
European Competitiveness: Lessons from the IRA

EXPLAINER - MARCH 2025



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As economic warfare between global powers becomes the new normal, Europe must urgently bolster the competitiveness of its industry and services. Institut Montaigne has been at the forefront of analyzing economic security challenges and benchmarking best practices worldwide.

In this context, an in-depth analysis of President Biden's Inflation Reduction Act (IRA) offers valuable insight into the political instruments deployed in global economic competition. Despite its name, the IRA had little to do with fighting inflation or decarbonizing the economy—its official pretense. Its true purpose was to strengthen the United States' position against China, even if it meant at the expense of Europe and against the principles of free trade.

While key provisions of the IRA are now being dismantled by the second Trump administration, which prioritizes its own industrial and energy strategies, its impact endures. The redefinition of US policies towards Europe underscores the lasting consequences for transatlantic relations and the urgent need for European countries to move from passive spectators in the U.S.-China struggle to determine actors capable of strategic retaliation.

Some awareness has emerged within the European Commission, as reflected in the Clean Industrial Deal, to which Institut Montaigne's work made a significant contribution. However, Europe must accelerate its industrial policy to remain competitive. This study aims to provide a more operational perspective on key economic security tools such as tax credits, supply chain de-risking and administrative streamlining.

Marie-Pierre de Bailliencourt,
Institut Montaigne's Managing Director

On 29 January 2025, the European Commission published its Competitiveness Compass, a blueprint to make the EU market more resilient, secure and globally competitive. Its three core pillars—closing the innovation gap, aligning decarbonization with industrial growth, and reducing strategic dependencies—echo the ambition behind Joe Biden’s Inflation Reduction Act (IRA). With Donald Trump’s return to the White House, the trajectory of US clean tech investment faces uncertainty. Meanwhile, the EU’s Clean Industrial Deal, published on 26 February, represents its most recent effort to combine decarbonization with economic growth. The EU now has a window of opportunity to assert greater leadership in green industrial policy. However, success requires hard choices and a clear vision for green growth.

BIDEN’S AMBITIONS

- **The 2022 Inflation Reduction Act (IRA) was celebrated as a cornerstone of Joe Biden’s plan to rebuild a greener America.** It sought to use green technology as a driver of economic growth and unprecedented industrial expansion. It provided roughly \$400 billion worth of tax breaks and subsidies for electric vehicles, solar panels and batteries, and approximately \$40 billion for carbon capture and clean hydrogen. It was part of Biden’s economic power strategy and followed two other significant spending and investment commitments: the 2022 CHIPS and Science Act (worth \$39 billion) and the 2021 Bipartisan Infrastructure Deal (worth \$1.2 trillion).
- **The IRA was about climate, growth and securing supply.** Unlike traditional climate policies, the IRA was a geopolitical and economic tool, aimed at: reducing America’s CO₂ emissions by 40% by

2030; reducing reliance on foreign supply chains; and boosting domestic growth, manufacturing and strengthening social security guarantees. By August 2024, it had created over 330,000 jobs and delivered \$8.4 billion in consumer savings on energy efficiency and electrification.

- **The scale of the IRA made the difference: it represents the most generous assistance awarded by any economy, second only to China.** Total IRA support amounts to around 0.5% of US GDP. At the time, the international corporate response was broadly positive, with some arguing that the IRA could spur between \$1.7 trillion and \$2.9 trillion in investment in US green tech over a decade. Beyond its size, it was the speed with which it delivered subsidies and support that made it effective.
- **The IRA's appeal was hard to resist.** The scale of the IRA package actively shaped and expanded the market, offering uncapped subsidies for manufacturing and R&D. With a strong dollar, lower energy costs, and a better startup ecosystem (23,000 U.S. scale-ups vs. 7,000 in Europe in 2019), the U.S. became a top destination for clean tech investment. By March 2023, there were 20 new or expanded green manufacturing plants in the US, of which 50% were foreign. The Biden administration also enlisted clean tech experts to oversee IRA implementation, streamline bureaucracy, and reform permitting laws to speed up clean energy projects. While permitting delays persisted, tax credits enabled swift investment decisions.
- **Framing the bill around inflation cost the Biden administration politically.** Hoping to gain Democratic support in Republican strongholds, Biden saw the IRA direct 82% of its investments to GOP-led states—but this did not translate into political gains. While inflation dropped to 2.9%, economists credit monetary policy and supply chain recovery, not the IRA. On the campaign trail, Biden admitted he regretted the bill's name, acknowledging it was more

about growth than reducing inflation. Many Republicans also criticized the size of government borrowing, which the IMF estimated at \$700 billion through 2030.

- **Despite the IRA, China remains the dominant player in clean tech.** While the IRA did contribute to making most clean technologies cheaper than polluting technologies, US technology is still more expensive for solar, wind power and electric vehicles. Efforts to friendshore boosted domestic manufacturing but did little to reduce reliance on foreign suppliers for critical raw materials.
- **The EU's initial reaction to the IRA was a mix of support and panic**—welcoming U.S. climate action while fearing its impact on Europe's green tech industry. Some European sectors benefitted: German heavy industry saw exports to the United States increase by more than 40% in September 2022 compared to the previous year. However, the IRA still diverted investment, particularly in EVs and batteries. **The EU is also concerned about the U.S.' growing protectionism**, as IRA subsidies prioritized local production and strict supply chains, despite conflicting with global trade rules.

THE TRUMP STORM

- **President Trump cannot easily dismantle the IRA.** While he criticized the law and has sought to reverse Biden's green policies, two factors make this nearly impossible: dismantling it would be legally complex, requiring either congressional action or prolonged court battles. In the last weeks of the presidency, the Biden-Harris administration rushed out to allocate \$50 billion in loan commitments to developers. Second, it is difficult to revoke tax credits that have already been claimed or transferred. IRA tax credits work through a post-audit system, meaning that companies can claim them upfront. They are also transferable, which means that businesses

that qualify can sell them to other companies looking to lower their tax liabilities. The IRA has also been largely popular, with 75% of investments benefiting Republican states. Some GOP lawmakers are pushing for targeted changes rather than a complete reversal. Given Donald Trump is keen to hold onto his Congress and Senate majorities in 2026, he may be more willing to listen to them.

- **However, the new Trump Administration could slow down investment in US clean tech in three ways.** First, by revising tax credit guidelines, it could make claims harder to access without fully repealing the IRA, though companies could challenge this in court. Second, by delaying approval of pending tax credit regulations, the administration could discourage new investments and slow clean energy project rollouts. Third, Congress could scrap the IRA tax credits as part of the renegotiation of the 2017 Tax Cuts and Jobs Act, which is due to expire later this year.
- **President Trump views oil and gas as a strategic U.S. advantage.** He will prioritize fossil fuel exploration, calling it "liquid gold" for industry, competitiveness, and the AI-driven economy. While acknowledging that clean tech investments will persist, his administration believes they should not come at the expense of clean tech.

IRA LESSONS FOR EU COMPETITIVENESS

- **The EU often spends more time debating how to mirror or respond to the U.S. rather than focusing on crafting a growth strategy tailored to its own needs.** Although the EU has taken steps to bolster its green industrial policies in reaction to the IRA, these efforts remain fragmented and less predictable compared to the IRA's straightforward, focused tax credit system. Compared to the \$400 billion of IRA investments over 10 years, the EU investment

is less ambitious: €40 billion for the Innovation Fund over the same period of time, and only €93.5 billion for Horizon Europe.

- **Since taking office in September 2024, the new European Commission has prioritized the green agenda as a core driver of EU growth.** The EU's goal should not be to replicate the IRA, as it lacks a federal tax system and must comply with Single Market competition rules. But it can draw inspiration from it. It should use the Clean Industrial Deal to develop a comprehensive strategy that supports faster permitting, streamlines national-level tax credit approvals, ensures more effective subsidy distribution, guarantees demand-side and supply-side incentives, and enhances supply chain diversification.
- **The EU should have a “Made in Europe” strategy,** not a “Made by Europe” strategy. The IRA’s “Made in America” incentives prioritized domestic production and encouraged reshoring, but these were criticized by allies for protectionism and unfair trade practices. The EU’s approach should aim to attract investment and clean tech production through foreign direct investment while continuing to forge strategic global partnerships to safeguard its supply chains. In 2023, 94% of EU imports of rare earth elements came from China, Malaysia and Russia combined.
- **The EU should also highlight where it has a competitive advantage over the US.** Unlike the IRA, which faces potential rollbacks under Trump, a well-designed EU funding mechanism would offer job and manufacturing opportunities, along with long-term stability—making it a more reliable and attractive investment option. The EU should **highlight how its consistent regulatory framework constitutes a key advantage for businesses, by protecting investments from political fluctuations.**

- **The EU should invest more time in building relations with key economic actors in the field of clean tech.** Just as U.S. leaders frequently meet with industry executives and foreign investors to promote the IRA, the EU should adopt an effective communications strategy to highlight the market opportunities and job creation linked to investments in renewable energy and low-carbon industries. This should target not only large corporations but also SMEs and clean tech startups. Clean tech carries real job creation possibilities in Europe: in 2022, solar, wind energy and heat pump sectors created more than 1 million jobs inside the EU.

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Georgina Wright

Georgina Wright was Senior Fellow and Deputy Director for International Studies at Institut Montaigne until February 2025. Georgina has been analyzing the European Union and wider Europe for over a decade. Her research focuses on the EU's economic security agenda, EU decision-making, foreign policy and France's influence inside the EU. She is a member of several expert committees for national governments and regularly advises the EU institutions. She has represented Institut Montaigne in high level conferences and has given evidence to parliaments across Europe and in the US. She joined Institut Montaigne in January 2021 and has worked in London and Brussels.

Énora Morin

Énora Morin has been coordinator of the Europe program since September 2024. Her research focuses primarily on the EU's economic security agenda and foreign policy. She also coordinates all the program's activities, events and publications. She first joined Institut Montaigne in September 2023 as a research assistant in the Europe program. After a literary preparatory class, Énora completed an MA in history of international relations at Paris 1 Panthéon Sorbonne University. She then went on to study in Sweden where she graduated with an MA in International and European Relations from Linköping University.

Few issues unite Presidents Biden and Trump, but both agree that decades of free-market policies have weakened US national security. Trade has created a more interconnected and globalized world, but has not delivered peace. It has outsourced US industry and created supply-chain vulnerabilities. Both presidents also agree that the US should tailor its market access and be less dependent on foreign suppliers, particularly hostile ones, as these interdependencies can be easily weaponized. Both place domestic production at the heart of their growth agendas, even if this means adopting more protectionist measures that defy global trade rules.

For Biden, one of the ways to secure the US' long-term vital interests was to make the country the world's cleantech industrial powerhouse. **The Inflation Reduction Act (IRA), adopted in August 2022, was celebrated as a cornerstone of Joe Biden's plan.** While hailed as a green initiative, the IRA aimed to do much more, including boost industrial output, reduce dependence on critical raw materials from abroad, and make America more competitive. By August 2024, the IRA had created more than 330,000 new jobs and is thought to have saved American consumers \$8.4 billion on heat pumps, insulation and solar panels, as well as \$1.5 billion on electric vehicle purchases¹. The combination of generous IRA-related subsidies and tax breaks, local production requirements, faster permitting, low energy costs and a strong dollar made the US a more attractive destination for many foreign clean tech companies looking to scale up rapidly. **The IRA's appeal was hard to resist, even for European companies.**

¹ The White House, "Fact sheet: Two years in, the Inflation Reduction Act is lowering costs for millions of Americans, tackling the climate crisis, and creating jobs", Biden White House Archives (16 Aug. 2024), <https://bidenwhitehouse.archives.gov/briefing-room/statements-releases/2024/08/16/fact-sheet-two-years-in-the-inflation-reduction-act-is-lowering-costs-for-millions-of-americans-tackling-the-climate-crisis-and-creating-jobs/>, accessed on February 12, 2025.

During his campaign, Donald Trump repeatedly attacked the IRA, calling it inflationary and a “waste of money”². Two days into his second term, he pulled the US out of the Paris climate agreement and issued **a series of executive orders to reverse Biden’s green policies**, shifting focus back to fossil fuel exploration and gas production instead, which he saw as a vital US strategic asset to guarantee its long-term growth, competitiveness and independence.

While President Trump’s actions are likely to slow down investment in US clean technologies, they cannot dismantle the IRA completely. The Biden-Harris administration rushed out to allocate \$50 billion in loan commitments to developers in the last weeks of the presidency³. Money that has been committed will be harder to recall and IRA tax credits continue to apply pending new legislation in Congress. **Reversing the IRA completely would also be unpopular:** three quarters of all IRA and CHIPS and Science Act government⁴ investments have benefited Republican strongholds⁵, creating jobs and boosting local economies. Given Donald Trump is keen to hold onto his Congress and Senate majorities in 2026, he may be more willing to listen to Republican lawmakers who are calling on IRA projects to continue.

That said, Trump’s focus on fossil fuels and natural gas exploration presents an opening for Europe. The European Commission has promised to make the EU more competitive, while safeguarding its market from distortion and technology theft. As part of its economic security agenda, the EU has taken steps to reduce supply chain risks and rethink

² Tamborrino, K., “Trump criticizes the Inflation Reduction Act”, Politico (9 May 2024), <https://www.politico.com/news/2024/09/05/trump-inflation-reduction-act-00177493>, accessed on February 12, 2025.

³ Chu, A. & Smyth, J. “Donald Trump halts more than \$300bn in US green infrastructure funding”, Financial Times (22 Jan. 2024), <https://www.ft.com/content/fcaf50dc-6779-44d2-a7fa-264df798a4c>, accessed on February 12, 2025.

⁴ The 2022 CHIPS and Science Act aimed to invest \$280 billion to bolster US semiconductor capacity.

⁵ Chu, A., White, A. & Roeder, O., “EU launches new industrial strategy to boost green transition”, Financial Times (2 Dec. 2024), <https://www.ft.com/content/c46354fe-c1cc-4e9b-b18b-0c3f7b62c093>, accessed on February 12, 2025.

its support to industry. The European Commission's recent Clean Industrial Deal has promised to go further and deliver a bolder vision for green industrial policy. **As the EU seeks to become more competitive, it should draw the lessons of the IRA and create its own tailored growth strategy by looking at what worked and what failed in the IRA. Now that President Trump moves to weaken the IRA, the EU can position itself strategically.**

1 The Inflation Reduction Act: drivers and priorities

After four years under President Trump, the Biden-Harris administration was determined to reaffirm the US's commitment to a cleaner, carbon-free future. The IRA aimed not only to drive green economic transformation but also to boost job creation and reduce reliance on adversarial nations for clean technologies and critical raw minerals.

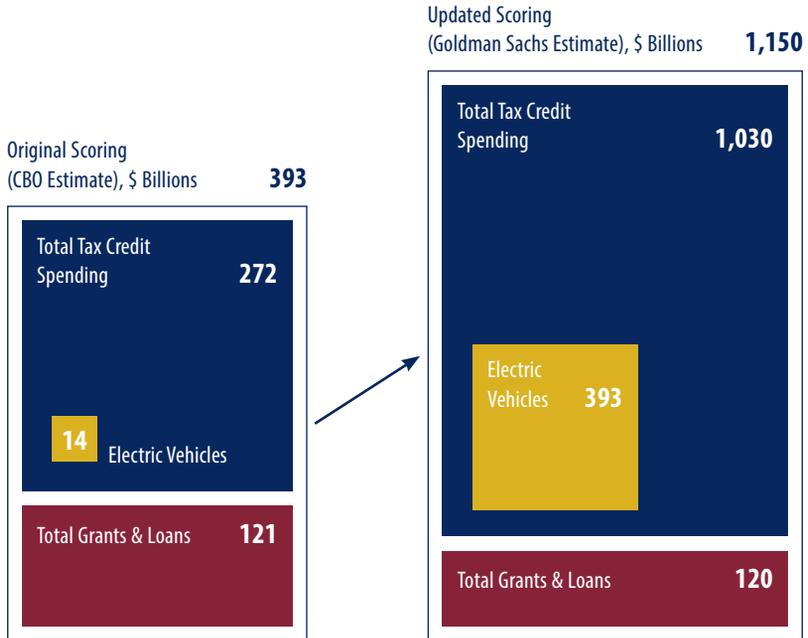
1.1 GETTING REAL ON CLIMATE CHANGE

The IRA is Washington's most ambitious attempt at reducing US carbon emissions. It provided roughly \$400 billion worth of tax breaks and subsidies for clean energy production and manufacturing over a ten-year period⁶, mainly for electric vehicles, solar panels and batteries produced in North America. It also included approximately \$40 billion in tax credits to attract investment for carbon capture, clean hydrogen and other clean energy technologies. While IRA assistance only amounted to around 0.5% of US GDP⁷, it was the most generous assistance awarded by any world economy, bar China. It followed two other significant spending and investment commitments: the July 2022 CHIPS and Science Act (worth \$39 billion) and the 2021 Bipartisan Infrastructure Deal (worth \$1.2 trillion).

⁶ Chu, A., White A. & Roeder, O., "Biden's Economy Legacy Tied to Fate of His Industrial Policies", *Financial Times* (2 Dec. 2024), <https://www.ft.com/content/c46354fe-c1cc-4e9b-b18b-0c3f7b62c093>, accessed on February 12, 2025.

⁷ Tax Foundation, "Inflation Reduction Act" (2024), <https://taxfoundation.org/research/all/federal/inflation-reduction-act/>, accessed on February 12, 2025.

Graph 1: Total IRA Spending



Source: TD Economics.⁸

The hope was that these incentives would not only drastically reduce the US' carbon emissions by 40% by 2030⁹ (compared to 2005 levels), but also cement America's climate leadership. The IMF estimated¹⁰ that the IRA could cut annual greenhouse gas emissions by 710 MMT by

⁸ Durant, A., Kallen, C., Li, H., McBride, W. & Watson, G., "Canadian Climate Policy in a Second Trump Term", TD Economics (6 Jan. 2024), <https://economics.td.com/ca-climate-policy-trump-term>, accessed on February 12, 2025.

⁹ Benson, M., "Launching a transformative decade of climate action", Biden White House Archives (Sept. 20, 2022), <https://bidenwhitehouse.archives.gov/ostp/news-updates/2022/09/20/launching-a-transformative-decade-of-climate-action/>, accessed on February 12, 2025.

2030, predominantly driven by more renewable energy generation and a rising share of electric vehicles. By reviving domestic supply chains and manufacturing, the Biden administration was convinced that the IRA would help to drive down costs of clean tech globally by almost 25%¹¹. Hydrogen PEM electrolyzers were expected to see the greatest cost drop, falling 67% from \$1,770/kW in 2022 to \$584/kW in 2030¹².

Recognizing the need for expertise, the Biden administration brought in clean technology experts to oversee IRA implementation¹³ and streamline bureaucracy. It also enacted the first major reforms to the National Environmental Policy Act (NEPA) in 50 years, aimed at modernizing environmental reviews and accelerating permitting for clean energy projects. Additionally, the Department of Energy (DOE) expanded categorical exclusions for reconductoring¹⁴, reducing the need for extensive environmental reviews and significantly cutting project development timelines.

¹⁰ Voigts, S. & Paret, A-C., “Emissions Reduction, Fiscal Costs, and Macro Effects: A Model-based Assessment of IRA Climate Policies”, IMF Working Paper (9 Feb. 2024), <https://www.imf.org/en/Publications/WP/Issues/2024/02/09/Emissions-Reduction-Fiscal-Costs-and-Macro-Effects-A-Model-based-Assessment-of-IRA-Climate-544749>, accessed on February 12, 2025.

¹¹ Boston Consulting Group, “US Inflation Reduction Act: Global Implication” (Dec. 2022), <https://media-publications.bcg.com/BCG-Executive-Perspectives-US-IRA-Global-Implications.pdf>, accessed on February 12, 2025. The White House, “OSTP Director Prabhakar on President Biden’s Work to Leverage Clean Energy to Meet the Climate Crisis” (21 March, 2024), <https://bidenwhitehouse.archives.gov/ostp/news-updates/2024/03/21/remarks-of-ostp-director-prabhakar-at-the-tech-for-climate-action-conference/>, accessed on February 12, 2025.

¹² Boston Consulting Group, *US Inflation Reduction Act: Global Implication*.

¹³ The White House, “Fact Sheet: Biden-Harris Administration Takes Action to Deliver More Projects More Quickly, Accelerates Federal Permitting”, (29 Aug. 2024), <https://web.archive.org/web/20250116072250/https://www.whitehouse.gov/briefing-room/statements-releases/2024/08/29/fact-sheet-biden-harris-administration-takes-action-to-deliver-more-projects-more-quickly-accelerates-federal-permitting/>, accessed on February 12, 2025.

¹⁴ Categorical exclusions (CEs) are a type of streamlined environmental review under the National Environmental Policy Act (NEPA). They allow certain projects to bypass lengthy Environmental Assessments (EAs) or Environmental Impact Statements (EISs) if they are deemed to have minimal environmental impact.

At the time the bill was adopted, the international corporate response to the IRA was broadly positive: the Swiss bank *Crédit Suisse* argued that the IRA could spur \$1.7 trillion in investment¹⁵ in US green tech over the next ten years, while *Goldman Sachs* projected a \$2.9 trillion¹⁶ total investment across the entire US energy system by 2032. Since 2022, there have been over \$265 billion in clean energy investments in the US¹⁷. By March 2023, there were 20 new or expanded green manufacturing plants in the US, of which 50% were foreign¹⁸. South Korea's *Hanwha Q-Cells*, for instance, announced¹⁹ a \$2.5bn solar factory expansion in Georgia. In September 2022, *Tesla* announced²⁰ that it was opening a battery plant in the US, rather than Germany. *Iberdrola*, the Spanish energy firm, and *Safran*, the French multinational company specializing in aviation, defense and space markets, also relocated part of their activity to the US²¹. Meanwhile, *Volkswagen* was thought to have put on hold²² a planned battery plant in Eastern Europe to expand

¹⁵ *Brower, D. & Chu, A.*, "The US Plan to Become the Next World's Cleantech Superpower", *Financial Times* (16 Feb. 2023), <https://www.ft.com/content/e0b55820-3a16-4018-a417-0e7c91737ffd>, accessed on February 12, 2025.

¹⁶ *Goldman Sachs*, "The US is poised for an energy revolution" (17 Apr. 2023), <https://www.goldman-sachs.com/insights/articles/the-us-is-poised-for-an-energy-revolution>, accessed on February 12, 2025.

¹⁷ *The White House*, "Fact Sheet: Two Years In, the Inflation Reduction Act Is Lowering Costs for Millions of Americans, Tackling the Climate Crisis, and Creating Jobs", *Biden White House Archives* (16 Aug. 2024), <https://bidenwhitehouse.archives.gov/briefing-room/statements-releases/2024/08/16/fact-sheet-two-years-in-the-inflation-reduction-act-is-lowering-costs-for-millions-of-americans-tackling-the-climate-crisis-and-creating-jobs/>, accessed on February 12, 2025.

¹⁸ *American Clean Power Association*, "Clean Energy Investing Report", (Aug. 2023), https://cleanpower.org/gateway.php?file=2023/08/CleanEnergyInvestingReport_digital.pdf, accessed on February 12, 2025.

¹⁹ *Chu, A., Brower, D. & Williams, A.*, "US Touts Biden Green Subsidies to Lure Clean Tech from Europe", *Financial Times* (24 Jan. 2023), <https://www.ft.com/content/ca95d8e4-79f4-44bb-9d74-df86809de098>, accessed on February 12, 2025.

²⁰ *Elliott, R. & Colias, M.*, "Tesla Shifts Battery Strategy as It Seeks US Tax Credits", *The Wall Street Journal* (14 Sep. 2022), <https://www.wsj.com/articles/tesla-shifts-battery-strategy-as-it-seeks-u-s-tax-credits-11663178393>, accessed on February 12, 2025.

²¹ *FT Reporters*, "European Industry Pivots to US as Biden Subsidy Sends 'Dangerous Signal'", *Financial Times* (20 Nov. 2022), <https://www.ft.com/content/59a8d135-3477-4d0a-8d12-20c7ef94be07>, accessed on February 12, 2025.

²² *Milne, R., Nilsson, P. & Campbell, P.*, "VW Puts European Battery Plant on Hold as It Seeks €10bn from US", *Financial Times* (8 March 2023), <https://www.ft.com/content/6ac390f5-df35-4e39-a572-2c01a12f666a>, accessed on February 12, 2025.

production in North America instead. The US' green race also benefited some European sectors directly: German heavy industry firms saw their exports to the United States increase by more than 40%²³ in September 2022 compared to the previous year.

Several reasons explain why foreign companies relocated some of their activity to the US. First, the bill contained rigid local component requirements (Section 30D²⁴), which meant that companies could only benefit from its IRA electric vehicles (EV) subsidies and tax breaks if they produced their EVs in North America and sourced components in North America or from a country the US had signed an agreement with (see Box 1). Similarly, US consumers could only benefit from IRA tax breaks if they bought vehicles that were "Made in America". Many of the US' allies, including the EU and Japan, criticized these rigid local component requirements, arguing that they were a protectionist move designed to boost US green tech companies at the expense of foreign competitors.

²³ YouTube, "Industriekonferenz 2022 mit Eröffnungsrede von Robert Habeck und Keynote von Thierry Breton" (29 Nov. 2022), <https://www.youtube.com/watch?v=DzPR3uQntcE>, accessed on February 12, 2025.

²⁴ Bloomberg Tax, "IRC Section 30D", (n.d.), https://irc.bloombergtax.com/public/uscode/doc/irc/section_30d, accessed on February 12, 2025.

Box 1: IRA's EV local component requirements

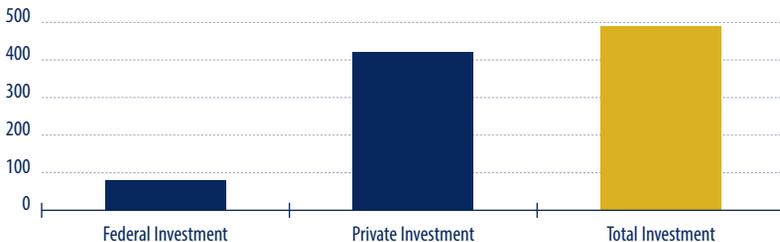
The IRA conditioned support on meeting stringent local content requirements. For example, electric vehicle (EV) companies could only benefit from the full subsidy scheme—\$7,500 per vehicle—provided they met two conditions: first, that at least 40% of the critical raw materials used in the electric battery were extracted in the US or in a country with which the US has signed an agreement; second, that at least 50% of the battery components were made or assembled in the US, Canada and Mexico. Both thresholds were set to increase in the future. Realistically, if foreign EV companies wanted to continue receiving subsidies beyond 2025, they would have needed to relocate to the US—or at the very least, have US-integrated supply chains.

Several factors made the **IRA particularly attractive**. Unlike the EU's more limited measures to support the clean tech industry, the sheer scale of the IRA package actively shaped and expanded the market. The US is far more conducive to scaling up startup businesses—a 2019 report found 23,000 scale-ups in the US compared to just 7,000 in Europe²⁵. Additionally, the dollar remains strong, and US energy prices are significantly lower than in Europe. While the US is perceived as driving growth through incentives, the EU is often seen as stalling it through regulation. Another crucial factor, identified by companies as essential for launching projects, is the simplicity and speed of access to aid and permits in the US compared to Europe.

²⁵ Startup Europe Partnership, "Tech Scaleup Europe Report", (June 2019), https://startupeurope-partnership.eu/wp-content/uploads/2019/06/2019_TechScaleupEurope.pdf, accessed on February 12, 2025.

Graph 2: Clean energy and transportation investment (Q3 2022 - Q2 2024)

USD billion 2023



Source: Rhodium Group & MIT-CEEPR, *Clean Investment Monitor*, 2024²⁶.

However, the success of the IRA must be nuanced. Two years on, analysis²⁷ reveals that the IRA did contribute to making most clean technologies cheaper than polluting technologies, mostly thanks to the reduction of green premia²⁸ and when considering the leveled costs of energy (i.e. total costs) of solar, offshore and onshore wind²⁹ energy. However, experts agree that in key sectors like solar panels, wind power and electric vehicles, US technology is still more expensive and lower

²⁶ “Bermel, L., Cummings, R., Deese, B., Delgado, M., English, L., Garcia, Y., Hess, H., Houser, T., Pasnau, A. & Tavaréz, H. *Clean Investment Monitor: Tallying the Two-Year Impact of the Inflation Reduction Act*, Rhodium Group & MIT Center for Energy and Environmental Policy Research (7 Aug. 2024), https://cdn.prod.website-files.com/64e31ae6c5fd44b10ff405a7/66b2bf45bd0dd034bee7b5bd_Clean%20Investment%20Monitor_Tallying%20the%20Two-Year%20Impact%20of%20the%20Inflation%20Reduction%20Act.pdf, accessed on March 4, 2025”.

²⁷ Larsen, J., King, B., van Brummen, A. & Kolus, H., “*US Decarbonization Priorities in the Wake of the Inflation Reduction Act*”, Rhodium Group (9 Feb. 2023), <https://rhg.com/research/us-decarbonization-priorities-in-the-wake-of-the-inflation-reduction-act/>, accessed on February 12, 2025.

²⁸ Green premium is the additional costs associated with deployment of clean technologies as compared to fossil fuel-based technologies. By incentivizing clean technologies, the IRA compensated that cost. Breakthrough Energy, “*Crosstech Cleantech Policy Impact Assessment*” (April 2023), <https://www.breakthroughenergy.org/wp-content/uploads/2023/05/Crosstech-Cleantech-Policy-Impact-Assessment.pdf>, accessed on February 12, 2025.

²⁹ Nallinger, S., Lorentz, B., Saha, D. & Hausotter, T. “*EU Green Industrial Policy Study*”, Deloitte (March 2023), <https://klimawirtschaft.org/wp-content/uploads/2023/03/Deloitte-EU-Green-Industrial-Policy-Study.pdf>, consulté le 12 février 2025.

in quality than China's, making it less competitive³⁰. Meanwhile, the IRA boosted electricity demand, but the US highly outdated electric grid was unable to manage it. To lower costs and support the long-term development of clean technologies, the grid would require substantial investment for modernization³¹.

In particular, many Republicans criticized the size of government borrowing and the GOP made no less than 54 attempts to repeal the IRA³². Biden's hope was that by lowering the cost of renewables and clean tech innovation, the IRA would help to reduce the federal deficit by \$175 billion by 2030³³. In reality, the deficit worsened. Uncapped tax credits surpassed initial projections, with estimates now reaching \$786 billion over 10 years³⁴, and created inflationary pressures in the short-term. Future costs remain difficult to predict as the only way to avoid a larger deficit and limit public debt would be for growth to outpace costs. An IMF estimate³⁵ from 2024 predicted that the fiscal costs of the IRA would amount to about \$700 billion through 2030. The think tank Brookings estimated³⁶ total costs of the IRA to be around \$1 trillion over 10 years³⁷.

³⁰ Beatie, A., "Why the US Can't Launch a Green Marshall Plan", *Financial Times* (5 Sept. 2024), <https://www.ft.com/content/a8198ad7-779c-4e35-b560-ab3bb6520779>, accessed on February 12, 2025.

³¹ Peters, A., "The outdated power grid is nearing a crisis point. Here's how to prevent it", *FastCompany* (23 May 2024), <https://www.fastcompany.com/91129900/the-outdated-power-grid-is-nearing-a-crisis-point-heres-how-to-prevent-it>, accessed on February 27, 2025.

³² Chu, A., White A. & Roeder, O., "Biden's Economy Legacy Tied to Fate of His Industrial Policies", *Financial Times* (2 Dec. 2024), <https://www.ft.com/content/c46354fe-c1cc-4e9b-b18b-0c3f7b62c093>, accessed on February 12, 2025.

³³ Kogan, B. & Duke, B., "The Inflation Reduction Act Still Reduces the Deficit", *Center for American Progress* (27 June 2024), <https://www.americanprogress.org/article/the-inflation-reduction-act-still-reduces-the-deficit/>, accessed on February 12, 2025.

³⁴ Tax Foundation, "U.S. Deficit: CBO Budget and Economic Outlook", *Tax Foundation* (13 Feb. 2024), <https://taxfoundation.org/blog/us-deficit-cbo-budget-economic-outlook/>, accessed on February 27, 2025.

³⁵ Voigts, S. & Paret, A.-C., "Emissions Reduction, Fiscal Costs, and Macro Effects: A Model-based Assessment of IRA Climate Policies", *IMF Working Paper* (9 Feb. 2024), <https://www.imf.org/en/Publications/WP/Issues/2024/02/09/Emissions-Reduction-Fiscal-Costs-and-Macro-Effects-A-Model-based-Assessment-of-IRA-Climate-544749>, accessed on February 12, 2025.

³⁶ Wolfram, C., "What Were the Climate Policies in the IRA and What Will Happen to Them After the 2024 Election?", *Brookings* (15 Oct. 2024), <https://www.brookings.edu/articles/what-were-the-climate-policies-in-the-ira-and-what-will-happen-to-them-after-the-2024-election/>, accessed on February 12, 2025.

The inflationary pressures are one of the reasons why replicating the scale of the IRA in the EU would be difficult, particularly as EU budgets are negotiated for fixed seven-year periods.

1.2. MAKING THE US MORE SECURE

The IRA was also important to achieving Biden’s national security goals, in particular reducing the US dependence on China for clean technology and critical raw materials. His administration saw investing in solar, wind, hydrogen, and carbon capture as the only way to weaken China’s dominance in the field. As the next section will show, Trump’s camp strongly opposed this strategy, arguing it wouldn’t fully eliminate reliance on Chinese clean tech and could undermine a major US advantage—oil and gas, which China lacks. So far, his administration has remained silent on the impact that new tariffs would have on supply chains, including on future overall costs of clean tech equipment and the potential heavy burden it would entail for the private sector (transaction and equipment costs).

Biden’s approach was marked by the urgency to stall China’s clean tech dominance. First, he believed that China’s vast assistance to Chinese clean tech was skewing global competition. The numbers speak for themselves. Since 2010, China has consistently outspent the US on clean energy. It is also the largest commercial beneficiary of the clean energy transition thanks to its centrality in clean energy technology supply chains. On top of solar and wind, it is now the undisputed leader³⁸ in

³⁷ Tax Foundation, “U.S. Deficit: CBO Budget and Economic Outlook”, Tax Foundation (13 Feb. 2024), <https://taxfoundation.org/blog/us-deficit-cho-budget-economic-outlook/>, accessed on February 27, 2025.

³⁸ Pike, L., Deen, A. & Levitan, D., “China Is Beating the US in Clean Energy: Can America Catch Up? The Race in Five Charts”, *The Messenger* (16 Aug. 2022), <https://web.archive.org/web/20240106091553/https://themessenger.com/grid/china-is-beating-the-us-in-clean-energy-can-america-catch-up-the-race-in-five-charts>, accessed on February 12, 2025.

electric vehicles. For many in Washington, the only way to compete was to provide more incentives for US production.

The second concern was the US' dependence on China for the supply of critical raw materials. Today, China is the dominant player in global mineral processing that is essential to its climate transition (68% of nickel, 40% of copper, 59% of lithium, and 73% of cobalt are refined³⁹ in China). On top of that, it is a strategic player in later stages of the supply chain, for manufacturing battery cell components for example. This is not only a problem for the US. The EU's clean energy supply chains are also heavily dependent on China's rare earths and lithium⁴⁰. With the IRA, the US was hoping to stimulate the development of domestic critical minerals supply chains with "countries whose values it shares"⁴¹.

The IRA made clear that subsidies and tax breaks would be conditional on companies sourcing a majority of their components from the US or countries the US has signed an agreement with. This led some US-based companies to readjust their supply chains quite quickly. The US miner Albemarle⁴², the world's largest lithium producer, raised its earnings guidance and sales targets shortly after the IRA was adopted—however, oversupply and falling prices have challenged the company's short-term profitability⁴³. For many other firms, the reality proved more complicated. To meet the IRA's local component requirements,

³⁹ Castillo, R. & Purdy, C., "China's Role in Global Supply Chains", *Brookings* (July 2022), https://www.brookings.edu/wp-content/uploads/2022/08/LTRC_ChinaSupplyChain.pdf, accessed on February 12, 2025.

⁴⁰ Blenkinsop, P., "EU to Lay Out Green Industry Plan to Counter US, China Subsidies", *Reuters* (1 Feb. 2023), <https://www.reuters.com/business/sustainable-business/eu-lay-out-green-industry-plan-counter-us-china-subsidies-2023-02-01/>, accessed on February 12, 2025.

⁴¹ Brower, D. "US Energy Secretary Offers Olive Branch to EU in Green Subsidies Row", *Financial Times* (10 March 2023), <https://www.ft.com/content/22f83d2b-4f91-4012-99a1-638ff6dedbeb?shareType=nongift>, accessed on February 12, 2025.

⁴² Albemarle Corporation, "Recycling", (n.d.), <https://www.albemarle.com/global/en/what-we-offer/reliable-supply/recycling>, accessed on February 12, 2025.

⁴³ Investing.com, "Albemarle's SWOT Analysis: Lithium Giant Face Market Volatility" (1 July 2025), <https://www.investing.com/news/swot-analysis/albemarles-swot-analysis-lithium-giant-faces-market-volatility-93CH-3801595>, accessed on February 13, 2025.

car companies needed minerals like lithium, cobalt, graphite and nickel which are located in countries with which the US does not have any signed agreement. The Democratic Republic of Congo hosts nearly 70% of global cobalt extraction; Indonesia sources 30% of nickel⁴⁴; Malaysia has 12%⁴⁵ of rare earths. Many industry executives claimed they would not be able to meet IRA demands for battery components on their own and that they would need more time⁴⁶. Access to minerals is also likely to become more expensive under President Trump as new tariffs could increase import costs, especially in the case of retaliatory tariffs by third countries.

The Biden administration knew this and had various strategies to meet demand. In April 2022, it invoked the Defense Production Act⁴⁷ to boost the mining, processing and recycling of critical materials in the US. In June 2023, the administration announced the Minerals Security Partnership (MSP)⁴⁸—dubbed “a metallic NATO”—to bolster critical mineral supply chains with allies such as Australia, Canada, Japan, South Korea, the UK and the EU. Both reflected a new strategic emphasis on friend-shoring and reducing dependence on China in strategic sectors. While the initiatives did not completely reduce the US’ reliance on foreign minerals, they did succeed in driving new manufacturing and industrial investments in the US.

⁴⁴ Castillo, R. & Purdy, C., “China’s Role in Global Supply Chains”, *Brookings* (July 2022), https://www.brookings.edu/wp-content/uploads/2022/08/LTRC_ChinaSupplyChain.pdf, accessed on February 12, 2025.

⁴⁵ International Energy Agency, “The Role of Critical Minerals in Clean Energy Transitions: Executive Summary”, IEA (May 2021), <https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions/executive-summary>, accessed on February 12, 2025.

⁴⁶ Klayman, B. “Automakers Need More Time to Meet US Minerals Requirements for EVs: Executives”, *Reuters* (Oct. 19, 2022), <https://www.reuters.com/business/autos-transportation/automakers-need-more-time-meet-us-minerals-requirements-evs-execs-2022-10-19/>, accessed on February 12, 2025.

⁴⁷ FEMA, “Defense Production Act” (26 Sept. 2024), <https://www.fema.gov/disaster/defense-production-act>, accessed on February 12, 2025.

⁴⁸ United States Department of State, “Minerals Security Partnership” (n.d.), <https://www.fema.gov/disaster/defense-production-act>, accessed on February 12, 2025.

1.3. MAKING THE US AND AMERICANS MORE PROSPEROUS

The third and final goal of the IRA was to strengthen America’s industrial base and social security provisions. The Biden administration aimed to prove that the net-zero transition wouldn’t cost jobs but instead drive manufacturing, investment, and economic growth—especially in Republican-led states, where Biden sought to broaden support ahead of the 2024 election.

To pass this bill, the Biden administration had to bridge bipartisan factions. On the left, he was under pressure from young voters, climate activists, and social movements to deliver a more progressive climate agenda. Republicans, meanwhile, were against any further mass borrowing. The text only narrowly passed in August 2022 (220-to-207 in the House and 51-50 in the Senate) thanks to intense negotiations⁴⁹ led by Senator Joe Manchin (Democrat) and Senate Majority Leader Chuck Schumer (Democrat). This partly explains why the US did not consult its allies about the IRA—but also why it was so complicated for the US administration to change the bill once it had been adopted.

Clean Jobs America reported a 14% rise in clean energy jobs since the implementation of the bill, totaling 3.5 million jobs, with California (544,604 jobs), Texas (268,035 jobs) and New York (173,731 jobs) leading the surge⁵⁰. By contrast, the EU’s Net-Zero Industry Act (NZIA)⁵¹ and the Critical Raw Materials Act (CRMA)⁵², which the EU adopted in

⁴⁹ Liptak, K., Duster, C., & Raju, M., “How secret negotiations revived Joe Biden’s agenda and shocked Washington,” *CNN* (28 Jul. 2022), <https://edition.cnn.com/2022/07/28/politics/manchin-schumer-biden-deal/index.html>, accessed on February 12, 2025.

⁵⁰ *Environmental Entrepreneurs (E2)*, “Clean Jobs America 2024” (17 Sept. 2024), <https://cleanjobsamerica.e2.org/>, accessed on February 12, 2025.

⁵¹ *The Net-Zero Industry Act*, which entered into force in 2024, aims to scale up the manufacturing of clean technologies inside the EU. See p. 42 for more details.

⁵² *The Critical Raw Materials Act*, adopted in 2023, introduces several key measures to secure the supply of minerals such as lithium, cobalt, rare earth elements and graphite. See p. 42 for more details.

response to the IRA, will take longer to deliver fewer jobs: the CRMA is set to create 1.2 million jobs by 2030⁵³, while the NZIA is projected to add 3 million jobs to the EU energy sector within the same timeframe⁵⁴.

The IRA also aimed to provide Americans with more social safety benefits. For instance, it expanded Affordable Care Act⁵⁵ subsidies by 3 more years through an additional \$64 billion investment. Meanwhile, the \$35 cap on insulin benefited over 4 million senior citizens and Medicare beneficiaries⁵⁶. The IRA also set aside \$250 million⁵⁷ for agricultural research, namely in a bid to reduce carbon emissions in farming.

True to its name, the IRA also tried to tackle inflation, which stood at 8.3%⁵⁸ when the bill passed in August 2022. However, few believed the IRA would reduce inflation. In 2022, the US Congressional Budget Office⁵⁹ projected that the IRA would have minimal short-term impact on inflation, estimating a shift of just ± 0.1 percentage point compared to existing law. While inflation has since fallen to 2.9%, most economists

⁵³ European Economic and Social Committee, “Critical Raw Materials Act: Ensuring the EU’s Sustainable Supply of Raw Materials,” *EESC Info* (29 Sept. 2023), <https://www.eesc.europa.eu/en/news-media/eesc-info/092023/articles/111226>, accessed on February 13, 2025.

⁵⁴ PwC Strategy&, “Net-Zero Industry Act: A Key Step Toward Achieving EU Green Transition Goals,” <https://www.strategyand.pwc.com/de/en/industries/energy-utilities/net-zero-industry-act.html>, accessed on February 13, 2025.

⁵⁵ Committee for a Responsible Federal Budget, “What’s In the Inflation Reduction Act?” (28 Jul. 2022), <https://www.crfb.org/blogs/whats-inflation-reduction-act>, accessed on February 12, 2025.

⁵⁶ The White House, “Fact Sheet: Two Years In, the Inflation Reduction Act is Lowering Costs for Millions of Americans, Tackling the Climate Crisis, and Creating Jobs,” (16 Aug. 2024), <https://bidenwhitehouse.archives.gov/briefing-room/statements-releases/2024/08/16/fact-sheet-two-years-in-the-inflation-reduction-act-is-lowering-costs-for-millions-of-americans-tackling-the-climate-crisis-and-creating-jobs/>, accessed on February 12, 2025.

⁵⁷ Myers, S., “What’s in the Inflation Reduction Act for Agriculture?” *American Farm Bureau Federation* (22 Aug. 2022), <https://www.fb.org/market-intel/whats-in-the-inflation-reduction-act-for-agriculture>, accessed on February 12, 2025.

⁵⁸ US Bureau of Labor Statistics, “Consumer Price Index (CPI),” (12 Feb. 2025), <https://www.bls.gov/cpi/>, accessed on February 12, 2025.

⁵⁹ Swagel, P. L., “Economic Analysis of Budget Reconciliation Legislation,” *Congressional Budget Office* (4 Aug. 2022), <https://www.cbo.gov/system/files/2022-08/58357-Graham.pdf>, accessed on February 12, 2025.

agree that the decline was driven by easing supply chain pressures⁶⁰ and tighter monetary policy⁶¹—not the IRA. **Framing the bill around inflation cost the Biden administration significant political capital.** On the campaign trail, Joe Biden said he had regretted naming the bill the Inflation Reduction Act⁶² as it had more “to do with generating growth” than “reducing inflation”.

2 The Return of Trump: slowing down US clean tech

Two days after his inauguration, Trump pulled out of the Paris Agreement and signed a series of executive orders pushing for more oil and gas production. According to US expert Maya Kandel⁶³, **President Trump sees oil and gas as a major US strategic advantage.** In his inauguration speech, he called US fossil fuels “liquid gold”, essential for driving industry, maintaining US competitiveness and powering the energy-hungry AI revolution. Unlike clean tech, they do not rely on critical raw materials or technology from abroad.

⁶⁰ Subran, L., Boata, A., Darmet, M., Fortes, R., Jobst, A., Kuhanathan, A., Sebastian, N., and Caccia, M., “US immaculate disinflation: How much should we thank the Fed for?” Allianz SE (21 Jul. 2023), https://www.allianz.com/en/economic_research/insights/publications/specials_fmo/us-inflation.html, accessed on February 12, 2025.

⁶¹ Attinasi, M. G., and Di Casola, P., “Post-pandemic US inflation: A tale of fiscal and monetary policy,” Centre for Economic Policy Research (17 Sep. 2024), <https://cepr.org/voxeu/columns/post-pandemic-us-inflation-tale-fiscal-and-monetary-policy>, accessed on February 12, 2025.

⁶² Boak, J., and Wiseman, P., “Inflation is down, but the Inflation Reduction Act likely doesn't deserve the credit,” PBS NewsHour (13 Aug. 2023), <https://www.pbs.org/newshour/economy/inflation-is-down-but-the-inflation-reduction-act-likely-doesnt-deserve-the-credit>, accessed on February 12, 2025.

⁶³ L'Opinion, « Trump II, ennemi climatique numéro 1 ? », YouTube (5 Feb. 2025), <https://www.youtube.com/watch?v=BeUaYOLHAUQ>, accessed on February 13, 2025.

His “drill, baby, drill” approach is also aimed at lowering gas and oil prices for American consumers—especially his MAGA base, which sees gas-powered cars as symbols of US strength. He also believes lower energy could undercut Russia and Iran, whose economies depend heavily on oil and gas revenues. Trump’s Energy Secretary, Chris Wright, argues that climate change should be addressed through “cleaner” fossil fuel extraction and investment in carbon capture technologies, rather than ending fossil fuel use.

Trump’s team has also been skeptical of the use of IRA tax credits, preferring to redirect government support toward other priorities. Crucially, his team knows renewables are not going away—investments will continue, and legal challenges could block efforts to cancel existing projects. But they reject prioritizing clean tech over fossil fuel expansion.

During the campaign, Trump promised to “rescind all unspent funds under the misnamed Inflation Reduction Act”⁶⁴. **To prevent this, President Biden issued an executive order**⁶⁵ **to expedite regulatory approvals for industrial and clean energy projects under the IRA.** By September 2024⁶⁶, his administration had awarded \$90 billion of the \$120 billion in climate-focused IRA grants. By December 2024⁶⁷, approximately 88% of the available funding had been assigned. The Biden administration also relaxed tax credit rules in January 2025 to support the green hydrogen sector.

⁶⁴ Tamborrino, K., “Trump Criticizes the Inflation Reduction Act,” *Politico* (5 Sept. 2024), <https://www.politico.com/news/2024/09/05/trump-inflation-reduction-act-00177493>, accessed on February 12, 2025.

⁶⁵ Politi, J., “Donald Trump vows to speed up permits for anyone investing \$1bn in the US,” *Financial Times* (10 Dec. 2024), <https://www.ft.com/content/740d339c-eb21-4fb5-8c29-d42e4937665>, accessed on February 12, 2025.

⁶⁶ Volcovič, V., “Biden administration spending climate cash fast, as Trump threatens to cancel it,” *Reuters* (18 Sept. 2024), <https://www.reuters.com/world/us/biden-administration-spending-climate-cash-fast-trump-threatens-cancel-it-2024-09-18/>, accessed on February 12, 2025.

⁶⁷ Chu, A., White A. & Roeder, O., “Biden’s Economy Legacy Tied to Fate of His Industrial Policies,” *Financial Times* (2 Dec. 2024), <https://www.ft.com/content/c46354fe-c1cc-4e9b-b18b-0c3f7b62c093>, accessed on February 12, 2025.

Once in office, President Trump began to deliver on his campaign promise. All official guidance and information related to the IRA were immediately removed from government websites. The next day, he signed several executive orders, including the Unleashing American Energy⁶⁸ Order, which directed federal agencies to “immediately pause the disbursement of funds” under the IRA scheme for 90 days. It remains unclear whether this freeze applies to subsidies that have been awarded but not yet transferred. Some have speculated that Trump may try to redirect unspent IRA funds to other federal programs. Legally, a new administration can only reallocate up to 10% of a program’s budget⁶⁹, anything over that would require Congressional approval. On 27 January, the Office of Management and Budget published a memorandum ordering agencies to freeze all federal grants and loans⁷⁰ in order to perform a “comprehensive analysis” to ensure that federal funding was consistent with the executive orders published by President Trump. Federal judge Loren L. AliKhan blocked this request with an indefinite limit, while courts review Trump’s spending freeze. Several team members of Elon Musk’s Department of Government Efficiency (DOGE) have since been granted access to the Treasury’s payment system⁷¹ and could push for further cancellations of federal funding.

⁶⁸ *The White House*, “Unleashing American Energy” (20 Jan. 2025), <https://www.whitehouse.gov/presidential-actions/2025/01/unleashing-american-energy/>, accessed on February 12, 2025.

⁶⁹ *Webb, R. M., Lockman, M. & Shumway, E.*, “Implementing the Inflation Reduction Act: Progress to Date and Risks from a Changing Administration,” *Columbia Law School Scholarship Archive* (Sept. 2024), https://scholarship.law.columbia.edu/cgi/viewcontent.cgi?article=1233&context=sabin_climate_change, accessed on February 12, 2025.

⁷⁰ *Vaeth, M. J.*, “Memorandum for Heads of Executive Departments and Agencies,” *Washington Post* (27 Jan. 2025), <https://www.washingtonpost.com/documents/deb7af80-48b6-4b8a-8bfa-3d84fd7c3ec8.pdf>, accessed on February 12, 2025.

⁷¹ *Duehren, A., Haberman, M., Schleifer, T. & Rappeport, A.*, “Elon Musk’s Team Now Has Access to Treasury’s Payments System,” *The New York Times* (1 Feb. 2025), <https://www.nytimes.com/2025/02/01/us/politics/elon-musk-doge-federal-payments-system.html>, accessed on February 12, 2025.

Box 2: Trump's Executive Orders and their impact on the Inflation Reduction Act (IRA)

In his first days in office, President Trump issued several executive orders (EOs) and guidance. The following four have implications for projects committed under the Inflation Reduction Act (IRA):

- EO 14154 Unleashing American Energy⁷²;
- EO 14153 Unleashing Alaska's Extraordinary Resource Potential⁷³;
- EO 14156 Declaring a National Energy Emergency⁷⁴;
- 90 FR8363. Temporary Withdrawal of all areas on the Outer Continental Shelf from Offshore wind leasing and review of the federal government's leasing and permitting practices for wind projects⁷⁵.

Key measures include:

- **Suspending clean energy funding:** new funding for clean energy projects under the IRA and the Infrastructure Investment and Jobs Act (IIJA) has been paused. However, companies that have already claimed IRA tax credits for forthcoming projects are likely to remain protected. While existing IRA-backed projects are expected to proceed, EV manufacturers relying on IRA subsidies could face delays.

⁷² The White House, "Unleashing American Energy" (20 Jan. 2025), <https://www.whitehouse.gov/presidential-actions/2025/01/unleashing-american-energy/>, accessed on February 12, 2025.

⁷³ The White House, "Unleashing Alaska's Extraordinary Resource Potential" (20 Jan. 2025), <https://www.whitehouse.gov/presidential-actions/2025/01/unleashing-alaskas-extraordinary-resource-potential/>, accessed on February 12, 2025.

⁷⁴ The White House, "Declaring a National Energy Emergency" (20 Jan. 2025), <https://www.whitehouse.gov/presidential-actions/2025/01/declaring-a-national-energy-emergency/>, accessed on February 12, 2025.

⁷⁵ The White House, "Temporary Withdrawal of all areas on the Outer Continental shelf from Offshore wind leasing and review of the federal government's leasing and permitting practices for wind Projects" (20 Jan. 2025), <https://www.whitehouse.gov/presidential-actions/2025/01/declaring-a-national-energy-emergency/>, accessed on February 12, 2025.

- **Ending offshore wind leasing on federal land:** a halt on new offshore wind projects on federal land, alongside a review of existing leases, which could lead to cancellations. Onshore wind projects on private land remain unaffected.
- **Fast-tracking fossil fuel and nuclear development:** federal agencies have been directed to review regulations that might "burden" domestic energy production, particularly oil, gas, coal and nuclear power. The administration's strong push for fossil fuels may undermine long-term investor confidence in US clean energy markets.

When it comes to tax credits, the situation is more complex. Tax credits, such as the 45V credit for clean hydrogen and the 45Q credit for carbon capture, have been the strongest driver of investment under the IRA. To date, companies have committed more than \$130 billion based on these incentives and many have already challenged the new administration's decisions in court. What's more, IRA tax credits work through a post-audit system, meaning that companies can claim them upfront. They are also transferable, which means that businesses that qualify can sell them to other companies looking to lower their tax liabilities. **This structure makes it difficult to retroactively revoke tax credits, especially those that have already been transferred. However, the Trump administration has several ways to weaken them.**

One method is to **rewrite the guidance on how tax credits are applied.** Since the Treasury Department is responsible for clarifying the implementation of tax laws, it could be asked to revise its guidance to limit eligibility for certain tax credits⁷⁶. This could make tax credits harder to

⁷⁶ Section 7 of the EO specifies that agencies should "review their processes, policies, and programs for issuing grants, loans, contracts, or any other financial disbursements of such appropriated funds for consistency with the law and the policy outlined in section 2 of this order".

claim without actually repealing the IRA. However, in such a scenario, companies would be able to challenge the agency's interpretation in courts using the Chevron deference.

Box 3: The Chevron principle

Until recently, the Supreme Court had upheld the principle that courts should defer to executive agencies' interpretations of regulations and statutes when Congress had not explicitly provided guidance. This was established in *Chevron USA v. Natural Resources Defense Council* (1984) and reaffirmed in *Auer v. Robbins* (1997).

For years, Republicans advocated for overturning this 40-year-old principle, arguing that it granted executive agencies excessive power. In 2024, the conservative-leaning Supreme Court overturned it in *Loper Bright Enterprises v. Raimondo*. It ruled that courts—not agencies—were now responsible for determining whether laws have been properly implemented.

During Trump's first term, the House introduced the 2017 Regulatory Accountability Act to further limit agency discretion, though it failed to pass the Senate. With Republicans now controlling both chambers of Congress, the bill has a significantly greater chance of becoming law.

The administration could also slow down the Internal Revenue Service's (IRS) approval process for pending tax credit regulations, discouraging new investments and delaying the rollout of clean energy projects. The administration has already dismantled Biden's White

House Office on clean energy innovation and implementation, which was responsible for coordinating IRA projects.

Another strategy would be for Congress to modify the IRA tax credits as part of the renegotiation of the 2017 Tax Cuts and Jobs Act, which is due to expire later this year. President Trump wants to extend the Tax Cuts and Jobs Act⁷⁷ and Congress may propose some amendments, including scrapping the IRA tax credits.

However, there are political risks in ending IRA tax credits, especially those that have helped to generate growth and investment in Republican-held states. The IRA has disproportionately benefited Republican-leaning states, with 80-85% of IRA funding flowing into North and South Carolina, Georgia, Michigan, Nevada, Arizona, and Indiana⁷⁸. Many Republican lawmakers, particularly those representing districts that have seen a surge in clean energy investment and job creation, may be reluctant to undermine a law that is bringing economic benefits to their constituents. In August 2024, eighteen House Republicans wrote to House Speaker Mike Johnson⁷⁹ warning against cutting IRA tax credits, highlighting the benefits⁸⁰ they bring to jobs, energy security, and US competitiveness against China. Some have even teamed up with clean energy businesses⁸¹ to push for a more pragmatic

⁷⁷ Guggenheim, B. & Becker, B. "Trump and Harris Outline Tax Plans with Trillions at Stake," *Politico* (27 Aug. 2024), <https://www.politico.com/news/2024/08/27/trump-harris-tax-cuts-00175441>, accessed on February 12, 2025.

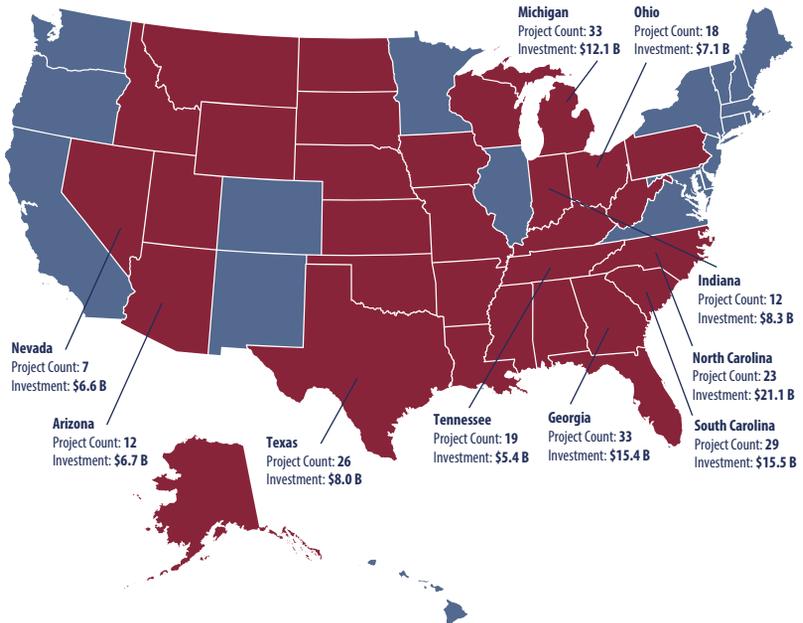
⁷⁸ Bonahoom, L. "Will Trump Delay America's Energy Transition?," *Aurora Energy Research* (9 Dec. 2024), <https://auroraer.com/insight/will-trump-delay-americas-energy-transition/>, accessed on February 12, 2025.

⁷⁹ Garbarino, A. R., Valadao D. G., Chavez-Deramer, L., Molarino, J. M., Houchin, E., D'Esposito, A., Lawler, M. V., Kiggans, J. A., Lalota, N., Kim, Y., Curtis, J. R., Bacon, D., Kean, T. H. Jr., Joyce, D. P., Miller-Meeks, M., Ciscomani, J., "Buddy" Carter, E. L. & Amodei, M. E. "FINAL Credits Letter," *US House of Representatives* (6 Aug. 2024), <https://garbarino.house.gov/sites/evo-subsites/garbarino.house.gov/files/evo-media-document/FINAL%20Credits%20Letter%202024.08.06.pdf>, accessed on February 12, 2025.

⁸⁰ Mundy, S. "The contradictions of Trump's 'national energy emergency,'" *Financial Times* (22 Jan. 2025), <https://www.ft.com/content/e45f915c-5af6-4759-ad96-0cf518923748>, accessed on February 12, 2025.

Republican stance on the law. Democrats hope that, given the huge investments already made, the business community will also lobby Republicans to maintain parts of the Act.

Graph 3: Share of IRA investments going to republican-held district: 82%



Source: E2, TD Economics⁸².

⁸¹ Picon, A., & Dumain, E., “Reality of Repealing Green Credits Sinks in for Divided GOP,” *E&E News* (5 Dec. 2024), <https://www.eenews.net/articles/reality-of-repealing-green-credits-sinks-in-for-divided-gop/>, accessed on February 12, 2025.

⁸² Fong, F., “Climate Policy in a 2nd Trump Term—What’s on the Chopping Block?,” *TD Economics* (6 Jan. 2025), <https://economics.td.com/ca-climate-policy-trump-term>, accessed on February 12, 2025.

The Republican Party remains divided, however. Some see the law as emblematic of Democratic overreach. Members of Trump's administration, including Treasury Secretary Scott Bessent and Energy Secretary Chris Wright, have criticized the IRA as excessive government spending⁸³ and an example of failed industrial policy⁸⁴. Oil industry donors who spent \$450 million supporting Trump's campaign⁸⁵ have also been critical of Biden's green agenda. Others, including Republican House Speaker Mike Johnson, have taken a more moderate approach, arguing for targeted changes rather than an outright repeal⁸⁶. Some in particular, have expressed support for specific IRA tax credits⁸⁷, such as those benefiting the biofuels sector, Clean Vehicles and the Carbon Capture, Utilization, and Storage (CCUS) arguing that these have driven significant investment and job creation.

The stance of some Republicans on renewable energy could evolve as clean tech becomes more competitive and as electric demand is rising and expected to grow up to 16% by 2030⁸⁸, as a result of the development of electricity intensive technologies, such as AI. The Trump administration may also prioritize nuclear energy. On 7 February, Trump issued an Executive Order to "unleash commercial nuclear power in the United States"⁸⁹ and Chris Wright has expressed support for Small

⁸³ PBS NewsHour, "How Trump's Energy Policies Could Change if He Wins a Second Term," YouTube (15 Jan. 2025), <https://www.youtube.com/watch?v=K4Uwg7QE0bs>, accessed on February 12, 2025.

⁸⁴ Behr, P., "Chris Wright backs aggressive build-out of the US power grid," E&E News (16 Jan. 2025), <https://www.eenews.net/articles/chris-wright-backs-aggressive-build-out-of-the-us-power-grid/>, accessed on February 12, 2025.

⁸⁵ Climate Power, "Big Oil Spent \$450 Million To Influence Trump & The 119th Congress" (21 Jan. 2025), <https://climatepower.us/research-polling/big-oil-spent-450-million-to-influence-trump-the-119th-congress/>, accessed on February 12, 2025.

⁸⁶ Picon, A., and Dumain, E., "Reality of Repealing Green Credits Sinks in for Divided GOP," E&E News (5 Dec. 2024), <https://www.eenews.net/articles/reality-of-repealing-green-credits-sinks-in-for-divided-gop/>, accessed on February 12, 2025.

⁸⁷ DCCleanTech, "The Month Where Decades Happened" (8 Feb. 2025), <https://www.dccleantech.com/newsletter/the-month-where-decades-happened>, accessed on February 19, 2025.

⁸⁸ Copley, M. "U.S. electricity demand is set to explode. That will make it harder to cut climate pollution," NPR (17 Jan. 2025), <https://www.npr.org/2025/01/16/nx-s1-5251454/electricity-demand-data-centers-climate-change-natural-gas-fossil-fuel#:~:text=Over%20the%20next%20five%20years,Grid%20Strategies%2C%20a%20consulting%20firm>, accessed on February 26, 2025.

Modular Reactors (SMRs)⁹⁰. The new National Energy Dominance Council by Energy Secretary Chris Wright and Interior Secretary Doug Burgum has also promised to promote “all forms of US energy,” including clean energy⁹¹.

For the time being, President Trump’s method is mostly declaratory as the US’ system limits his room for manoeuvre. Trump’s actions suggest that rather than a swift repeal, the IRA—and the US’ clean transition—may face a slow decline through funding freezes, legal uncertainty, and shifting regulatory priorities. How far a decline remains to be seen. **With Trump looking to maintain his congressional majority ahead of the 2026 midterms, he may be forced to balance his opposition to the IRA with pressure from lawmakers who recognize its economic and political value.**

3 Lessons from the IRA: a more strategic approach for the EU

The EU’s initial reaction to the IRA was a mix of support and panic.

On the one hand, it was seen as the first serious attempt by a US administration to tackle climate change. On the other, the EU feared that the IRA would undermine Europe’s green tech industry by using its

⁸⁹ Perlis, M. & Dorrough, E. “Will the Trump Administration clear a path through the Nuclear Regulatory thicket for the co-location of data centers with Nuclear Generation (Part 1 of 2),” *Covington* (18 Feb. 2025), <https://www.insideenergyandenvironment.com/2025/02/will-the-trump-administration-clear-a-path-through-the-nuclear-regulatory-thicket-for-the-co-location-of-data-centers-with-nuclear-generation-part-1-of-2/>, accessed on February 28, 2025.

⁹⁰ CNBC, “Trump to Help Nuclear Energy Renaissance: TEMA ETFs’ Khodjamirian,” CNBC, (6 Feb. 2025), <https://www.cnbc.com/2025/02/06/trump-to-help-nuclear-energy-renaissance-tema-etfs-khodjamirian.html>, accessed on February 28, 2025.

⁹¹ The White House. “National Energy Dominance Council Paves Way for Unleashing American Energy” (19 Feb. 2025), <https://www.whitehouse.gov/articles/2025/02/national-energy-dominance-council-paves-way-for-unleashing-american-energy/trouv>, accessed on February 26, 2025.

\$369 billion in subsidies and tax breaks—a sum roughly equivalent to half of the EU’s post-COVID recovery fund NextGenerationEU—to lure companies to the US. It also included new tax credits to promote carbon capture and clean hydrogen—all areas in which the EU was either already a global leader or looking to deepen its industrial expertise. With cheaper energy, faster permitting and more opportunities for scale-up, the US suddenly became a far more attractive investment destination for many EU companies looking to expand in this field. Above all, the main specificity of the IRA—and difference with Europe—is the scale of the investment. The United States had the means to allocate billions in support of the clean tech sector, along with the ability to offer uncapped tax credits, the costs of which have already exceeded initial projections. By contrast, the Draghi report recommends investing €800 billion annually in the green transition, innovation and defense, but Member States have yet to agree on how to unlock these funds. While the IRA didn’t undermine the EU’s clean tech sector as feared, it did draw investment away, particularly in EVs and batteries⁹². The full impact on European companies and the EU’s clean tech industry remains to be seen.

Beyond immediate competitiveness concerns, the EU was also alarmed by the continuing protectionist shift in US industrial policy. The IRA prioritized “Made in America” manufacturing, conditioning subsidies on local production and strict supply chain rules. The EU realized that it would struggle to remain competitive against both the US and China unless it changed its own approach to industrial policy. European Commission President Ursula von der Leyen even called for a “European IRA”⁹³ but failed to clarify how the EU could support industry while staying true to its free-market principles and competition rules.

⁹² *Transport & Environment*, « Deux tiers de la production européenne de batterie menacée » (6 March 2023), <https://www.transportenvironment.org/te-france/articles/deux-tiers-de-la-production-europeenne-de-batterie-menacee>, accessed on February 12, 2025.

⁹³ *von der Leyen, U.*, “Speech by President von der Leyen at the European Parliament Plenary on the preparation of the European Council meeting of 15 December 2022,” European Commission (14 Dec. 2022), https://ec.europa.eu/commission/presscorner/detail/en/speech_22_7727, accessed on February 12, 2025.

As industrial policy expert Nils Redeker has pointed out⁹⁴, **too often the EU seeks to mimic the US rather than crafting a growth strategy that works for itself.** Instead, the EU should be asking itself how to recreate the same effects without copying-pasting it. When the IRA was adopted, it debated informally how best to replicate it—both inside the Council, the grouping of the 27 member states, and inside the European Parliament. Now, with Trump’s deregulation spree, the EU is once again scrambling to keep pace with Washington, focusing instead on deregulation. **The reality is that the EU needs its own tailor-made approach, one builds on the EU’s strengths and accounts for divergences between member states.**

The EU did take some steps to strengthen its green industrial policy in response to the IRA, easing state aid rules and launching initiatives like the Net-Zero Industry Act (NZIA) and Critical Raw Materials Act (CRMA). The NZIA, in effect since 2024, aims to boost domestic clean tech manufacturing by 40% by 2030 (wind energy, batteries, biogas, solar panels, electrolyzers etc), streamline permitting, and support carbon capture, investment and R&D. It also trialed a new public procurement process with new resilience criteria to limit EU dependencies⁹⁵. Meanwhile, the CRMA (2023) focuses on securing critical minerals like lithium, cobalt, and rare earth elements, essential for the EU’s clean energy transition. These built on existing market-based mechanisms, such as the EU Emissions Trading System (ETS), which price carbon emissions and incentivize cleaner production. The Recovery and Resilience Facility (RRF) has also enabled greater financial support for green industries. The February 2025 Clean Industrial Deal is also promising new measures.

⁹⁴ Redeker, N., “After three years of debating how to best mimic the US IRA, EU discussions are now shifting to how to keep pace with Trump’s deregulation spree. Maybe, instead of chasing every economic trend from across the pond, Europe should be a bit more serious about crafting a strategy that works for itself,” Bluesky (29 Jan. 2025), <https://bsky.app/profile/nilsredeker.bsky.social/post/3lgus7wwgjk2d>, accessed on February 12, 2025.

⁹⁵ European Commission, “What do the Net-Zero Industrial Act and the Ecodesign Regulation mean for Green Public Procurement?,” European Commission (30 Sept. 2024), https://green-business.ec.europa.eu/news/what-do-net-zero-industrial-act-and-ecodesign-regulation-mean-green-public-procurement-2024-09-30_en, accessed on February 13, 2025.

However, the EU’s green industrial policies remain fragmented and less predictable compared to the IRA’s simple, focused tax credit system.

The Net-Zero Industry Act (NZIA), in particular, has been criticized as an inadequate response to the IRA. Analysts have argued that:

- It favors specific technologies rather than adopting a technology-neutral approach that supports all innovations contributing to net-zero goals.
- Its 40% self-sufficiency target for EU clean tech manufacturing is poorly defined and fails to consider the different capacities of Member States.
- Its local-content rules to protect Europe’s low-carbon technology value chains from international competition risks backfiring, potentially driving up costs for more traditional energy industries. This reveals possible frictions in the EU agenda between improving energy independency and supporting industrial competitiveness.
- The NZIA lacks a strong governance structure, raising concerns about its implementation and oversight.

The new European Commission, in office since September 2024, sees the green agenda as a key source of growth for the EU.

Competitiveness is now a top priority, and on January 29, the Commission published its Competitiveness Compass⁹⁶ outlining a new approach. Its three main pillars—closing the innovation gap, aligning decarbonization with industrial growth, and reducing strategic dependencies—all reflect areas where the IRA offers both lessons and warnings. The IRA’s mix of subsidies and tax credits has fueled investment but also raised concerns over excessive government spending. The EU must strike the right balance, ensuring efficient allocation of funds while avoiding similar pitfalls.

The EU **also has one advantage over the US.** Donald Trump’s flurry of executive orders have created uncertainty in the energy market as

⁹⁶ European Commission, “A Competitiveness Compass for the EU” (29 Jan. 2025), https://commission.europa.eu/document/download/10017eb1-4722-4333-add2-e0ed18105a34_en, accessed on February 12, 2025.

well as instability, as many of these actions are likely to be challenged in court. The EU should seize this moment to take the lead and demonstrate that a well-designed EU funding mechanism can provide job opportunities, manufacturing prospects, and long-term stability, making it a more reliable and attractive option for clean tech investors.

The goal should not be to replicate the IRA, as the EU lacks a federal tax system and must respect Single Market competition rules, but to create a holistic strategy which favors faster permitting, streamlined national tax credit approvals, smarter subsidy distribution, supply and demand-side incentives, and stronger supply chain diversification.

3.1. SMARTER EU FUNDING MECHANISMS

a. Tax credits: faster national-level tax credit approvals and EU tax refunds

As mentioned above, tax credits have been the strongest driver of investment under the IRA. **Unlike the EU, the US' federal tax system and fiscal flexibility make it easier for the US to use tax credits.** In practice, companies across all 50 states can claim the same credits against federal taxes. Tax credits can be claimed upfront and are also transferable. Given that the US government has full control over fiscal policy, it can also afford large tax credits.

The EU's set-up makes tax credits much harder to implement. The EU does not have an EU-wide tax credit system. This would require unanimous agreement in the Council, the grouping of the 27 member states⁹⁷. It is hard to see why EU capitals would agree to pool their sovereignty in

⁹⁷ European Union, "Article 113 of the Treaty on the Functioning of the European Union (TFEU)," *EUR-Lex* (2016), <https://eur-lex.europa.eu/legal-content/FR/TXT/?uri=CELEX:12016E113>, accessed on February 28, 2025.

this field. The EU also relies on strict state aid rules to maintain fair competition between member states. **These rules prevent governments from favoring specific industries** and ensure that wealthier member states cannot outspend poorer ones by subsidizing national industries. Any country seeking to introduce large tax breaks must first obtain approval from the European Commission.

Moreover, the EU cannot run a large deficit like the US and it relies on member states for a majority of its funding. **At this stage, more joint borrowing seems unlikely.** What's more, the EU treaties make clear that borrowing must not exceed its own financial resources⁹⁸. Instead, the EU should:

- **Accelerate national-level tax credit approvals** to speed up support for critical industries. On 14 December 2024, the European Commission promised to set out a new framework to make state aid rules “simpler and faster to get access to investment aid and tax credits”. This new framework, which will be part of the Clean Industrial Deal, should be published in the second quarter of this year.
- **Explore EU tax refunds**—a cash rebate system where companies are reimbursed after making investments, similar to tax credits but within the EU's grant-based framework. However, delays in repayments could dissuade companies from investing, especially those with smaller accountancy departments like startups and SMEs.

b. Funding for direct support

Beyond tax credits, the EU should expand direct support to EU industry through grants, loans and other instruments, following the model of the Innovation Fund (which is funded through the ETS) and Horizon Europe

⁹⁸ European Union, “Article 310 of the Treaty on the Functioning of the European Union (TFEU),” *EUR-Lex* (2016), https://eur-lex.europa.eu/eli/treaty/tfeu_2016/art_310/oj/eng, accessed on February 27, 2025.

(which is part of the EU's seven-year budget). It must improve outreach and access, ensuring SMEs and startups are also able to benefit from EU funding.

Former Commissioner for Internal Market Thierry Breton proposed a €350 billion fund (2% of EU GDP, jointly financed at the EU level), but many member states oppose the idea. The so-called “frugal” countries—which include Austria, Germany, the Netherlands and Sweden—are particularly reluctant to take on more common debt, especially since the EU has yet to pay back the €750 billion NextGenerationEU plan. The difficulty of passing reforms to cut national debt, as illustrated by France's recent budget talks, has also reinforced skepticism among those countries.

This explains why several Member States, including Germany, would prefer to repurpose unspent EU funds. The advantage of redirecting existing funding is that the money has already been budgeted for. The downside, however, is that it would mean fewer resources for other EU policies, like regional support in countries such as Poland and Italy. Plus, the scale of the support is significantly smaller than the IRA's massive funding package.

For example, the EU could choose to redirect some funding from EU structural funds or even the RepowerEU program. This would be relatively straightforward. Every seven years, the EU negotiates a seven-year EU budget (in Brussels jargon: the Multiannual Financial Framework or MFF)—but Member States and the European Parliament can tweak funding streams during yearly MFF reviews. This has proven particularly helpful in times of crisis when the EU has needed more money to support humanitarian or health initiatives. The EU's Economic Security Strategy, published in June 2023, proposed a Strategic Technologies for Europe Platform (STEP), allocating €10 billion from existing EU programs like the RRF and InvestEU.

Some experts have also suggested using the funds available in the **European Stability Mechanism**, one of the key proposals of Enrico Letta's report on the single market⁹⁹. However, some countries, not least Germany, and especially Friedrich Merz who could become the next Chancellor, are dead against using it for any kind of additional EU funding, whether for industrial policy or defense spending—arguing that it acts as an insurance policy and without it, could have broader macroeconomic implications for investor confidence¹⁰⁰. **The other option is for more EIB loans, something that is being actively discussed in Brussels to support SMEs and scale up, though the details about amounts and who would benefit from this remain unclear. Others have argued that the EU would need to revise its green taxonomy—**which classifies economic activities based on sustainability criteria and the respect of the net-zero objectives—to make maximum use of EIB loans.

The Clean Industrial Deal has announced new EIB instruments to support industry. Jointly with the European Commission, the EIB will launch a pilot-programme to counter-guarantee Power Purchase Agreements, midcaps and energy intensive industries for long-term purchase of electricity generation. A 'Grids manufacturing package' will also provide guarantees to manufacturers of grid-components, for respective amounts of 500 million and 1.5 billion. If these new instruments do not directly provide additional loans, they could at least support grid investment at a time when energy prices are rising.

⁹⁹ Letta, E. (2024). *Much more than a market: Report by Enrico Letta. Council of the European Union*, <https://www.consilium.europa.eu/media/ny3j24sm/much-more-than-a-market-report-by-enrico-letta.pdf>.

¹⁰⁰ *The European Stability Mechanism (ESM) serves as a financial safety net for eurozone countries facing significant financial difficulties. Funded by euro area members, its goal is to raise capital through bond issuance and offer conditional financial support to ensure fiscal stability. With a lending capacity of €500 billion, the ESM is backed by €80 billion paid-in capital and €624.3 billion in callable capital. Acting as a lender of last resort, the ESM imposes strict conditions, including the implementation of economic and fiscal reforms.*

However, the overall discussion about repurposing funding lacks strategic direction. Rather than a cohesive plan, there is little reflection on which trade-offs are possible and whether a clean tech accelerator package should take priority over broader reindustrialization, supply chain security, or rare earth storage. It is essential that the EU improves investment capacity, in line with recommendations put forward in the Draghi report. The Clean Industrial Deal has announced a new Industrial Decarbonisation Bank of €100 billion, which would centralize funding from the Innovation Fund, ETS revenue, and InvestEU. However, more needs to be done. Unlocking funding for the green transition could also face opposition from those advocating for higher defense spending, for example¹⁰¹. Choices will need to be made.

Beyond securing funding, there are some concerns in Brussels about how a new EU industrial support package would be structured. Under the NextGenerationEU, the European Commission controlled fund allocation, releasing payments only when EU governments met reform milestones outlined in their national plans. Member states were then responsible for distributing the funds.

Handing the European Commission the responsibility of choosing winners could pose three problems. First, it would be tricky to determine which industries are the most deserving without the necessary technical and industrial expertise. Some worry that subsidies would disproportionately benefit those countries with a high concentration of green tech industries. Second, there is a risk that subsidies would go to those firms with powerful lobbies in Brussels and access to EU governments and institutions, rather than the most innovative firms. Privately, some officials also worry that subsidies would go straight into the pockets of shareholders, rather than to the companies themselves.

¹⁰¹ De la Feld, S., “EU and UK working on a joint fund for the continent’s defence,” *eunews* (25 Feb. 2025), <https://www.eunews.it/en/2025/02/25/eu-and-uk-working-on-a-joint-fund-for-the-continents-defence/>, accessed on February 27, 2025.

Third, under existing EU competition rules, state aid can only be made available for research, not manufacturing—a key difference from the IRA, which supports both R&D and large-scale production. The role of the European Commission is not to decide which companies should benefit from funding, but rather to improve the framework within which companies can bid for subsidies and funding. **The Biden administration addressed this challenge by creating a dedicated office within the White House to oversee the IRA¹⁰², ensuring funds were directed toward ambitious and competitive projects. The EU could benefit from a similarly structured approach to streamline subsidy distribution and maintain fairness across member states.**

c. Continued flexibility in state aid rules

Some member states, particularly France, argue that new EU funding will be insufficient to meet the scale of the challenge and advocate for a temporary suspension of state aid rules to give national governments more flexibility to support critical industries. This option would give EU countries the liberty to choose how to allocate aid and who to support. It also means any debt would be national, rather than owned by all Member States. One aspect that has not been covered yet is the question of the type of expenses State aid cover. Currently mostly used for capital expenditures (CAPEX), they should focus more on operational expenditures (OPEX) to support EU industries' competitiveness¹⁰³.

¹⁰² Biden, J. R., "Executive Order on the Implementation of the Energy and Infrastructure Provisions of the Inflation Reduction Act of 2022," *The White House* (12 Sept. 2022), <https://bidenwhitehouse.archives.gov/briefing-room/presidential-actions/2022/09/12/executive-order-on-the-implementation-of-the-energy-and-infrastructure-provisions-of-the-inflation-reduction-act-of-2022/>, accessed on February 12, 2025.

¹⁰³ Wolf, André, "A Bank to Boost Renewable Hydrogen," *Centrum für Europäische Politik* (31 Oct. 2023), https://www.cep.eu/fileadmin/user_upload/cep.eu/Studien/cepInput_Hydrogen_Bank/ce-Input_A_Bank_to_Boost_Renewable_Hydrogen.pdf, accessed 28 February 2025.

The EU can—and has—made temporary changes to state aid rules in the past: during the COVID-19 pandemic, for example, or to respond to the Ukraine war¹⁰⁴. In his report¹⁰⁵, Mario Draghi has proposed to extend these temporary changes beyond 2025, when they are due to expire, to invest in clean technologies and industries. However, this approach is not without any risks:

- **Single market fragmentation:** extending temporary state aid changes could widen the gap between wealthier and poorer EU states, as larger economies like Germany and France have more capacity to support industries. In 2022-2023, they accounted for 77% of state aid notifications¹⁰⁶. But even these largest economies face budgetary constraints with rising debts: for example, France has reduced its France2030 funding programme designed to support innovation. There are also concerns about public funding “crowding out” private investment¹⁰⁷.
- **Globalization shift and trade tensions:** many countries would see this as proof of the EU entering a subsidy race with the US and others, and turning its back on global trade rules. This subsidy race could exacerbate economic inefficiencies and reinforce the dominance of already leading countries, such as China in the clean tech space, especially given Europe has more problems scaling up than the US and China do.

Draghi's report acknowledges these risks and proposes harmonizing state aid guidelines and prioritizing cross-border projects. The European

¹⁰⁴ “Communication from the Commission to the Council on the activation of the general escape clause of the Stability and Growth Pact,” *Eur-lex* (20 March 2020), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0123>, accessed 28 February 2025.

¹⁰⁵ Draghi, M., “Draghi Report on EU Competitiveness,” European Commission (2024), https://commission.europa.eu/topics/eu-competitiveness/draghi-report_en, accessed on February 13, 2025.

¹⁰⁶ Polish Economic Institute, “A threefold increase in the role of state aid to companies threatens the cohesion of the single market” (26 Jan. 2024), <https://pie.net.pl/en/a-threefold-increase-in-the-role-of-state-aid-to-companies-threatens-the-cohesion-of-the-single-market/>, accessed on February 12, 2025.

¹⁰⁷ Reuters, “Nine European countries warn of subsidy race from easier state aid” (29 Feb. 2024), <https://www.reuters.com/markets/europe/nine-european-countries-warn-subsidy-race-easier-state-aid-2024-02-29/>, accessed on February 12, 2025.

Commission also proposed a more flexible state aid framework to boost coordination, accelerate approvals and prevent market fragmentation as part of its Competitiveness agenda and of the Clean Industrial Deal.

Interestingly, IRA incentives focused as much on supply as they did on consumer demand. It included \$46 billion worth of tax credits for consumers for purchases of EVs, solar panels and heat pumps. The EU knows that demand will be key to remaining competitive against foreign technologies, especially those coming from China. The Commission is aware of this challenge and has already launched a dialogue with the automotive sector in order to put forward an EU action for the EV sector which should include both supply and demand-side measures for EU-manufactured goods¹⁰⁸. Boosting demand is a key lesson of the IRA for Europe. If supply is larger than demand, the EU's clean tech industries will not be competitive, so it is essential that demand forms part of the strategy. The Clean industrial deal measures to boost demand seem to be going in the right direction: they attempt to facilitate the aggregation of off-takers demand in the hydrogen sector, and will explore ways to include specific requirements in private procurement to boost EVs demands for companies car fleets.

3.2. FASTER PERMITTING & BUREAUCRATIC STREAMLINING

Another important question is how quickly assistance reaches EU businesses. A major advantage of the IRA was its faster permitting and simple funding mechanisms. In particular, Biden sought to reduce permitting time by investing over \$1 billion¹⁰⁹ to support the permit

¹⁰⁸ European Commission, "A Competitiveness Compass for the EU," European Commission (29 Jan. 2025), https://commission.europa.eu/document/download/10017eb1-4722-4333-add2-e0e-d18105a34_en, accessed on February 12, 2025.

¹⁰⁹ Federal Permitting Improvement Steering Council, "Permitting Council Recognizes Transformative Accomplishments in the Federal Permitting Process in Celebration of IRA Anniversary" (16 Aug. 2023), <https://www.permitting.gov/newsroom/press-releases/celebration-ira-anniversary>, accessed on February 12, 2025.

review processes of agencies and the Permitting Council. He reformed the National Environmental Policy Act (NEPA) for the first time in 50 years. Meanwhile, the Department of Energy (DOE) expanded categorical exclusions for reconductoring, removing requirements for extensive environmental reviews¹¹⁰ and reducing project development times by years. In response to industry concerns over slow permit approvals, Senators Joe Manchin (Democrat) and John Barrasso (Republican) introduced the bipartisan Energy Permitting Reform Act in July 2024¹¹¹. The bill aims to streamline permitting for transmission lines, vital for new industries, as well as for critical mineral mining and oil and gas exploration. The bill is still awaiting Senate approval.

By contrast, EU subsidies and grants are fragmented across multiple programs (Horizon Europe, Innovation Fund, state aid, IPCEIs, etc) and often require long, complex approval processes. **Simplifying administrative procedures will be essential.** To benefit from EU funding, companies have to fill in long forms and wait months to hear back from the European Commission. It can also take up to six months to receive the subsidy once it has been approved. There are also additional hurdles: a company must demonstrate that the money has been invested within a set deadline. However, there are a number of independent factors that can prevent companies from meeting those deadlines. Given this complexity, companies sometimes choose to forgo applying for EU support. Some EU leaders, including former French Finance Minister Bruno Le Maire and German Federal Minister for Economy Robert Habeck, have called¹¹² for a faster approval process for Important Projects of Common European Interest (IPCEI) in areas like batteries, hydrogen and solar panels.

¹¹⁰ *Categorical exclusions (CEs) are a type of streamlined environmental review under the National Environmental Policy Act (NEPA). They allow certain projects to bypass lengthy Environmental Assessments (EAs) or Environmental Impact Statements (EISs) if they are deemed to have minimal environmental impact.*

¹¹¹ "Energy Permitting Reform Act of 2024," US Senate (23 Jul. 2024), <https://www.congress.gov/bill/118th-congress/senate-bill/4753/all-actions>, accessed on February 12, 2025.

The EU has already taken several measures to accelerate permitting: the Renewable energy directive¹¹³ introduced faster and simpler permitting procedures for renewable energy projects, notably through the designation of "renewables acceleration areas". The REPowerEU Plan¹¹⁴ had a similar measure as well as did other plans like the Wind power package. However, progress remains slow, especially as member states do not always transpose the directives within the set deadlines. For the Renewable Energy Directive, Denmark was the only member state to have met the deadline¹¹⁵. In France, offshore wind development has been hampered by lengthy administrative and legal procedures. As of 2024, only three offshore wind farms were operational after nearly a decade of waiting¹¹⁶. There has been some improvement in the last two years thanks to the Net-Zero Industry Act, which reduced approval period timelines to six months and simplified granting procedures to accelerate permitting. One example is how it helped accelerate the development of the carbon capture and storage sector (CCS) in Europe. Arcelor Mittal was the first to open a carbon capture and utilisation plan in Ghent in 2022¹¹⁷. A year after the NZIA was introduced, CCS projects

¹¹² Le Maire, B., and Habeck, R., "We call for a renewed impetus in European industrial policy," *Ministère de l'Économie, des Finances et de la Souveraineté Industrielle et Numérique* (22 Nov. 2022), <https://presse.economie.gouv.fr/22112022-joint-statement-by-bruno-le-maire-and-robert-habeck-we-call-for-a-renewed-impetus-in-european-industrial-policy/>, accessed on February 12, 2025.

¹¹³ European Commission, "Renewable Energy Directive—Targets and Rules," *Energy*, (n.d.), https://energy.ec.europa.eu/topics/renewable-energy/renewable-energy-directive-targets-and-rules/renewable-energy-directive_en, accessed on February 27, 2025.

¹¹⁴ European Commission, "Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions—Towards a green, digital and resilient economy: our European Growth Model," COM(2022) 230 final (17 May 2022), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022DC0230>, accessed on February 27, 2025.

¹¹⁵ European Commission, "The Commission takes action to ensure the full and timely transposition of EU directives," *Representation in Luxembourg* (26 September 2024), https://luxembourg.representation.ec.europa.eu/actualites-et-evenements/actualites/la-commission-prend-des-mesures-en-vue-dassurer-une-transposition-complete-et-en-temps-voulu-des-2024-09-26_fr, accessed on February 27, 2025.

¹¹⁶ Pécout, A., « En France, l'éolien en mer attend encore son rythme de croisière », *Le Monde* (17 Sept. 2024), https://www.lemonde.fr/economie/article/2024/09/17/en-france-l-eolien-en-mer-attend-encore-son-rythme-de-croisiere_6321738_3234.html, accessed on February 27, 2025.

in Europe have increased by 61% compared to 2022¹¹⁸, with 119 CCS projects either being developed or already operational in Europe by 2024. The Innovation Fund and the Connecting Europe Facility on Energy also played an important role in this regard¹¹⁹.

However, EU administrative procedures and permitting are still much longer than they are in the US, and it is essential that the EU streamlines its permitting procedures. When looking at the IRA, the EU should:

- **Streamline permitting for energy and industrial projects to match the length in the US system.** The average waiting time for federal permits decreased from 9 years between 2007-2015 to 4 years between 2016-2023. Following the IRA, the Biden-Harris administration sought to cut the median time down to 6 months—though it did not quite achieve this. In the EU, permitting times can vary depending on the sector and the countries, but they can take up to 7 to 9 years for renewable energy projects¹²⁰. In 2022, the Council agreed on measures to speed up permitting processes¹²¹ by setting maximum deadlines, between one and 6 months for renewable energy projects. However, national regulations can cause permitting times to vary between member states.
- **Offer fast-track subsidies with simpler application processes, similar to IRA funding.**

¹¹⁷ ArcelorMittal, “ArcelorMittal inaugurates flagship carbon capture and utilisation project at its steel plant in Ghent, Belgium” (8 Dec. 2022), <https://corporate.arcelormittal.com/media/press-releases/arcelormittal-inaugurates-flagship-carbon-capture-and-utilisation-project-at-its-steel-plant-in-ghent-belgium>, accessed on February 13, 2025.

¹¹⁸ Levina, E., Gerrits, B., and Blanchard, M., “CCS in Europe: Regional Overview,” Global CCS Institute (November 2023), p. 14, <https://www.globalccsinstitute.com/wp-content/uploads/2023/11/CCS-in-Europe-Regional-Overview-Global-CCS-Institute-pdf.pdf>, accessed on February 13, 2025.

¹¹⁹ Global CCS Institute, “CCS in Europe: A Regional Overview,” Global CCS Institute (17 Dec. 2024), <https://www.globalccsinstitute.com/news-media/insights/ccs-in-europe-a-regional-overview/>, accessed on February 13, 2025.

¹²⁰ Piotrowski, M., and Gislén, M., “How permitting processes are hampering Europe’s energy transition,” World Economic Forum (17 Sep. 2024), <https://www.weforum.org/stories/2024/09/wind-energy-permitting-processes-europe/>, accessed on February 12, 2025.

¹²¹ European Council, “EU to speed up permitting process for renewable energy projects” (24 Nov. 2022), <https://www.consilium.europa.eu/en/press/press-releases/2022/11/24/eu-to-speed-up-permitting-process-for-renewable-energy-projects/>, accessed on February 12, 2025.

3.3. A “MADE IN EUROPE” NOT “MADE BY EUROPE” STRATEGY

Some EU governments have floated the idea of a “Buy European Act”, which would grant European preference in call for tenders that govern public procurement. However, this has faced strong opposition from free-trade-oriented countries such as Sweden or the Czech Republic inside the EU as well as certain departments of the European Commission, which argued that it would reduce competition and push up prices.

The Draghi Report did retain this idea but argued that it should only apply to specific sectors. For example, it recommended revising the CHIPS Act to include an EU chips procurement preference in public and private procurement tenders. The Commission’s Competitiveness Compass and the Clean Industrial Deal also announced the introduction of a European preference in public procurement for critical sectors and technologies. In the long term, the same European preference criteria could be considered for the private sector as well, for example for companies’ vehicles.

Rather than imposing strict local content requirements—which would risk retaliation from trading partners—the EU should focus on incentivizing investment and production in Europe, including from foreign companies. Manufacturing in Europe, even if it is not made by European companies, creates value, jobs and fiscal revenues. This approach would be particularly relevant to develop and manufacture technologies in which Europe does not yet have capacity or expertise. Foreign companies could share these advanced technologies and management practices, and help transfer knowledge to the EU, which would, in turn, help to limit the EU’s dependencies on foreign technologies in the longer term. FDI remains essential for European economies. It accounts for 20% of gross domestic product (GDP) in Germany and France. However, it is not without any risks. It does not always lead

to job creation or new ventures and can, instead, lead to takeover and acquisition of companies by foreign ones. The EU should continue to strengthen its FDI screening instrument to prevent this from happening.

The EU should also work to hold onto European capital and make sure it is invested in Europe rather than abroad. European FDI increased following the IRA but several EU countries such as Germany, France, Sweden and Spain were already among the main outward FDI investors in the world. As the Letta report highlighted, too many European savings are going to the US financial markets (about €300 billion/year¹²²). One other option that could be explored is the Capital Markets Union that Enrico Letta proposed in his report: perfecting its integration in order to create European long-term savings that could support investments in the clean transition within Europe.

To deal with these—hence the introduction of the FDI screening instrument—does not always lead to new jobs and has sometimes led to the acquisition of existing companies rather than new ventures, but their number has decreased since 2022, so Europe should try to re-attract them. **A “Made in Europe” approach should:**

- Encourage clean tech production in Europe while keeping the market open to foreign investment.
- Use financial incentives to attract industry. The €100 billion of funding announced through the Decarbonisation Bank in the Clean Industrial Deal provides a first step as they would be used to favor EU-based clean manufacturing, therefore incentivizing investment and development in the EU.

¹²² “Enrico Letta to Europe: ‘Now is the time to act,’” *France 24* (7 February 2025), <https://www.france24.com/en/tv-shows/talking-europe/20250207-enrico-letta-to-europe-now-is-the-time-to-act>, accessed on February 27, 2025.

3.4. STRENGTHENING SUPPLY CHAINS & SECURING CRITICAL RAW MATERIALS

A key priority of the IRA was to secure supply chains for critical materials like nickel and cobalt, which the US could not produce domestically. For example, 59% of US imported lithium comes from Argentina. Similarly, the EU is highly dependent on third countries for raw materials such as lithium and magnesium and unlike the US, it has fewer reserves it can tap into. For example, it relies on China for 93% of its magnesium and 97% of its lithium supplies¹²³.

Governments around the world are increasingly focused on how to prop up their industry while lessening dependence on "unfriendly" nations. Rather than trying to reshore supply chains, the EU should diversify them, ensuring it is not reliant on any single country, especially China. The EU has already taken steps, such as the Critical Raw Materials Act, whose implementation will be prioritised with the Clean Industrial Deal to simplify permitting. However, the EU should go further by:

- Expanding trade agreements and partnerships with resource-rich nations and ensuring that resources are shared fairly between member states.
- Strengthening the Minerals Security Partnership, which includes the US, Canada, Japan, and Australia.
- Deepening raw materials partnerships with Africa, such as its 2022 agreement with Namibia.

The Clean Trade and Investment Partnerships (CTPIs) with third countries, announced in the Competitiveness Compass and the Clean industrial deal for March 2025, would be an excellent next step. They are designed to answer the European clean tech ambitions and secure supply chains, by diversifying them, securing better access to raw materials

¹²³ von der Leyen, U., "Speech by President von der Leyen on EU-China relations," European Commission (30 March 2023), https://ec.europa.eu/commission/presscorner/detail/en/speech_23_2063, accessed on February 12, 2025.

and will be designed in cooperation with business to answer their needs. They will also mobilize new large-scale investments¹²⁴.

3.5. IMPROVING COMMUNICATION & MARKET ENGAGEMENT

One of the biggest mistakes of the IRA was branding it the "Inflation Reduction Act". This made it an easy target for critics when inflation did not drop as a direct result of the law. The EU should learn from this by ensuring clear, strategic communication on its industrial policies: not too dry, but also not misleading.

The Biden-Harris administration prioritized stakeholder engagement, frequently meeting with clean tech investors. State governors and federal officials also held regular meetings with industry leaders to promote IRA incentives and encourage investment. **In particular, the EU needs an effective communications strategy, emphasizing the market opportunities and regulatory stability available in Europe.** The IRA's implementation relies heavily on agency interpretation, making it vulnerable to changes in government—as seen with the current administration's efforts to roll back Biden-era policies. This uncertainty can disrupt investment planning. In contrast, EU directives and regulations can provide clearer, long-term guidance, offering greater predictability for businesses. For example, the Green Deal, which does face repeated attacks, would be very complex and long to dismantle and remains a strong asset of the EU and investors in the green transition and decarbonisation. **In addition, the EU should demonstrate what more it is doing to support the clean tech industry in Europe,** including in related fields like R&D. In 2023, the European Union allocated

¹²⁴ European Commission, "A Clean Industrial Deal for Competitiveness and Decarbonisation in the EU", *Climate Action*, (26 Feb. 2025), https://climate.ec.europa.eu/news-your-voice/news/clean-industrial-deal-competitiveness-and-decarbonisation-eu-2025-02-26-0_en, accessed on February 28, 2025.

€381.4 billion to research and development (R&D)¹²⁵, representing 2.22% of its GDP, while the United States invested 3.59%. To bridge this gap, the Draghi Report recommends that the EU double its annual R&D spending¹²⁶ to €750-800 billion, targeting 3% of GDP. The EU should also look at how to support the deployment of new technologies. In a recent PwC survey, EU CEOs said they were only 66% likely to use cloud and artificial intelligence, compared to 81% in the US. The Competitiveness Compass has proposed a **European Innovation Act** to promote companies' access to publicly funded R&I and technology infrastructures, an **EU Start-up and Scale-up Strategy** that strengthens links between universities and businesses, and a **Saving and Investments Union** to boost European venture capital. It will also develop a specific TechEU investment program with the EIB for companies investing in innovative technologies such as AI, clean tech and critical raw materials.

There are other ways to support innovation, for example by lessening reporting requirements and simplifying administrative processes. **The EU should also look to launch a skilled labor initiative for critical sectors.**

¹²⁵ European Commission, "R&D expenditure," Eurostat Statistics Explained (December 2024), https://ec.europa.eu/eurostat/statistics-explained/index.php?title=R%26D_expenditure, accessed on February 12, 2025.

¹²⁶ Science Europe, "Research Funding at the Forefront of EU Strategy in the Draghi Report" (26 Sept. 2024), <https://scienceeurope.org/news/research-funding-at-the-forefront-of-eu-strategy-in-the-draghi-report/>, accessed on February 12, 2025.

On 29 January 2025, the European Commission unveiled its Competitiveness Compass, a blueprint to make the EU's Single Market more resilient, secure and globally competitive. Its three core pillars—closing the innovation gap, aligning decarbonization with industrial growth and reducing strategic dependencies—mirror the ambition behind Joe Biden's Inflation Reduction Act (IRA).

President Trump's focus on fossil fuels and natural gas exploration presents an opening for Europe. However, the EU is not the US. Rather than mimic it, the EU needs its own tailored approach. This paper has put forward some ideas, highlighting the opportunities and drawbacks of each. However, they will need to be built on further.

The EU cannot do everything and hard choices will need to be made. It must seize the chance before it is too late.

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- over 20 interviews with senior representatives from the private sector;
- the organisation of a workshop with leading experts and representatives from the private sector.

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*Institut Montaigne welcomes thoughts and ideas
on how to address these issues collectively
and put forward recommendations which serve
the public interest.*



Institut Montaigne
59 rue La Boétie, 75008 Paris
Tél. +33 (0)1 53 89 05 60
institutmontaigne.org/en

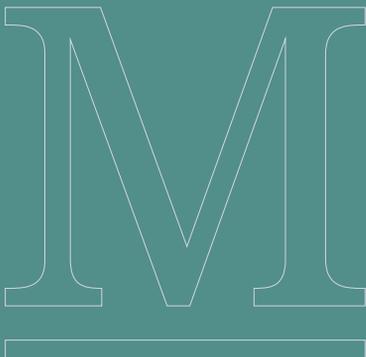
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The Inflation Reduction Act (IRA), passed in August 2022, marked a pivotal shift in U.S. industrial policy. Two years later, Donald Trump comes back to power and seeks to reverse Biden's green agenda—dismantling key provisions of the IRA and prioritizing fossil fuels. To improve its own competitiveness, what lessons can the EU draw from the IRA's approach to reindustrialization?

The IRA produced tangible results because it was high-scale and because its subsidies were rapidly and easily accessible. The IRA was much more than just a climate law. While it aimed to cut carbon emissions, it also sought to reduce dependence on foreign supply chains to counter China's dominance and drive growth in domestic manufacturing. While fully dismantling the IRA would be legally challenging and politically complex, the Trump administration is already taking measures in that direction, and has a completely different approach of energy and industrial competitiveness.

This paper lays out some possible evolutions of the IRA framework under the second Trump administration, and offers ideas for Europe. While the EU should not seek to replicate the IRA, it should enhance its funding mechanisms for cleantech, accelerate permitting processes, streamline national-level tax credit approvals, ensure more effective subsidy distribution and guarantee both supply and demand-side incentives. The IRA also suggests that a “made in Europe” approach is likely to produce more results than a “made by Europe” one. Finally, the EU can do even more to ensure investor confidence by enhancing the predictability of its regulatory framework.



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