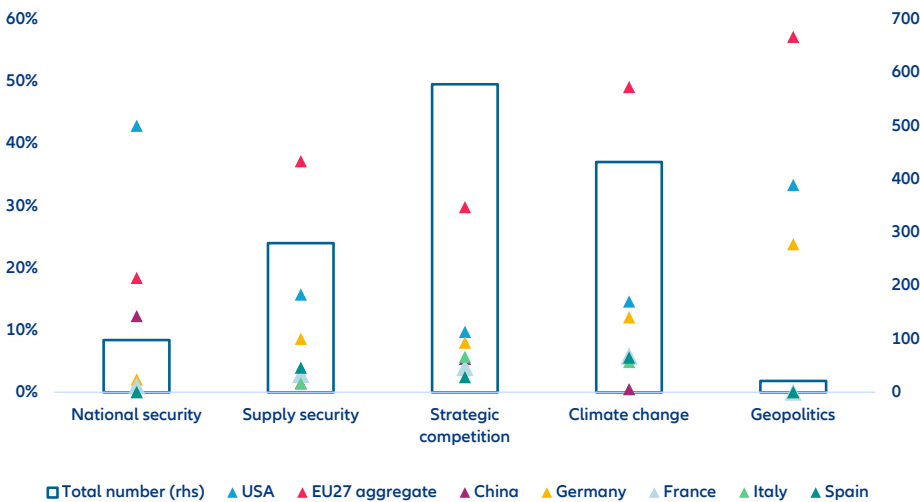
But national interests differ, the US put the largest emphasis on national security – 43% of measures implemented in 2023 in this category, while it was only 18% from the EU27 (Figure 5). The EU put the strongest emphasis on policies related to climate change mitigation (49%) and resilience of supply chains. But looking at subsidy values, national security and geopolitical concerns are not where governments spend the most: the highest spending in the EU27 in 2023 relates to promoting competitiveness or strategic sectors with USD304bn, followed by resilience and security of supply chains with USD186.1bn and climate change mitigation with USD179.7bn. Geopolitics and national security account for only USD 22.5bn and USD2.9bn respectively

**But industrial policy is not a perfect solution and can even be counterproductive, leading to tit-for-tat reactions.**

A worrying trend for tenets of open markets is that governments have started to double-down on tariffs by changing the industrial policy path from subsidies versus tariffs to subsidies followed by tariffs (i.e., the current introduction to electric vehicle tariffs after massively subsidizing them through the IRA in the US)

as the best tool to expand a favored firm or sector. But governments are notoriously bad at choosing and picking winners, also due to a lack of accountability, as well as the risks of cronyism. In fact, 1,659 of the protectionist policy interventions implemented in 2023 were firm specific. Subsidies directed towards import-competing industries are expected to bolster domestic production and reduce imports, aligning with import-substitution strategies. Conversely, subsidies targeted at sectors with a comparative advantage and large, export-oriented firms are anticipated to increase production and potentially boost exports. Further, subsidies may facilitate trade by addressing market failures and overcome the fixed costs of exporting and importing, while also reshaping firm-level productivity and industry-level comparative advantage, thereby influencing trade patterns. And as the crowding-in effect from government spending into corporate investment continues, firms start to count on this capital payout. In 2023, firm-specific subsidies range between 23% of total subsidies in the EU27 and 51% in the US. This may lead to an advantage of firms receiving capital payouts over those cautious of state intervention. Moreover, industrial policies in one country can often provoke a response from others that can neutralize the intended effects. The introduction of a new subsidy by China may

**Figure 5:** Industrial policy measures implemented by motive in 2023, as share of total in % and total number (rhs) as reference



Notes: The sector count includes only policies that target the specific sector. The difference to the total is policies that target more than one sector. Sources: GTA NIPO, Allianz Research.

prompt a 92% probability response from the EU27 and 71% from the US within a year. Conversely, when the EU27 or the US introduce a new subsidy, China shows an 87% and 82% response rate within a year, respectively.

**Fiscal capacity is a significant factor in financing industrial policy.** Private investors frequently do not reap the full societal benefits of innovation, resulting in inadequate research and development, especially in areas of fundamental interest. This indicates a need for public policy to fill this gap. Many major economies have thus adopted more targeted industrial policies aimed at fostering innovation in specific sectors and restricting international technology diffusion, prompted by economic and national security concerns. In 2023, subsidies made up 0.3% of GDP in EU27 economies on average, with a large dispersion of 0.1% in Sweden, 0.9% in France or 3.7% in Germany, while subsidies constituted 0.9% of GDP in the US and are estimated to make up more than triple the size in China. Advanced economies with higher growth and per-capita incomes typically have more flexibility to

offer corporate subsidies, whereas developing countries often rely on import barriers. Small and less affluent countries find it particularly challenging to compete in industrial policies with large and rich nations. However, even developed countries are more and more constrained by large budget deficits and high levels of public debt. Sizable fiscal pressures loom large from geopolitical tensions shifting priorities to defense and security, climate change with a focus on the green transformation and population aging. In a world with fiscal limitations, fostering long-term growth requires well-thought-out fiscal policies that promote innovation and the broad spread of technology. But when designing policies, governments need to keep in mind that the fiscal costs of industrial policies can introduce economic distortions due to higher taxation or costs due to lower government spending in other areas.



## Box 1: Industrial policies: past and present

In recent history, the experiences of the US, Japan and China offer key insights into the efficacy, impact and pitfalls of industrial policies. Before the very recent resurgence, the US already had a long history of industrial policies, which was particularly evident in the post-World War II era. For instance, the Defence Advanced Research Projects Agency (DARPA), established in 1958, was key in driving several ground-breaking innovations. To name a few, DARPA's investments have led to technologies such as the internet and GPS. These advancements not only bolstered national security and served a military purpose but also led to commercial applications that paved the way to billion-dollar markets. Japan's post-war economic miracle is also often associated with its effective industrial policies. The Ministry of International Trade and Industry (MITI) played a key role in coordinating economic development and implementing some key policies for Japan's auto and electronics sectors through subsidies and protectionist measures, and by brokering strategic alliances. Indeed, the Japanese government fostered cooperation between businesses, universities and research institutions, creating a robust innovation ecosystem. MITI's support in adopting lean manufacturing techniques was key for the auto sector, which improved productivity but also became a global leader in quality and efficiency.

Interestingly, back in the 1980s, the US was facing fierce competition from Japan in the semiconductor and electronics segment, which led the US government to launch the Semiconductor Manufacturing Technology (SEMATECH) consortium, a public-private partnership aimed at strengthening the US semiconductor industry through coordinated R&D efforts. By pooling resources and knowledge, SEMATECH played a crucial role in regaining the technological lead from Japan. These policies laid the ground for nascent small firms to grow substantially. Intel and Sony, to name one example from each country, went from start-ups to global players thanks to these policies. In this context, the recent CHIPS act and US policies seem to echo that period.

### **China, the new powerhouse forcing everyone back into industrial policy**

In recent years, China has emerged as a global economic powerhouse; its aggressive industrial policies are also a key ingredient behind the country's success. The country has managed to incorporate both a "traditional" strategy for its industrial policy and a "innovative" one at the same time. China has been spending big on traditional industries such as metals sector or construction – which both account for large numbers of employees. But in addition, it has managed to foster innovation and start-ups in specific sectors and products. For instance, the "Made in China 2025" initiative, launched in 2015, aimed at upgrading China's manufacturing capabilities and reducing its dependency on foreign technology. Many experts attribute the large advancements the country has made in key sectors, including robotics, aerospace, solar panels and electric vehicles, to this. China's approach involves substantial government investment, subsidies and strategic partnerships. For example, in the electric vehicle (EV) sector, the Chinese government has provided generous subsidies and incentives to both manufacturers and consumers. As a result, China now leads the world in EV production and sales. Another example is China's Belt and Road Initiative (BRI), which illustrates its strategic use of industrial policy to expand economic influence. By investing in infrastructure projects across Asia, Africa and Europe, China not only secures access to critical resources but also promotes the internationalization of its industries.

### **Recent industrial policies: hitting several birds with one stone through strong conditionalities**

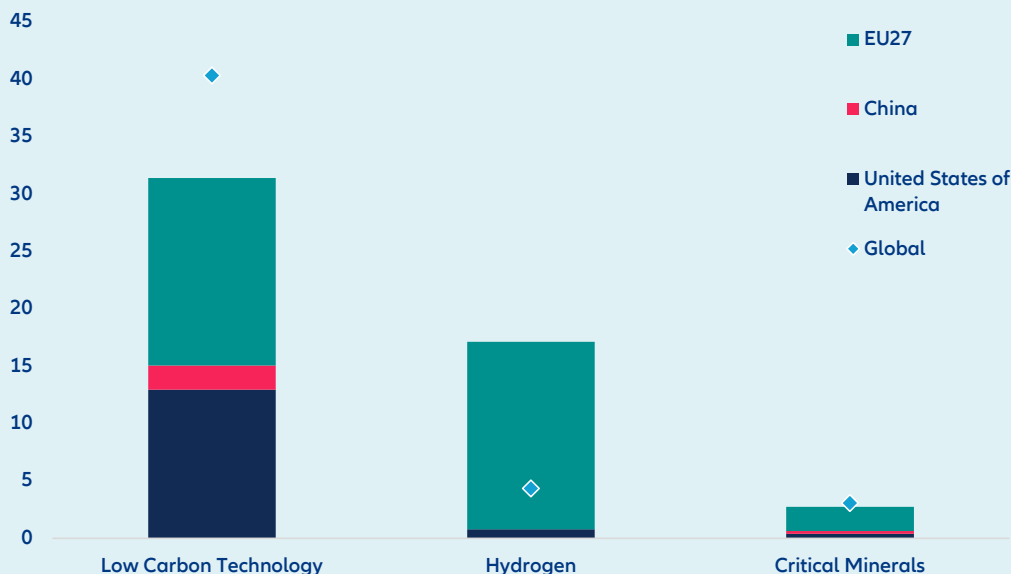
Industrial policies, such as the IRA, are designed to address a broad range of targets. Similar to previous industrial policies, the IRA seeks to promote innovation, job growth and economic development, while also addressing sustainability and social goals. A key focus of the IRA is facilitating the shift towards a low-carbon economy in the US. This involves substantial investment in projects that advance green technologies in an environmentally responsible manner. Compliance with stringent environmental standards is required for green projects seeking IRA funding. Moreover, the IRA aims to boost domestic employment and ensure fair wages by imposing specific conditions on these fronts. Projects seeking IRA funding must meet a domestic content requirement for materials like steel and iron, as well as other manufactured goods, to support US-based businesses. Additionally, the IRA includes provisions related to fair wages and apprenticeship programs. By linking subsidies to criteria related to sustainability, fair wages, domestic job creation and equity, the IRA not only accelerates the transition to clean energy but also ensures that this transition benefits a wide range of Americans. This strategy demonstrates how industrial policies can be utilized to achieve diverse objectives effectively.



## Box 2: Green subsidies to operationalize the green transition

**Governments worldwide are using green subsidies to support the transition to a sustainable economy, particularly in response to market failures.** Green subsidies can guide businesses and consumers towards cleaner technologies when carbon emissions are undervalued, or carbon pricing is lacking. Many of the recently implemented and planned industrial policies are less focused on economic growth, job creation and competitiveness, designed rather to achieve climate goals, secure supply chains and push past the technological frontier (Figure 6). The likelihood of achieving these goals is relatively high.

**Figure 6:** Green subsidies as share of total subsidies, in % in 2023



Sources: GTA NIPO, Allianz Research.

**A large piece of climate change–related industrial policy is the US IRA, but Europe is at the forefront and is scaling up its green subsidies.** The IRA aims to reduce emissions by up to 20pps, a significant step towards the US’s climate goals. However, its reliance on all carrots, no stick may lead to inefficiencies as companies can receive tax credits regardless of emission reductions. The European Net-Zero Industry Act is part of the European Green Deal’s effort to make Europe climate-neutral by 2050. The Act focuses on creating a supportive regulatory environment, securing funding, developing skills for the transition to net-zero and ensuring resilient supply chains through open trade. Europe plans to boost EU funding by reallocating resources from programs like REPowerEU, the InvestEU Program and the Innovation Fund, as well as increasing overall financing. An additional EUR25.4bn will be added to the existing EUR225bn under REPowerEU, which encourages one-stop-shops for approvals, tax breaks and workforce reskilling. The InvestEU Fund provides guarantees for sustainable infrastructure and R&D investments, with EUR11.37bn available for 2024-2027. The Innovation Fund supports cleantech through competitive bidding, including financing for wind projects under the EU Wind Power Package. The EIB announced increased support for clean investments to EUR45bn by 2027, including de-risking guarantees for wind projects. A pilot auction was held to award EUR800mn in funds to renewable hydrogen producers in Europe. Overall, these initiatives aim to accelerate the transition to a green economy and achieve climate goals in Europe.

**Green industrial policies and investments in green industries aim at reducing greenhouse gas emissions through subsidies for green technology innovation but they can be counterproductive.** While they may not be as efficient as price-based measures, protectionist actions could impede the green transition and international trade relations. Green growth necessitates industrial policies to expedite the shift, alongside carbon pricing. A well-designed mix of policies supporting new technologies and sectors, reducing emissions without immediate carbon pricing, along with complementary measures addressing competitiveness concerns, is essential to prevent unintended consequences and market failures. This approach can facilitate the transition of carbon-intensive sectors towards greener paths, advancing a resilient global economy while preparing for future environmental challenges.

# Is industrial policy good for investors and businesses?

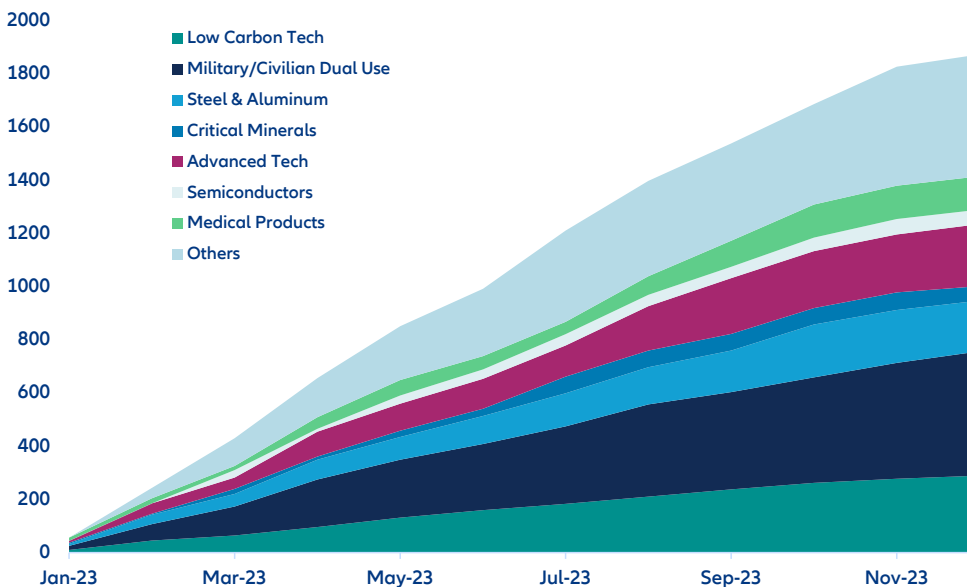
**Transition-related and tech sectors stand to gain the most from industrial policies.** Recent industrial policies have increasingly targeted sectors deemed critical for future growth, technological leadership, environmental sustainability and economic sovereignty. These sectors include low-carbon technologies, metals (including steel, aluminum and critical materials), advanced technologies, semiconductors and defense-related sectors (Figure 7). As the world shifts towards a low-carbon economy, green technologies have become a primary focus of industrial policies. Governments are heavily investing in renewable energy sources such as wind, solar and hydroelectric power. Lithium, cobalt and rare earth elements are essential for the production of high-tech devices and green technologies, including batteries for EVs and energy-storage systems. Due to this strategic importance, countries are implementing policies to secure supply chains and reduce dependency.

**The recent breakthroughs in artificial intelligence (AI) and quantum computing have also kicked off a race for adoption and further research to gain a decisive competitive edge.** Governments are investing in R&D and creating conducive environments for innovation in these

fields. For example, the US has launched the National AI Initiative to maintain its leadership in AI, while China’s AI policy aims to make it the world leader in AI by 2030, supported by vast state funding and private sector partnerships. Just like metals for green tech, advanced technologies and AI will require a large and high-quality semiconductor supply. Semiconductors are critical for a wide range of technologies, from consumer electronics to military systems. Countries are enacting policies to bolster their semiconductor industries and western countries are also engaged in “semiconductor war” to counter China’s growing ambition in the sector.

**In addition, biotechnology and medical products, especially in the wake of Covid-19, have seen substantial investment globally, alongside defense-related investments.** Countries are striving to advance their capabilities in medical technologies and products including very basic ones such as protective masks. And in the context of rising geopolitical tensions and conflicts both in Ukraine and the Middle East, defense-related industrial policies and investments are also in the rise.

**Figure 7:** Trade distortive industrial policies by sector implemented in 2023, cumulative number of measures



Sources: Evenett et al. (2024), Allianz Research.

**Corporates operating in these sectors will likely experience a boost in terms of revenues and investments thanks to government support.** Some firms, especially multinationals, will also be required to “make a choice” or re-think their geographic allocation and reach as they might have to choose between competing and conflicting subsidies. For instance, semiconductor firms might need to choose carefully between setting up shop in the US to benefit from the CHIPS act at the risk of losing business China or the other way around.

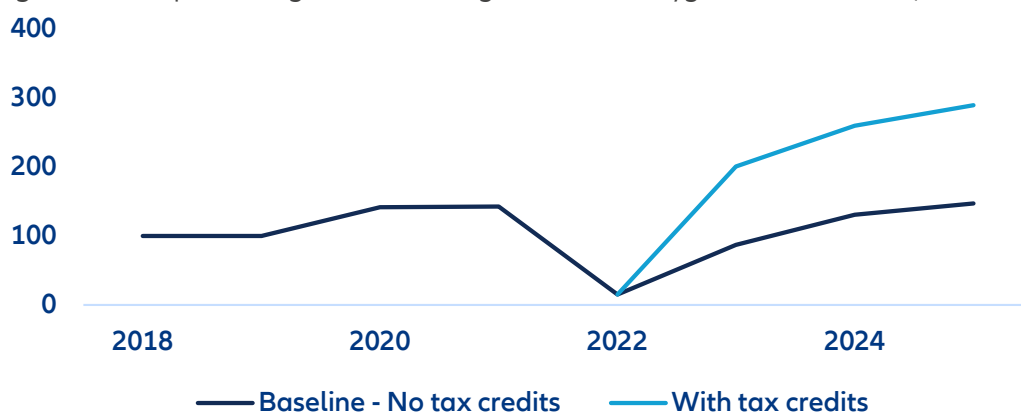
**A profitability boost is also in sight for targeted sectors but all players will not benefit to the same extent.**

Industrial policies offer subsidies and tax credits among other incentives. In the US, the IRA offers tax credits for manufacturers and especially to manufacturers in green technologies such as renewables, battery production etc. It is expected that the average renewable/green tech manufacturer could see its gross profit margin double by 2025 compared to a baseline without tax credits (Figure 8).

**Investors are likely to play the commodities playbook at the expense of corporates and consumers.** Surging for key metals such as lithium, cobalt, nickel, and copper reflect growing demand and investor interest amid concerns about supply constraints. For example, lithium

prices saw a dramatic rise in 2021 and 2022, driven by the booming electric vehicle market. The price of lithium carbonate, a key form of lithium used in batteries, increased from about 7000 USD/mtn in 2020 to over 70000 USD/mt in 2022. Likewise, cobalt prices have also experienced significant volatility. After peaking in 2018 due to high demand and limited supply, prices fell but started to rise again as the EV market continued to expand. Copper has also seen sustained price increases. The supply-demand gaps for these metals are becoming increasingly evident. For instance, the anticipated demand for lithium by 2030 could outstrip supply by 1.7 times, creating significant opportunities for investors in lithium mining and processing. Similarly, new mining projects for cobalt, nickel and copper are urgently needed to avoid future shortages and price spikes. This could prove to be a successful investment but it would imply higher prices for corporates and consumers, as we highlighted in our previous research<sup>2</sup>.

**Figure 8:** Gross profit margin for the average US renewable/green manufacturer, 2018=100



Sources: Morgan Stanley, Allianz Research.

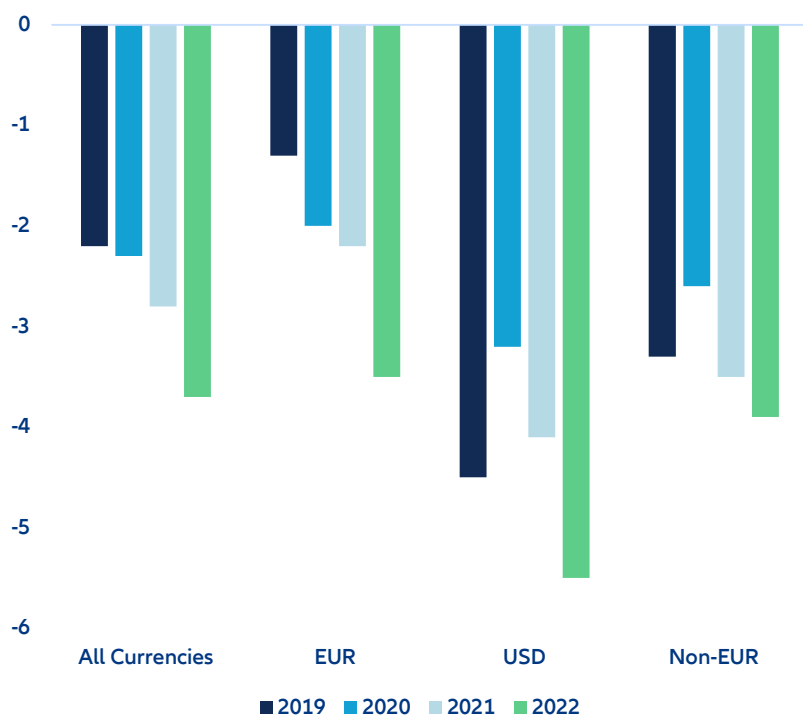
<sup>2</sup> [The “five Ds” of structurally higher inflation](#), Feb. 2023, Allianz Research.



**The greenium could reduce further.** In 2023, USD575bn worth of green bonds were issued, with corporates accounting for about two-thirds of issuances. Investors are enthusiastic about these assets and most issuances exhibited very strong bid-to-cover. But due to this strong investor demand and thanks to their commitment to environmental targets, the greenium (i.e., the green premium associated with green bonds) is estimated to be negative (Figure 9). The greenium is lowest for USD denominated bonds. Ongoing green industrial policies could potentially reduce further the risk of green bonds

and improve even more their attractiveness, thereby reducing further the greenium. Large corporates looking to finance projects that are eligible for industrial policy subsidies could benefit from significantly lower financing costs through green bonds. This could be even more pronounced for USD bonds.

**Figure 9:** Evolution of greenium for selected currencies, bps



Sources: Ben Slimane et al. (2023), Allianz Research.

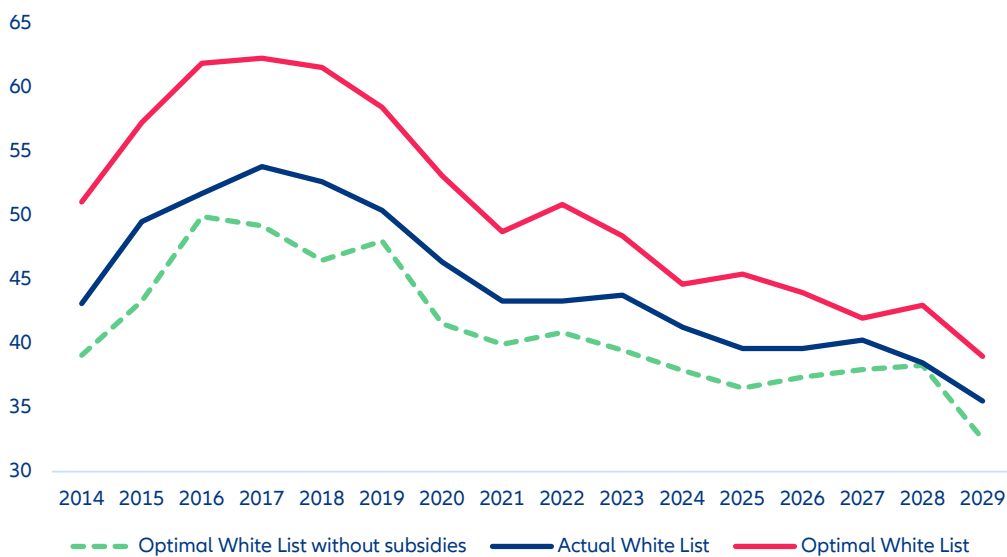


**Higher anticipated profitability is expected to boost capital expenditures as companies gain clarity on the potential returns from expanded production.** However, in the case of the US, renewable project developers might not see such significant profit increases. Developers can earn the “domestic content” credit from the IRA only if they purchase components from the currently limited number of US manufacturers of green technology. This high demand will allow manufacturers to charge premium prices, potentially diminishing the tax credit benefits for developers – at least until domestic manufacturing capacity expands and the pricing power of existing ones diminishes. Beyond these sectoral differences, evidence from China indicates that targeting the right firms when designing industrial policy can also impact the sector’s profitability. Chinese industrial policy often established “white lists” of firms that could be recipients of subsidies, but those selections can be biased and sub-optimal in

terms of raising the industry’s overall profits (Figure 10).

**Too much investment can also be bad.** Investment can eventually turn into over-investment. Evidence<sup>3</sup> from China reveals that industrial policies have had mixed effects on investment efficiency. The primary mechanisms driving this inefficiency are government subsidies and increased inter-industry competition. Firms receiving subsidies may over-invest in less productive areas due to the availability of easy capital, leading to an inefficient allocation of resources. Furthermore, intense competition and the rush to benefit from these policies can lead to redundant investments, exacerbating inefficiency.

**Figure 10:** Ship manufacturing industry profits in China under different “white lists”



Sources: Barwick et al. (2019), Allianz Research.

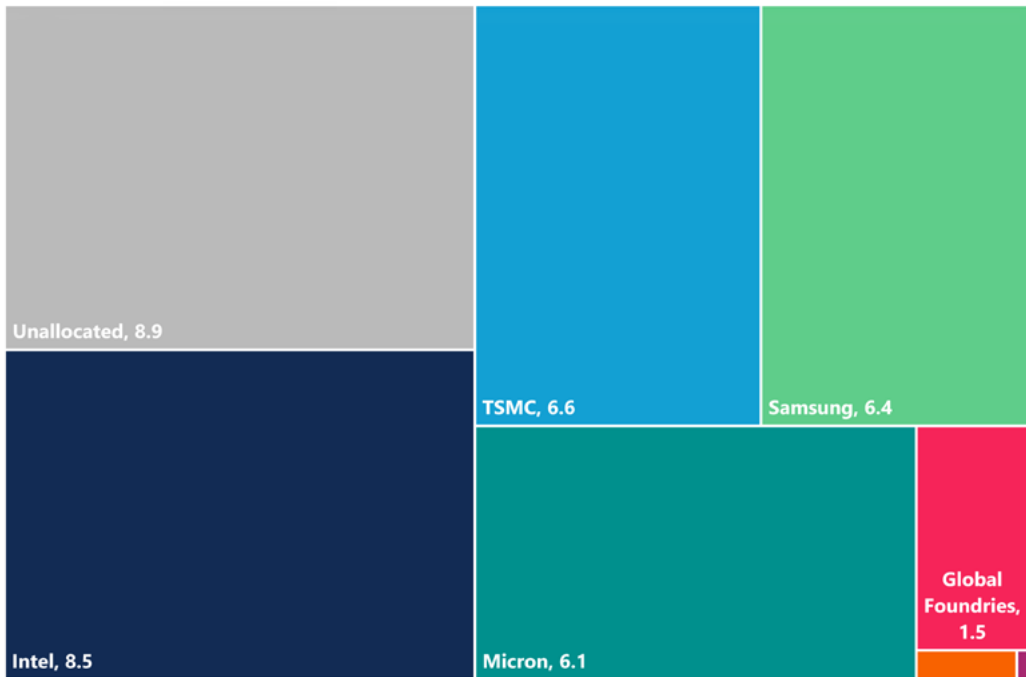
<sup>3</sup> See for instance [Wang et al. \(2023\)](#) or [Zhou and Zhao \(2022\)](#).

**Large corporates are taking the lion’s share of receipts.**

Industrial policies are intended to benefit a wide range of businesses, from small start-ups to large corporations. However, in practice, large corporates tend to capture most of these benefits, leveraging their substantial resources, lobbying power and established market positions to maximize their receipts. Large corporations have extensive resources and dedicated teams to overcome red tapes in application processes for subsidies and grants. They also have the financial positions to meet the requirements and upfront costs that often come along with these policies. For instance, under the IRA in the US, substantial subsidies and tax incentives are available for clean energy projects. While these incentives are theoretically accessible to all, large corporations with established project pipelines and financial clout are better positioned to secure and benefit from these funds. The European Investment Bank reports that major energy

companies and industrial giants are the primary recipients of financing aimed at transitioning to renewable energy and improving energy efficiency. Furthermore, large corporations often engage in extensive lobbying efforts to ensure that the structure of industrial policies aligns with their strategic and operating interests. In the US, large tech companies and automotive giants have been particularly active in lobbying for favorable terms under the IRA. As a result, 75% of the CHIPS program grants have been allocated and seven very large global firms will benefit from these receipts totaling to slightly above USD29.3bn (Figure 11). Such outcome raises the question of unintended crowding-out effects from industrial policies that could lead to longer-term challenges.

**Figure 11:** CHIPS grants by firm, USD bn



Source: CSIS, Allianz Research.

<sup>3</sup> See for instance [Wang et al. \(2023\)](#) or [Zhou and Zhao \(2022\)](#).



## Squaring the circle in the EU

**The EU faces a conundrum when it comes to industrial policy.** The bloc has set an objective to achieve the green transition, but it is also committed to maintain its single market; it would like to foster innovation and bring up European champions but member states want to retain some control over policies – since they are key for jobs and national economies. The establishment of the Single Market in 1993 was a pivotal moment, aiming to eliminate barriers to trade in Europe and create a more competitive environment. This integration facilitated economies of scale, increased competition and attracted foreign investment. Nevertheless, it has substantially complicated the implementation of industrial policies in the EU as national policies can distort competition in the bloc. Moving swiftly towards green and digital transitions is also hard to reconcile with industrial policies. For instance, Chinese solar panels and EVs are cheaper. Should the EU buy Chinese products to get greener or should it try to foster European industries, but face the risk of slowing down the transition?

**The EU has launched industrial alliances in semiconductor technologies, hydrogen, industrial data, space launchers and zero-emission aviation.** The EU Industrial Strategy, introduced in March 2020 and updated in early 2021, focuses on supporting the digital and green

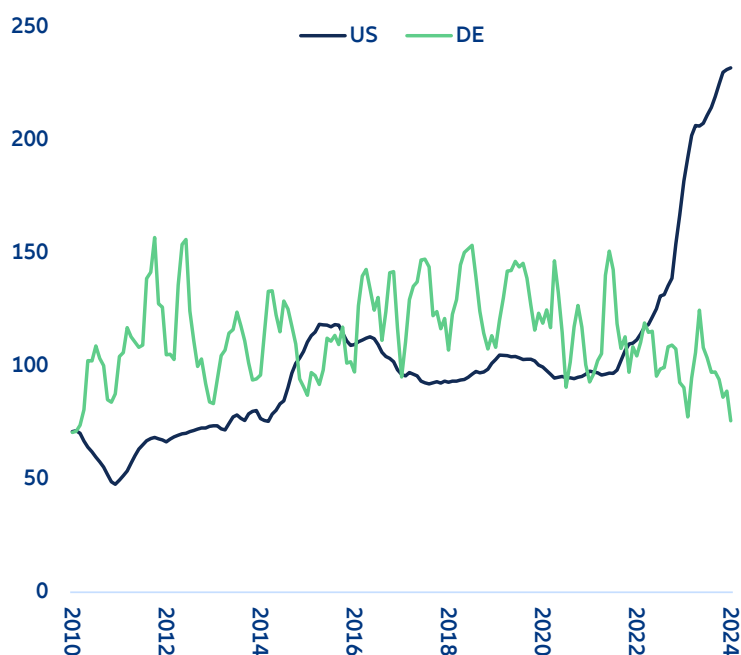
transitions. It emphasizes strategic autonomy, supply-chain diversification and the resilience of the Single Market in 14 key sectors through international partnerships and industrial alliances, sharing the development burden with the private sector. Supported by the EU Hydrogen Strategy and EU Chips Act, these initiatives aim to achieve targets like producing 10mn tons of green hydrogen by 2030, establishing a hydrogen energy ecosystem and securing a 20% share of the global microchips market (currently 9%). The EU is establishing an EU Hydrogen Bank to facilitate private investment, and sustain production and infrastructure development. The Chips Act focuses on knowledge transfer, collaboration enhancement among EU economies and monitoring semiconductor supply chains for crisis management, with plans for EUR43bn of public and private investments.

**Another key EU industrial policy tool aimed at achieving these goals is the Important Project of Common European Interest (IPCEI), launched in 2018.** IPCEIs

support cross-border innovation and infrastructure projects to boost economic growth, job creation and the green and digital transition and competitiveness of the EU industry. Through IPCEIs, EU member states can provide state aid to specific sectors or cross-border infrastructure, totaling about EUR80bn in approved investments across the chips, battery and hydrogen sectors. To promote the development and deployment of clean technologies in Europe, the EU allocated 32.6% of the total EU budget between 2021 to 2027 toward climate action. The challenge is that the EU climate funding is spread over many different envelopes in the budget. The Net-Zero Industry Act (NZIA) supports the Green Deal Industrial Plan for the Net-Zero Age as part of the European Green Deal aiming for climate neutrality by 2050. It focuses

on regulatory simplification, funding access, skills development and resilient supply chains. Further funding sources include REPowerEU, InvestEU and the Innovation Fund. Overall, the EU has a significant amount of funding available for clean energy subsidies, comparable to the US IRA, even without the European Sovereignty Fund. However, the EU’s approach of technological neutrality and letting the market decide investments has led to less targeted and certain support, favoring established industries over innovative technologies. This has hindered the scaling up of innovation, with the EU lagging behind the US in cleantech venture capital investment, or even just the creation of jobs or the construction of new plants (Figure 12).

**Figure 12:** CHIPS grants by firm, USD bn



Notes: For the US: Total private construction spending: Manufacturing in USD mn, monthly, seasonally adjusted (US Census Bureau) price adjusted with the producer price index for intermediate demand “materials and components for construction” (Bureau of Labor Statistics). For Germany: Estimated costs, building permits for factory and workshop buildings (Destatis), price-adjusted with construction price index for commercial buildings, construction work on buildings (Destatis).

Sources: LSEG Datastream, Allianz Research.

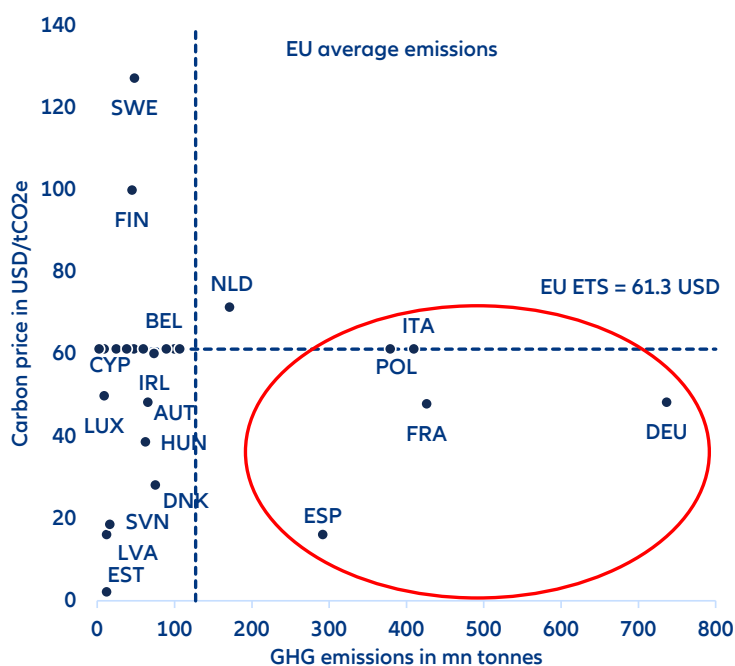


In determining where EU politicians should prioritize industrial policy interventions, countries with low greenhouse gas (GHG) emissions and high carbon prices serve as key indicators for addressing climate change and green technologies effectively. A good indicator is the Climate Change Performance Index, where Denmark leads, followed by Estonia, the Netherlands, Sweden, Portugal and Germany, while Poland, Czech Republic, Hungary, Bulgaria, Italy, Ireland and Cyprus lag. But despite this, the top categories remain empty as all countries must speed up the green transformation and need support from industrial policy to transform the industry. Looking at carbon prices and greenhouse-gas emissions (GHG), we find that countries in the lower right quadrant should be the ones targeted by policymakers, namely high GHG emitters with carbon prices below the European ETS price of USD61.3 (Figure 13). These include Germany, France, Spain, Italy and Poland. The top sectors contributing to EU emissions in 2023 include industry (26.0%), energy supply (22.3%), agriculture (17.2%), domestic transportation (15.9%) and buildings (11.1%). While EU27 emissions decreased by -22.1% from 2010 to 2023, sectors such as domestic transportation and agriculture require more attention. Policymakers are urged to target high-productivity and high-value-added

sectors over competitive industrial policies within the EU. However, varying frameworks across EU countries create competition for attracting top companies. Balancing these factors is crucial for achieving strategic competitiveness and climate goals, and for fostering resilience in supply chains across the EU.

**One notable example of successful industrial policy in Europe is the Airbus consortium.** Formed in 1970 as a collaboration between France, Germany, Spain and the UK, Airbus received significant government support to compete with the American giant Boeing. Through coordinated R&D efforts, subsidies and political backing, Airbus transformed into the only major competitor, capturing a significant share of the global commercial aircraft market. The example of Airbus embodies some of the key factors that make an industrial policy successful: it fostered government-private sector collaboration, leveraged strategic investments in R&D and encouraged innovation ecosystems. It was also adapted to meet a benchmark in global competitiveness. Moreover, in the European context, it was an industrial effort that mutualized and pulled together existing industrial capacities without creating competition among the bloc.

Figure 13: Carbon prices (in USD) as of 1 April 2024 and GHG emissions (in mn tonnes) in 2023



Sources: World Bank, Eurostat, Allianz Research.

**Drawing from past experiences, insights from other countries and ongoing policy debates, the EU needs to get ahead of the curve and must proactively design smarter forward-thinking industrial policies.** This entails more than just responding to external policy trends; it requires innovation and the establishment of an ecosystem that fosters technological advancements essential for addressing future challenges. By elevating companies and industrial sectors within the value chain that are currently lagging but crucial for future progress, the EU can position itself as a leader in shaping a dynamic and competitive industrial landscape, holding tight the principle of subsidiarity. To do so, we believe Europe needs to follow the following principles:

**Horizontal policies: When implementing industrial policies, many countries took an “industry” or “sector” approach in the past.** Nevertheless, we believe that policies should be horizontal and based on households and firms’ needs, aimed at improving overall framework conditions. Even though the EU defines its industrial policy as horizontal by nature, many policies implemented by EU member states over the last years were rather vertical or targeted ones that favored a specific sector or firm. Moving forward, the EU should remind itself of the horizontal approach to spur growth and master the green transformation. For instance, it should not come up with a plan solely for automotive but should rather design a policy for mobility – considering the need for EVs but also other factors from the electricity and grid development necessary for charging stations to public transportation policy to alternative mobility options.

**Coordinated policies considering member states’ specializations and taking advantage of complementarities:** For industrial policy to be efficient, it must be coordinated so that member states’ industries can complement each other. For example, both France and Germany have strong auto industries; if they were to both implement strong EV policies for their respective industries, it could result in a net loss. Historically, both countries’ sectors thrived as they specialized in different segments (high-end for Germany versus entry/medium level for France). Policies need to be coordinated so that these specializations in products but also target markets remain and countries do not compete with one another on the same products and market segments. Responsibilities as well as profits needs to be shared. Furthermore, policies should build on countries’ existing technological and economic capabilities. Policymakers should target where it makes the most sense and difference to strengthen competitiveness. For instance, fostering the

production of lithium batteries requires several steps from refining metals to cell component manufacturing to cell manufacturing to battery system manufacturing. These processes could be split and coordinated across Europe, in different countries, making the best use of each country’s strengths.

**Implement strong conditionality of public support without increasing red tapes:** Recent EU industrial policies lack clear conditions. Tying public support to specific conditions is not about creating more bureaucracy, but about moving away from a programmatic approach. Making these conditions explicit would unlock sustainable and fair economic growth. We propose linking incentives like subsidies or tax breaks to production outcomes, social criteria and sustainability standards (EU employment, low carbon policies from corporates etc.). This is crucial for the efficient use of state funds and effective policy implementation in EU industries.

**Policymaker accountability and multiple stakeholders:** As for any public policy, industrial policy should have a set of KPIs (production of goods and services, CO2 avoided, industrial capacity created etc.). Policymakers should be accountable for achieving targets and improving these KPIs. Furthermore, these KPIs and targets should be set through a dialogue with multiple stakeholders including civil society and scientists to avoid opaque discussions with corporate experts.

**Place innovation ecosystem at the core and think “two steps ahead”:** Europe should design smart industrial policies that do not run “behind” the two other major blocs (US, China). Instead of developing large manufacturing capacities for products in which European firms do not have a technological or competitiveness edge (eg. chips or EV factories), Europe could invest massively in autonomous car software development or next generation batteries or fabless chip design etc. Such policies would have the advantage of betting on a leap forward instead of playing catch-up.

**Sharing risks and profits with the private sector through blended industrial policy:** Industrial policy cannot only de-risk private investment and not provide the taxpayers profits (beyond the positive externalities aimed by the policies). One way to achieve this is by having closer collaboration between public and private sectors. There are several options for this, from increased public equity in private companies to more public-private partnerships (PPPs) to mixed funding mechanisms.

A close-up photograph of several hands of different skin tones stacked on top of each other, resting on a tree trunk. The background is a lush green forest. The text 'Our team' is overlaid on the image.

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