



Green Industrial Strategies Takeaways for Transatlantic Trade

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THE ISSUE

The United States and European Union are both accelerating their attempts to combat climate change, leading to a new industrial climate strategy evolving within the transatlantic alliance. Where each party is scaling up the size and nature of these investments reveals several key takeaways. The U.S. and EU approaches share fundamental similarities, particularly with size and ambition, and the recent introduction of the Green Deal Industrial Plan in the European Union reveals the EU recognition in the utility of a primarily incentives-based approach. Key differences persist, particularly on the trade instruments contained in the packages. As each party deploys new funds and programs to combat climate change, the United States and European Union need to clarify the rules and guardrails for green industrial and trade policies or risk engaging in a cycle of mutual recrimination replete with policies that worsen trade frictions. Overall, the current transatlantic approach to cooperative competition could facilitate a virtuous cycle at the nexus of climate and trade, which could ultimately create an economic bloc that more effectively competes with China and bolsters transatlantic power during the green transition.

A profound shift currently occurring in international trade policy could potentially remake the global trading system that has shaped the post-World War II world. Considerations of national security, economic coercion, and decarbonization are increasingly playing central roles in what were traditionally regarded as purely tariff-liberalization and market-access matters. Coinciding with the infusion of national security and climate considerations into trade policy is an attempt to incentivize the onshoring of green goods production in the United States under the assumption that nearshoring and reshoring will provide jobs, insulate U.S. industry from unfair market competition, and lead to a proliferation of greener products, given that U.S. production methods are relatively less carbon-intensive

than competing economies. This bid to push back against nonmarket economic practices, coupled with a concerted effort to accelerate the green transition, is nothing short of a sea change in trade policy.

In August 2022, Congress passed the **Inflation Reduction Act** (IRA), the single largest spend on climate in history. The \$368 billion package aims to usher in a new era of U.S. industrial policy grounded in a philosophy that shifts the U.S. economy away from fossil fuel-intensive production and toward a future replete with green technologies, a less emissions-intensive grid mix, and enhanced electrification. In turn, this massive spending package will allow the United States to grow its share of exports for green technologies. In addition to the IRA, the United States passed the **Infrastructure**

Investment and Jobs Act in November 2021, which includes roughly **\$150 billion** on climate spending, as well as the CHIPS and Science Act, which includes over **\$70 billion** for climate spending. In what the Rocky Mountain Institute **describes** as the “triple whammy” of innovation, investment, and industrial policy, these initiatives could unlock up to **\$3.5 trillion in investments** over the next decade.

A distinguishing factor of the U.S. package is that it relies on a set of domestic incentives, including tax breaks and local content requirements, to spur green growth. This differs starkly from the European Union, which has instead relied on a set of regulatory mechanisms, such as the Fit for 55 package that includes a **carbon border adjustment mechanism** (CBAM) and the European Union Emissions Trading System (EU ETS) reforms. This profound difference in approaches—incentives versus regulatory mechanisms—highlights an ongoing philosophical tension among U.S. allies.

Despite clear differences in approaches, the European Union and the United States are broadly aligned on the goals of their respective packages. The European Union aims to reduce emissions by **55 percent** below 1990 levels by 2030. The United States also maintains an ambitious 2030 target, which is to reduce emissions by roughly **50 percent** below 2005 levels. Furthermore, both parties aim to achieve climate neutrality by 2050. The current climate packages aim to increase the odds that each party can meet its emissions targets.

The European Union regards the U.S. approach as too little, too late, and as a possible threat to the long-term health of EU industry at an economically and politically precarious time, though the introduction of new subsidy rules highlights that the European Union does implicitly acknowledge some of the benefits of the U.S. approach. The United States, on the other hand, is weary of an accelerated subsidy policy in the European Union, particularly since it coincides with the CBAM implementation, which the United States is concerned might be administered in a protectionist manner. However, since the CBAM is linked with the EU ETS, the argument that the CBAM is inherently discriminatory may prove difficult to sustain.

EU frustration with the IRA has been particularly pronounced regarding the electric vehicle (EV) tax credit portion, which incentivizes North American final assembly of vehicles and penalizes batteries made with Chinese minerals. In response, trade and climate leaders from the Biden administration have accused the European Union of what the United States perceives as protectionist policies, such as the CBAM. This hiccup in the transatlantic relationship has resulted in the establishment of new targeted working groups intended to overcome IRA impediments. U.S. deputy national security advisor Mike Pyle is cochairing the **U.S.-EU Task Force on the Inflation Reduction Act** that is intended to house further discussions surrounding the IRA. The task force is chaired on the EU side by Bjoern Seibert, head of cabinet to President Von der Leyen. The European Union has sought the formation of a parallel dialogue in the **U.S.-EU Trade and Technology Council**, through a sustainable trade committee that was stood up during the third ministerial meeting in December 2022.

At the annual World Economic Forum meeting in Davos in January 2023, 27 partners launched the **Coalition of Ministers on Climate**, a new minister-level initiative at the nexus of climate and trade. This initiative “will focus on finding trade-related solutions to the climate crisis in line with the United Nations Framework Convention on Climate Change (UNFCCC), the Paris Agreement, and the Sustainable Development Goals, whilst supporting ongoing efforts in this area in the World Trade Organization (WTO).” However, the ministers are not slated to convene before the next ministerial meeting of the WTO, which is scheduled for 2024.

Also at Davos, European Commission president Ursula von der Leyen unveiled an ambitious new EU strategy aimed at mirroring the United States’ IRA. The **Green Deal Industrial Plan** will significantly increase EU spending on the green economy and streamline processes for member states to receive state aid or subsidies. Climate stakeholders view this quid pro quo outcome as a significant win for decarbonization goals, though trade traditionalists are concerned that a subsidies race will prove deleterious in the long run by running afoul of established trade rules aimed at increasing efficiency and keeping costs low. Recent **references** to a “subsidy arms race” between the

United States and European Union capture this new transatlantic environment.

Although there is ample room for error in the EU and U.S. approaches to climate change mitigation and industrial policy, if coordinated properly and carried out in close cooperation, their respective climate packages could profoundly reshape the transatlantic green economy. A strengthened and forward-looking green economic alliance could reshuffle supply chains and rewrite the road map for global cooperation on combating climate change. A more robust transatlantic green economy could advance a **climate club** and could better enable the European Union and the United States to offer an alternative to Chinese exports of green goods.

The purpose of this paper is to compare EU and U.S. packages on climate spending and to evaluate how a new transatlantic green industrial policy would fit into the broader context of the global trading system. This paper analyzes where each party is scaling up investments, as well as the size and nature of these investments.

Comparing EU and U.S. approaches to climate change reveals several key takeaways. First, the approaches share fundamental similarities, particularly with size and ambition. Second, key differences persist, particularly on the trade instruments contained in the packages. Third, the parties need to clarify the rules and guardrails for green industrial and trade policies or risk engaging in a cycle of mutual recrimination replete with policies that enhance trade frictions. Fourth, the European Union sees value in the U.S. incentives-based approach. Finally, the current transatlantic approach to cooperative competition could facilitate a virtuous cycle at the nexus of climate and trade.

This cooperative competition could ultimately create a green economic bloc that more effectively competes with China and bolsters transatlantic power during the green transition. Approaches to China, however, differ starkly between the EU and U.S. climate packages. The Biden administration is encouraging partners to diversify supply chains away from China and to “friend-shore” supply chains to **trusted trading partner countries**. The U.S. approach clearly targets China, for example, by providing EV incentives for cutting out Chinese minerals from battery supply chains. In other words, the

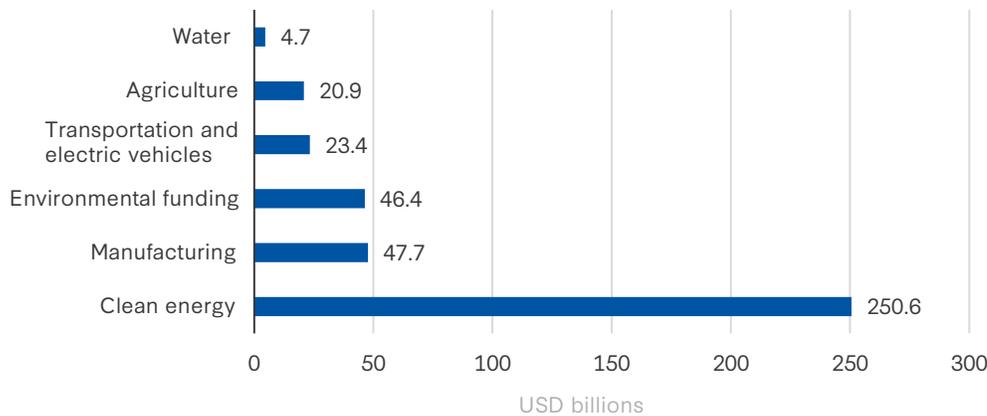
United States integrates security policy into its climate industrial policy by ensuring it is not overly dependent on China. The EU approach, on the other hand, is largely a response to expanded U.S. incentives and seeks to bolster its domestic production capacity while deepening decarbonization efforts without overtly taking on China. Ultimately, the differences between the two approaches could shrink as European companies act on their own to decrease their supply chain vulnerabilities.

U.S. CLIMATE PACKAGES: INCENTIVES-BASED INDUSTRIAL POLICY WITH LOCAL CONTENT REQUIREMENTS AND DOMESTIC PRODUCTION STRINGS ATTACHED

In what is heralded as the largest single climate spend in history, the IRA invests a total of \$393.7 billion into green economy sectors to improve U.S. manufacturing, invest in clean energy for fighting climate change, and incentivize domestic consumption of EVs. The act **invests** \$250.6 billion into clean energy, \$47.7 billion into manufacturing, \$46.4 billion into environmental funding, \$23.4 billion into transportation and EVs, \$20.9 billion into agriculture, and \$4.7 billion into water.

IRA consists of a combination of grants, tax incentives, and loan guarantees. Corporate tax credits account for most of the funding, totaling approximately \$216 billion. The IRA also **provides** production tax credits (PTCs) for solar deals. “Technology neutral” PTCs and investment tax credits (ITCs) are also available. PTCs and ITCs are available for wind and solar projects, including geothermal and hydropower, that begin construction before 2025. To receive PTCs for wind and solar projects, companies must comply with domestic content requirements. According to the **Congressional Research Service**, taxpayers need to certify that the iron, steel, and manufactured products of power-generating facilities were produced domestically. All iron and steel manufacturing processes must take place in the United States, and manufactured products are considered domestically produced if a threshold percentage of the total manufacturing costs of products come from U.S.-based mining, production, or manufacturing processes. This threshold is 40 percent

Figure 1: Inflation Reduction Act, Energy Funding by Industry (in billions of USD)



Source: Justin Badlam et al., “The Inflation Reduction Act: Here’s What’s In It,” McKinsey & Company, October 24, 2022, <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/the-inflation-reduction-act-heres-whats-in-it>.

for projects beginning construction before 2025, rising in steps to 55 percent after 2026.

Additionally, the IRA **establishes** new “technology neutral” PTCs and ITCs for energy-generating projects that have zero greenhouse gas emissions, such as building a solar project. The IRA also offers new tax credits for clean hydrogen production and zero-emission nuclear power production, as well as a “manufacturing production” credit for producers of eligible project components. Other tax credits include incentives for carbon capture, advanced manufacturing, clean fuels, and energy efficiency. Many of these incentives include bonus credits for meeting prevailing wage criteria, but the domestic content requirements primarily function as part of the PTCs, ITCs, and EV tax credits.

Although IRA funds will be allocated to several different federal agencies, a select few encompass more than 96 percent of the funding. In a reflection of the tax incentive approach of the IRA, the Department of the Treasury is expected to receive more than \$250 billion. The Departments of Agriculture and Energy and the Environmental Protection Agency are expected to receive approximately \$120 billion combined. The Department of Energy’s Loan Program Office will receive \$12 billion to expand its existing loan authority and establish a new \$250 billion loan program to upgrade energy infrastructure, such as electric energy generation and transmission.

DOMESTIC INCENTIVES

Overall, the taxation-focused nature of the IRA has drawn significant attention both domestically and internationally, though the legislation offers many different bonus credits for domestic content and production. A host of other local production incentives are also prevalent throughout the legislation. This combination of tax incentives and domestic content requirements signals the Biden administration’s recurring objective to tackle two birds with one stone by combining its industrial strategy with its climate goals.

The IRA **includes** several energy project-related domestic content requirements that would provide additional PTCs and ITCs to companies. There are two different categories of domestic content requirements: iron and steel products and manufactured products. To earn the bonus credits, energy project developers must meet **two different sets** of criteria: (1) 100 percent of iron and steel products that are components of the new facility must be sourced from the United States and (2) 40 percent of the cost of manufactured products included in the new facility must be sourced from the United States. Credits are **increased** by 10 percent if domestic content requirements are met.

THE EV TAX CREDIT

One element of the package that has received outsized attention is the EV tax credit. The European Union currently accounts for roughly 25 percent of EV

production, whereas the United States **accounts** for roughly 10 percent. The European Union is concerned that a flurry of U.S. incentives could flip this dynamic. The IRA **provides** up to \$7,500 in subsidies for EVs, **totaling \$7.5 billion overall**. Half of the credit is **based** on the total amount of the battery's critical minerals that are extracted in the United States, are sourced from a country with which the United States has a free trade agreement, or have been recycled in North America. The law stipulates that 40 percent of the battery's content must contain critical minerals from these areas. The threshold increases until it ultimately reaches 80 percent in 2027.

Furthermore, the IRA stipulates that firms cannot receive the full tax credit if minerals are sourced from a "country of concern," which primarily means China. This part of the law enters into force in 2024 and has led stakeholders to describe the provision as part of a broader Biden administration effort to decouple supply chains from China. The other half of the tax credit is based on the value of the battery components that are manufactured or assembled in North America. The law requires that 50 percent of the battery's component value be sourced from North America, and this threshold increases incrementally until it reaches 100 percent in 2029. Eligibility for the credit also requires final assembly in North America, and European auto manufacturers, in particular, have been keen to find workarounds for that.

The EV tax credits have become a major point of contention between the United States and the European Union. Although Europeans have broadly welcomed U.S. spending on the energy transition, they have repeatedly expressed their disappointment with the EV tax credit portion of the law. European leaders have **argued** that tax credit incentives, such as local content requirements and final assembly rules, disadvantage European manufacturers and **contravene** WTO rules. For example, the European Union cites the WTO's nondiscrimination principle, which stipulates that foreign-produced goods must be afforded the same treatment as domestic items. Recently, at the World Economic Forum in Davos, French president Emmanuel Macron **approached** U.S. senator Joe Manchin (D-WV), a key architect of the IRA, and said, "You're hurting my

country." In response to the IRA, European leaders have **unveiled** a \$270 billion green subsidy program.

Details remain sparse about IRA implementation, making it difficult to ascertain which areas will receive the most significant incentives. In December 2022, the Department of the Treasury **released** initial guidance on prevailing wage and apprenticeship standards, clarified eligibility for EV tax credits, and issued new guidance on credits for Sustainable Aviation Fuel.

Additional guidance confirmed that beginning in January 2023, consumers and businesses were able to access the tax benefits provided from the IRA's climate provisions. **New implementation guidance** released on February 13, 2023, included two notices. The first notice establishes the Qualifying Advanced Energy Project Credit in an effort to provide "incentives for clean energy property manufacturing and recycling, industrial decarbonization, and critical materials processing, refining, and recycling." New funding for the project in the amount of \$10 billion was allocated in the IRA, with \$4 billion explicitly reserved for projects in communities with coal mines and coal-fired power plants that have been closed. The initial round of funding announced totals \$4 billion, \$1.6 billion of which is set aside for coal community projects. The announcement cites "manufacturing of fuel cells and components for geothermal electricity and hydropower, equipment for carbon capture, and critical minerals processing facilities" as examples of projects that are eligible for investment tax credits of up to 30 percent.

The second notice establishes the Low-Income Communities Bonus Credit Program in an effort to provide "a boost of up to 20 percentage points to the investment tax credit for solar and wind energy projects in low-income communities." The goals of the program are to increase "clean energy facilities in low-income communities," encourage "new market participants," and assist "individuals and communities that have experienced adverse environmental impacts or lacked economic opportunities." The announcement notes that the program allocates 1.8 gigawatts of 2023 capacity to solar and wind projects across four different demographics: low-income communities, facilities on Tribal land, facilities serving federally subsidized residential buildings, and "facilities where at least

50 percent of the financial benefits of the electricity produced go to households with incomes below 200 percent of the poverty line or below 80 percent of area median gross income.”

In January 2023, the Biden administration released a **guidebook for the IRA**, which provides a detailed overview of the programs established by the act. The guidebook includes information on the financing and deployment of clean energy technologies, tax incentives, and investment programs in the law. The guidebook was released with all current information in January, and updates and developments are released on www.CleanEnergy.gov “to keep stakeholders and potential beneficiaries of these programs up to date on the latest deadlines and details.”

EU CLIMATE PACKAGES: REGULATION AND INCENTIVES THAT ADVANCE A FISCAL INSTRUMENT AND SIGNIFICANTLY RELAX STATE AID RULES

Responding to pressures from climate change and the Covid-19 pandemic, and accelerated by the Russian invasion of Ukraine, the European Union has recently announced a comprehensive set of packages. These aim to reshape core tenets of the European economy, insulate the bloc from external geopolitical pressures, and mitigate the effects of climate change. During the initial phases of the pandemic, the European Union stood up its **Recovery and Resilience Facility** (RRF), which is the largest component of its NextGenerationEU plan.

The RRF entered into force in February 2021 and expires in December 2026. The six pillars of the RRF are (1) the green transition; (2) digital transformation; (3) smart, sustainable, and inclusive growth; (4) social and territorial cohesion; (5) health, economic, and social resilience; and (6) policies for the next generation. Through the RRF, the European Union made available €734.9 billion (\$775.3 billion), €391.7 billion (\$413.2 billion) in loans, and €343.2 billion (\$362.1 billion) in grants. The RRF is intended to serve as an additional vehicle for achieving net climate neutrality by 2050. Additionally, through its NextGenerationEU mechanism, the European Union successfully deployed €255 billion (\$269 billion) billion for the green transition as part

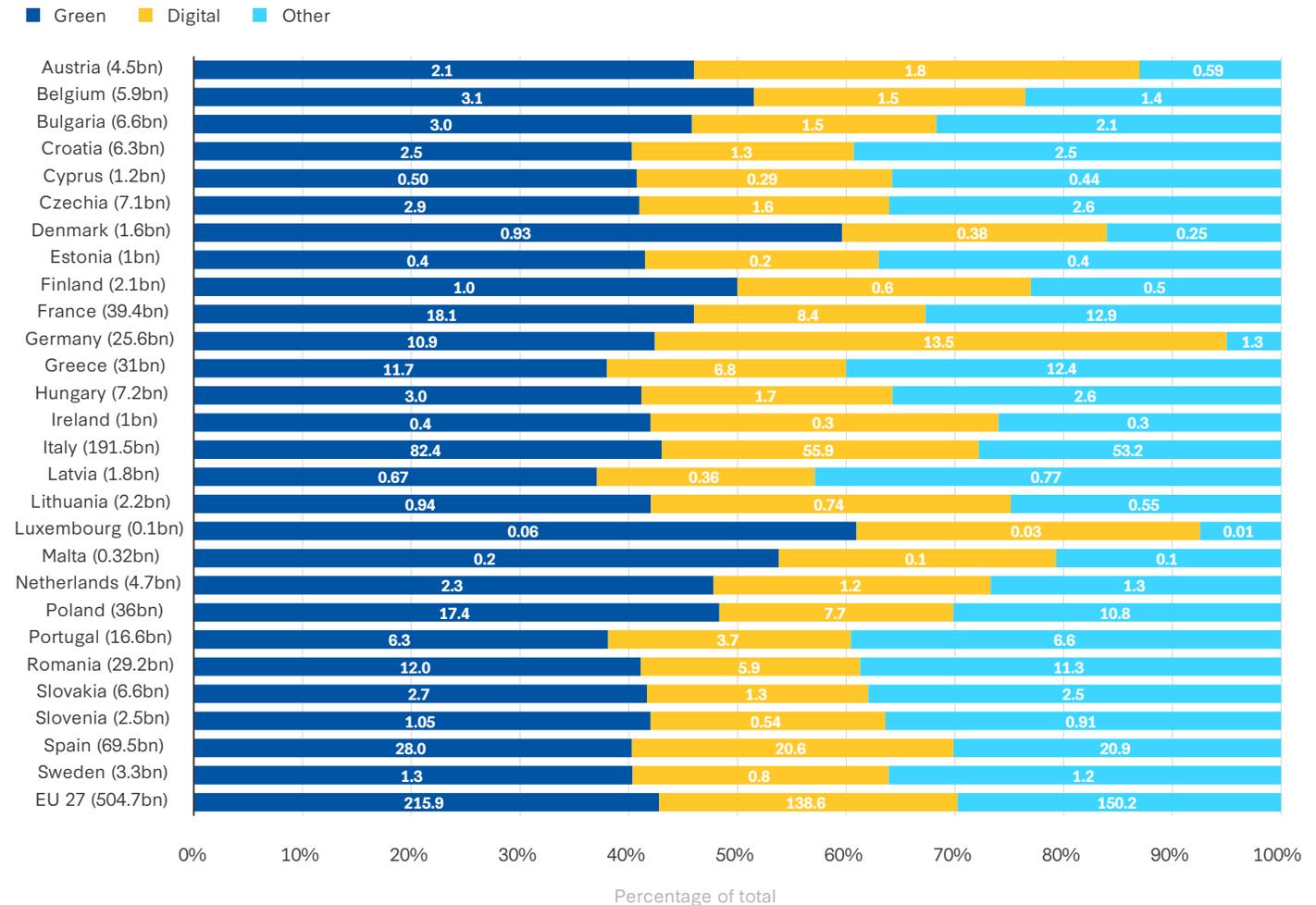
of RRF funding. Overall, variations in member state reporting methodologies and data gathering make it **difficult to assess** funding allocations per policy, particularly since policy areas such as digitization and the green transition often overlap.

Aggregate energy subsidies throughout the European Union have been steadily growing across several funding mechanisms. These include EU Important Projects of Common European Interest, the EU Innovation Fund, European Investment Bank (EIB) loans, and the InvestEU program. Subsidies have increased from €162.1 billion (\$171 billion) in 2015 to €187.7 billion (\$198 billion) in 2021. In 2021, total subsidies for all types of energy rose. Fossil fuel **subsidies** fell by 1.5 percent during 2015–2020, however, largely accounted for by a decrease in coal subsidies but a rise in oil and gas subsidies. On aggregate, solar energy has historically received the largest amount in subsidies, equivalent to €30 billion (\$33 billion) of all renewables in 2020, followed by wind at \$23 billion (€21 billion) and biomass at \$19 billion (€18 billion). Individual countries have opted for technologies with the higher local potential. For example, Cyprus, Greece, and Spain are pursuing solar, while forested countries such as Austria, Estonia, and Finland have favored biomass solutions. The three countries with the highest populations—Germany, France, and Italy—present more balanced spending across technologies.

Although the European Union has pursued the world’s most ambitious climate strategy over the last decade, the United States’ IRA has further accelerated the bloc’s climate ambitions. In December 2022, the European Union reached a final agreement on implementing the CBAM, a regulatory mechanism aimed at combating carbon leakage, whereby firms move to third countries with weaker emissions regulations. (This **CSIS brief** provides a more in-depth overview of the European Union’s regulatory approach to emissions as embodied in the CBAM and the EU ETS.)

In a January 2023 **letter** to the minister of economic and financial affairs, European Commission executive vice president Margarethe Vestager proposed a “new anti-relocation investment aid possibility for green investments in strategic sectors” as a direct response to third country public support that, according to the European Union, could lead to relocation of European

Figure 2: Overall Resource Allocation in National Recovery and Resilience Plans (percentage of total and billions of euro)



Source: Zsolt Darvas et al., “European Union Countries’ Recovery and Resilience Plans,” Bruegel, last updated February 20, 2023, <https://www.bruegel.org/dataset/european-union-countries-recovery-and-resilience-plans>.

firms, market fragmentation within the EU internal market, and additional subsidy races, all of which could affect overall EU “cohesion.” Following the issuance of this letter, the European Commission unveiled a concrete proposal for a new industrial plan.

The European Union’s **Green Deal Industrial Plan for the Net-Zero Age**, announced formally in January 2023, serves as the European Union’s complement to the IRA. The plan consists of four main pillars: (1) a predictable, simplified regulatory environment; (2) faster access to funding via a streamlining of EU subsidy policy; (3) skills; and (4) open trade for resilient supply chains. The first pillar seeks to simplify the EU regulatory environment and enhance overall industrial competitiveness by identifying industrial capacity by 2030, reforming the

mechanisms for permitting, and simplifying criteria for multicountry strategic projects. The second pillar consists of the substantial retooling of EU subsidy rules. The third pillar focuses on green skilling and inclusivity for women, noting that the European Pact for Skills aims to reskill up to six million people for employment in the green transition. The fourth pillar capitalizes on the strengths of pursuing an open trade policy. Overall, the new industrial plan provides **\$240 billion (€227.5 billion)** in loans and an additional \$21 billion (€19.9 billion) in grants for the promotion and deployment of green technology.

Initially unveiled at Davos in a **speech** by European Commission president Ursula von der Leyen, the European Union will undertake a comprehensive rewrite

of its state aid policy, making it significantly easier for countries to obtain subsidies for the green transition. The **state aid updates** consist of five major policy changes. The first simplifies aid for renewable energy technologies, including hydrogen and biofuel storage. It also eliminates requirements for public tender for less mature technologies, simplifying the funding process for emerging green technologies. The first pillar also extends deadlines for project completion, relaxing the overall requirements to receive state aid.

The second pillar of the new state aid plan seeks to streamline subsidies for industrial deep decarbonization. The third pillar of subsidies reform aims to create more flexible aid ceilings and enhances aid for industrial decarbonization technologies, including potentially matching aid received by non-EU competitors. The fourth pillar will provide additional production incentives in “strategic net-zero value chains, taking into account global funding gaps.”

The fifth major change under the subsidy reforms is the legal relationship between member states and the European Union in relation to the provision of state aid. The new rules represent a significant relaxation of the notification requirements for state aid. Historically, EU member states had to notify the European Commission when providing subsidies, whereas the new rules increase the threshold above which member states would be required to notify the European Commission about state aid. The rules also streamline the process for providing funding through the **Important Projects of Common European Interest** mechanism, which grants multicountry funding for projects of strategic importance to the European Union.

The European Commission is also slated to introduce additional green economy measures, such as the proposed **European Critical Raw Materials Act**. According to the **Green Deal Industrial Plan**, the act aims “to provide the EU security of supply, including by . . . facilitating extraction (where relevant), [and] processing and recycling, while ensuring high environmental standards and continuing research and innovation.” In addition to the critical minerals law, the European Commission will propose a comprehensive overhaul of its domestic electricity market, which seeks to transform industrial processes,

accelerate renewable energy deployments, and enhance overall energy efficiency.

The explicit recognition of the value of free trade in the green transition contrasts with the U.S. pursuit of local content requirements in the IRA. According to the Green Deal Industrial Plan, “On the one hand, open trade creates opportunities for our industry by opening new export markets and creating economies of scale. On the other hand, it provides access to raw materials, parts, [and] components, as well as services that our industry needs, given that two-thirds of our imports consists of intermediates.” The European Commission claims that it will continue to affirm its trade agenda by supporting ongoing efforts to reform the WTO, pursuing and enforcing free trade agreements (FTAs), and continuing to engage in ongoing dialogues such as the U.S.-EU Task Force on the Inflation Reduction Act.

In her **comments** during the unveiling of the Green Deal Industrial Plan, President Von der Leyen framed Fit for 55 as a detailed road map toward a European net-zero industry that sets specific goals, while the Green Deal Industrial Plan is meant to ensure that European industry acquires the proper funding efficiently, with the right talent, and in cooperation with allies and partners to achieve the goals established in the Fit for 55 road map. Through that road map, the European Council **agreed** to set a binding EU-level target of obtaining 40 percent of the overall energy mix from renewable sources by 2030, while the United States’ IRA could **reduce emissions** by 40 percent by 2030 compared with 2005 levels.

To meet these goals, EU member states must increase their national contributions outlined in their integrated national energy and climate plans, to be updated in 2023 and 2024. For instance, the new Social Climate Fund that will provide €72.5 billion (\$76.5 billion) in the EU budget in 2025-2032—corresponding to 25 percent of the expected revenues from the EU ETS that cover the building and road transport sectors—will be combined with national contributions of at least 50 percent. Likewise, the Effort Sharing Regulation meant to help member states cut carbon emissions in the building, transport, agriculture, waste, and small industry sectors by 40 percent in 2030 sets national targets based on gross domestic product per capita, with adjustments based on national circumstances and cost efficiency.

The European Council has set individual provisions divided by sectors. For instance, buildings need to achieve a target of 49 percent in renewables use, and 50 percent of hydrogen usage in industry should come from renewable fuels of nonbiological origin by 2035.

Taken together, these reforms—streamlining financing mechanisms for provision of subsidies, as well as an overall relaxation of subsidy rules themselves—represent a significant step toward a more federalized system of combating climate change at the EU level. Unlike the U.S. equivalent package, however, the EU proposal does not contain direct references to local content requirements or other provisions that could be viewed as discriminatory or in conflict with multilateral trade rules.

U.S. AND EU CLIMATE PACKAGES: INCREASED INCENTIVES, DIFFERING APPROACHES TO CONTENT REQUIREMENTS, AND A NEW INDUSTRIAL STRATEGY ERA

The United States continues to rely on incentives, scaling up energy—including fossil fuels—to promote energy security while also transitioning to a more sustainable economy. Although the United States maintains an incentives-based approach, it does administer a host of rules aimed at reducing emissions. These include the **Cross-State Air Pollution Rule**, and the government maintains standards on emissions from vehicles, as well as Mercury and Air Toxic Standards. Several states, such as California, also maintain a price on carbon, but the lack of a federal rule on emissions stymies progress on deeper decarbonization overall.

One of the major differences in the transatlantic approaches to combating climate change has been the EU reliance on regulatory mechanisms, as captured in its domestic price on carbon, the EU ETS, and the ensuing the CBAM. The EU approach thus highlights not only the bloc's desire to implement stringent rules for the sake of combating climate change but also the recognition that these policies risk making EU industry less competitive over time. This recognition has led to the border adjustment—which is intended to prevent carbon leakage—whereby firms move abroad to jurisdictions with less stringent regulation. Thus, the EU regulatory approach is buffered somewhat by this

border adjustment mechanism, which the European Union regards as a primarily domestic rule. At the same time, acknowledging its implementation will have international consequences.

The European Union has begun to reconsider its approach to incentives. This shift in approach is particularly evident in its new industrial plan and suggests that the European Union is increasingly recognizing the value of incentives in unlocking capital investments to accelerate the green transition.

Comparing EU and U.S. approaches to climate change reveals several key takeaways:

- 1. The European Union sees value in the U.S. approach.** Although the European Union has made a diplomatic incident of the IRA, the introduction of what essentially constitutes mirror legislation, a mere six months after the IRA passed, suggests that the bloc recognizes the value incentives hold in accelerating the green transition.
- 2. The approaches share fundamental similarities.** Both plans mark an increased commitment to environmental spending, with the European Union and the United States committing approximately \$270 billion and \$390 billion, respectively, not including spending outside of the Green Deal Industrial Plan and the IRA. Both the IRA and the Green Deal Industrial Plan attempt to significantly scale up EVs through battery tax credits. The European Union and the United States have expressed a commitment in their respective plans to pursue robust reskilling programs for clean energy jobs.
- 3. Key differences persist.** The European Union and the United States continue to pursue different approaches to the intersection of international trade and climate change mitigation.
 - The United States is pursuing smaller, sectoral deals such as the Global Arrangement on Sustainable Steel and Aluminum, while the European Union continues to affirm its commitments to the multilateral trading system and the WTO by pursuing a host of formal FTAs.

- The United States remains committed to a largely incentives-based approach, while the European Union focuses on a mix of regulatory and incentives-driven policies.
- The European Union has introduced additional green economy measures on **raw materials**, while the United States did not specifically focus on this in the IRA.

4. The parties need to clarify the rules and guardrails for green industrial and trade policies. In recognizing that subsidy rules need to change, it is unclear whether the overhaul of state aid rules will create pressures for broader changes in the WTO—for example, advancing discussions around the idea of a Peace Clause, whereby countries agree not to litigate over climate-based policies that violate trade rules—or whether the United States is prepared to abandon traditional trade rules.

5. “Cooperative competition” can facilitate a virtuous cycle of climate and trade cooperation. By identifying mutual goals and policy red lines, the European Union and the United States can help lay the foundation for a virtuous cycle that leverages trade policy for the benefit of the climate. If implemented correctly, respective industrial strategy packages could remake the transatlantic green economy by growing nascent industries, protecting more analog industries like solar, and moving the parties closer into climate club territory at the expense of the Chinese.

CONCLUSION

The United States passed the IRA, the Infrastructure Investment and Jobs Act, and the CHIPS and Science Act, which together account for nearly \$600 billion in climate spending. The European Union has continued to pursue—and in some cases accelerated—its aggressive attempts to combat climate change. Although the IRA seems to have encouraged the European Union to pursue even more aggressive measures for fighting climate change, the EU plan is in some ways motivated not only by a desire to decarbonize, but also by nascent trade disputes such as dissatisfaction with the IRA’s local content requirements.

It is also unclear to what degree the policies currently underway on both sides of the Atlantic may run afoul of existing trade rules. The local content requirements in the IRA are clearly problematic, as they likely violate the WTO’s nondiscrimination clause. The EU package, on the other hand, will face hurdles when it comes to potential tensions with the subsidy rules under the Agreement on Subsidies and Countervailing Measures, and the CBAM is likely to invite challenges of its own in the WTO, particularly on nondiscrimination rules.

The trade purists will claim that the rules are the rules and that they have been designed to facilitate the efficient, cheap flow of goods and services that can accelerate global decarbonization efforts. The environmentalists, on the other hand, will argue that the trade rules have in part facilitated climate change and that the rules must be adjusted to accommodate the climate crisis. Regardless, the WTO needs to adopt a clear strategy for helping countries achieve the “virtuous cycle” outcome at the intersection of trade and climate.

The WTO can do this by signaling how it would effectively treat carbon border adjustments versus local content requirements and by more clearly identifying red lines at the intersection of climate, trade, and industrial policy. There are two primary options for the WTO. One option is to negotiate changes to the rules, which would invite a politically fraught and very slow process. The other, and more likely, option, is that the WTO panels will decide issues on a case-by-case basis, in the process developing case law that would likely be applicable to future cases.

The climate emergency is a global commons problem that is most effectively addressed through multilateral cooperation and solutions. As **CSIS has previously written**, the world is confronted with three primary scenarios at the nexus of climate and trade: (1) a cycle of mutual recrimination in which countries pursue protectionist policies and trade frictions grow, (2) a virtuous cycle whereby countries engage in cooperative competition to fight climate change, or (3) a “big yawn” in which the status quo remains and countries make little to no progress combating climate change. For now, all roads point to a virtuous cycle provided that the parties maintain the right guardrails. ■

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