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# Trade, Trump & Tractors: 2024 Battlefronts in the Climate Transition

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**This short paper by Brian Hensley, Valerie Fowles, and Asta Lappetelainen at Kaya Partners, a specialist climate policy consultancy, has been commissioned by the Inevitable Policy Response ([IPR](#)). The views in this report do not necessarily reflect the views of the IPR Research Consortium.**

**IPR's assessment of the 2024 policy dynamic, the impacts of the transition battlefronts outlined in this paper, and its half-year forecast review can be found [here](#).**

**IPR is a climate transition forecasting consortium commissioned by the Principles for Responsible Investment (PRI) whose aim is to prepare investors for the portfolio risks and opportunities associated with accelerating policy responses to climate change.**

**The key outputs of IPR consist of the Forecast Policy Scenario (FPS) and quarterly briefings that track global policy progress against the FPS. The FPS is intentionally designed to be long-term, running out to 2050 and beyond. More information on IPR [is here](#).**

**Efforts to limit global warming should be the ultimate exercise in collaboration, but the reality is quite different.** In this paper, written for the Inevitable Policy Response, Kaya Partners looks at 4 transition ‘battlefronts.’

Each front has been chosen for its potential impact on the achievement of the IPR forecast of global net zero CO<sub>2</sub> emissions in the 2060s and temperatures peaking in the latter part of the century at 1.8°C above pre-industrial levels. Kaya Partners, in collaboration with the IPR Research Consortium, has selected those areas we consider potentially most material in terms of their impact on the forecast both in the short- and medium-term.

**We begin with two fronts pertaining to trade; the first is *minimizing Chinese supply chain dependence vs. maximizing decarbonisation*.** We examine how the energy transition is now caught in the vortex of an escalating global trade rift. This arises from an incompatibility between fast and cheap renewable energy dependent on a Chinese monopoly and geopolitical security.

The US is assuming a maximalist approach to curbing Chinese dumping of clean energy goods, with a full understanding that costs may rise, and the pace of transition may slow, in the short term. For the US, a transition controlled by China is not sustainable, predictable, or acceptable.

For its part, China is doubling down on its mercantilist strategy of exporting its way out of an economic slump, to the increasing chagrin of global trade partners. The EU is reluctantly aligning with the US, while other nations have yet to decide their positioning. Historically, high trade imbalances have led to grand bargains in the past, like the 1985 Plaza Accord which saw G5 countries intervene in currency markets to address a misalignment of global capital.

Trade imbalances are even more extreme now, and a ‘Climate Plaza Accord’ could address this while also solving for climate transition. As political conditions are not ideal for this presently, we think a clean energy trade ‘war’ is a base case scenario. Such a base case may be consistent with the IPR forecast given its relative pessimism on renewables deployment until 2030 compared with other forecasts and scenarios (particularly the IEA and the “Tripling Renewables” pledge from COP28) and the ‘supply glut’ impacting the market even with trade barriers.

**The second transition battlefront involves *the incorporation of embodied carbon into global trade*.** In contrast to our first battlefront, this aspect of trade is a medium to long term positive for the climate, adding a concrete method of reducing global emissions to the voluntary UNFCCC process. This is generally captured under the concept of Carbon Border Adjustment Mechanisms (CBAMS), but can be constructed in many ways, as explored in this paper.

IPR forecasted the development of such a system as early as 2019, recognizing the important role that EU leadership could play in incentivizing decarbonisation outside its borders through mechanisms like CBAMs, as well as other instruments (e.g. trade agreements, deforestation-free supply chain). While the implementation of such systems supports IPR forecasts, challenges remain.

At Kaya Partners, we believe the EU CBAM will not be implemented as currently written but see the period ahead of its 2026 ‘start’ date as the moment in which climate policy becomes forever intertwined with trade policy. Climate is now trade, and trade is now climate. We examine the difficulties and opportunities offered by different US Congressional alternatives to an EU CBAM and by a ‘Climate Club’, a concept which has support from the G7 and the current White House.

We define 10 policy challenges to address in a ‘Climate Club’, and drill down into a steel negotiation framework. History may judge the outcome of this battle as important as the creation of the Bretton Woods system which has regulated the international financial order since the end of WW2.

**In battlefront 3, we give our take on *what Trump 2.0 vs Biden 2.0, or other Democrat candidate, means for the climate, and it's not all about the Inflation Reduction Act (IRA)*.** At time of writing, President Biden's position as the incumbent Democratic candidate for the US Presidency is in doubt. Biden's July 27<sup>th</sup> debate performance has resulted in a 20-percentage point drop, to 30%, in betting odds for him to be re-elected. Our analysis accounts for this to the extent possible, offering a framework upon which to evaluate Trump vs. either Biden, or other Democratic candidate in terms of what they would mean for US climate efforts.

Opinions have calcified already on what a Trump, or Democratic President, would mean for the Inflation Reduction Act (IRA), the marquee climate legislation passed in 2021. Namely, that it will not be repealed in full, regardless of the outcome of the November 5<sup>th</sup> elections, rather surgical alterations will be applied on an individual tax credit basis. On this we are aligned, but we expand the discussion with a heat map examining other variables critical to the transition.

These include the prospect of \$100s of billions in funds from the Department of Energy Loan Program Office going unused, the impact on grid permitting and transmission negotiations, treatment of China, the Supreme Court's erosion of the administrative state, and the impact of a potential return of former Trump trade representative Robert Lighthizer on global supply chains and the US Dollar.

The roll-off of Trump's \$2tr 2017 tax cuts in 2025 will be a forcing mechanism for hard decisions, regardless of who is in charge. The outcome of the election is on highly uncertain, and considering the significant role this election has for its forecast, IPR has decided to postpone its 2024 policy forecast update until after the US elections.

**Finally, we divert to the unique dilemma of agriculture and the *battle to make this sector part of the emissions solution, rather than the problem*.** Little progress has been made in the battle to reduce emissions from agriculture (responsible for a quarter of all emissions). We examine this through the lens of the EU where efforts to reduce emissions from land use and agriculture have been, and are currently forecast to remain, a failure.

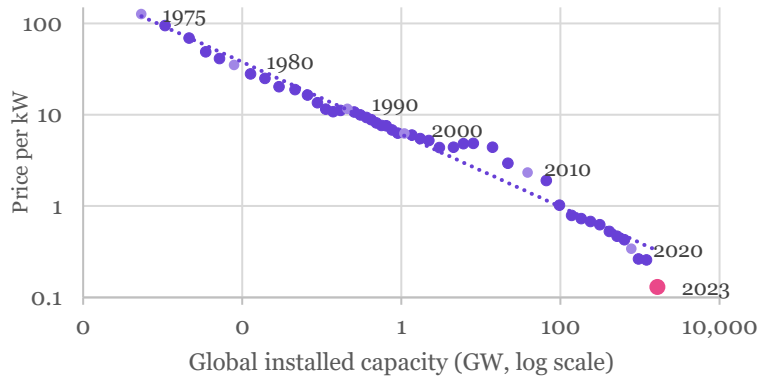
The outgoing 'Green' EU Parliament has ceded crucial ground on this issue in the wake of farmer protests (ripping up roads with tractors) and backlash from citizens finding refuge in the populist rhetoric of right-wing politicians. Forecasts by the EU Commission reveal an implicit surrender in the fight to reduce agricultural emissions but could be framed as a 'call to arms'. Negotiations on the next Common Agricultural Policy and the potential creation of an 'Agricultural ETS' are two crucial developments to follow.

We look at the recent 'Danish Solution' and ask if this could crack the code of policy failure for other countries or the EU itself (hint, by providing more carrots and not just sticks). Our case study of the Netherlands, the world's second largest agriculture exporter, reveals how farmers on tractors can upend a government and install a blueprint for freezing climate policy.

Transition Battlefront 1: Maximising decarbonisation, minimising China’s hold on clean energy

In our 2022 paper<sup>1</sup>, we described how new western industrial policy set the scene for a global clean energy race. We foresaw a major risk that “a subsidy race [could] lead to overt trade protectionism and export restrictions... [with] negative consequences for the transition.” That risk has borne out, caused by a glut of clean energy exports from China which has handicapped other entrants in this race. US and European policymakers might be excused for underestimating the race’s scale and cost, as China’s unprecedented clean energy production and exports have lowered prices beyond what would have been explained by historical learning curves (Figure 1)<sup>2</sup>.

Figure 1. Solar prices have fallen below Wright’s Law modelling



Source: Ember, 2024, [link](#)

**Low clean energy technology prices do not inherently benefit the transition if companies are disincentivized from investing in production.** Indeed, it has been argued that the ability to make a *profit* matters for the transition more than cheap prices for consumers<sup>3</sup>. A country’s lack of investment in clean energy manufacturing results in a loss of the associated manufacturing jobs and industry critical to political stability<sup>4</sup>.

Geopolitically, this is an untenable situation. China hosts 30% of global manufacturing<sup>5</sup>, a position which erodes the ability of other nations to maintain manufacturing capabilities for critical technologies, including weapons. Russia’s invasion of Ukraine, which China is militarily, politically, and economically supporting,<sup>6</sup> has highlighted the risks of this dynamic to Western nations.

Table 1. China domination of clean energy: pros and cons

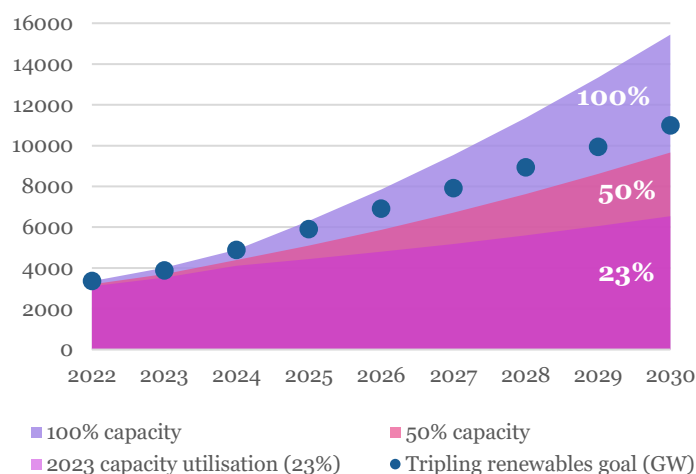
Pros	Cons
<ul style="list-style-type: none"><li>• Cheap (short term)</li><li>• Fast installation</li><li>• High volumes</li><li>• Economies of scale / learning curves</li></ul>	<ul style="list-style-type: none"><li>• Market monopolization and price control</li><li>• Exposed to military conflict risk</li><li>• Data security risks</li><li>• De-industrialisation of other economies</li><li>• Relatively more carbon intensive</li><li>• Lower environmental and labour standards</li></ul>

**Reliance on China as the world’s global factory for renewable energy technology comes with advantages and risks.** While offering the prospect of a cheaper, faster global clean energy build out, China’s mercantilist policy of exporting overcapacity threatens other countries’ industrial bases and, consequently, national security. Western nations, confronted by this dilemma, are wrestling with how to minimise Chinese dominance, while maximising decarbonisation. A dramatic trade schism is now possible, and perhaps likely, with ramifications not only for the climate but also global prices and geopolitical alliances. **Table 1** offers some simple pros and cons of this dynamic.

<sup>1</sup> Race to the top on clean energy – The US and EU response to China’s dominance, Kaya Partners, 2022, [Link](#)  
<sup>2</sup> Wrights law posits a certain percentage fall in prices per doubling of production. Wrights law is more commonly referred to as a ‘learning curve’.  
<sup>3</sup> Christophers, 2021, [Link](#)  
<sup>4</sup> New Political Economy, 2021, [Link](#)  
<sup>5</sup> Liberty Street Economics, 2024, [Link](#)  
<sup>6</sup> US-China Economic and Security Review Commission, [Link](#)

**By some estimates, China could supply the world with enough solar, batteries and wind to reach Net Zero.<sup>7</sup>** We extrapolate WoodMac expectations for solar production, showing a 2030 path whereby the COP goal of tripling renewables could be met by Chinese solar module output alone *if* factories operated near 100% capacity (Figure 2)<sup>8</sup>. However, even current supply exceeds the global ability to digest it. Chinese solar firms operate historically at 55% utilisation, (i.e., global demand is half of what China can produce). 2023, the year prices dropped below Wright's Law forecasts as per **Figure 1**, witnessed an abysmally low utilization rate of 23%. The result is a perfect strategy not for the planet but for Chinese companies to put competitors out of business as excess supply crushes prices. Other nations could, and should, take advantage of oversupply, but structural impediments to absorb this excess (grid expansion, etc) will realistically take years to solve.

**Figure 2. Chinese solar panel manufacturing capacity vs. the COP28 Tripling Renewables goal**



Source: Kaya Partners, adapted from WoodMac 2024; IRENA, 2023

**The success of the *Made in China 2025* strategy (enacted the same year Xi and Obama endorsed the Paris Agreement) enables China to profit from other nations' pursuit of Nationally Determined Contribution (NDC) targets.** This strategy has yielded immense benefits; clean energy exports accounted for 2 of the 5% of China's economic output in 2023<sup>9</sup>. Indications are that China will continue relying on subsidized exports of clean energy product to support economic growth. Chinese Minister of Foreign Affairs Wang Yi responded to recent US Section 301 tariff increases by claiming "unilateralism and protectionism... are bound to be crushed by the wheels of history"<sup>10</sup>. Beyond rhetoric, China's unchanged 2024 budget deficit target of 3% suggests no plans to boost household consumption, a necessary ingredient to increase *domestic* demand and rebalance an economy overly dependent on exports. In an unambiguous display of ambition, Chinese car companies are building new fleets of ships to transport vehicles abroad, as opposed to renting space on existing fleets<sup>11</sup>. This strategy could enable Chinese manufacturers to capture 50% market share of the EU's EV market, up from 19% now, even accounting for EU tariff increase on Chinese EVs<sup>12</sup>.

**President Xi's strategy has pivoted further toward autarky, a so-called 'completeness' of the manufacturing sector that retains lower value segments of the supply chain rather than discarding them in favour of higher value-add product.** In the extreme, China's aim is to deny its market to other countries for products it can manufacture itself, including to countries lagging in the developmental cycle (e.g., Africa)<sup>13</sup>. It accomplishes via various mercantilist measures, including unparalleled subsidies 3-9x greater than other large OECD and EU countries<sup>14</sup>.

**China's clean energy export strategy is stressing global trade imbalances beyond historical norms.**

Currently, the US has a \$1tn global goods trade 'deficit', meaning it buys more than it sells; 1/3<sup>rd</sup> of that deficit is directly with China. China has a \$860bn goods trade 'surplus' with the world (Figure 3). This is reminiscent of 1985 (but more extreme), when the US faced a significant goods trade deficit of \$150bn (\$437bn today, adjusted for inflation).

<sup>7</sup> WoodMac, 2024, [Link](#)

<sup>8</sup> The 'tripling goal' being a necessary but not sufficient requirement for 2050 Net Zero.

<sup>9</sup> CarbonBrief, 2024, [Link](#)

<sup>10</sup> Ministry of Foreign Affairs of the People's Republic of China, 2024, [Link](#)

<sup>11</sup> Rhodium Group, 2024, [Link](#)

<sup>12</sup> Rhodium Group, 2024, [Link](#)

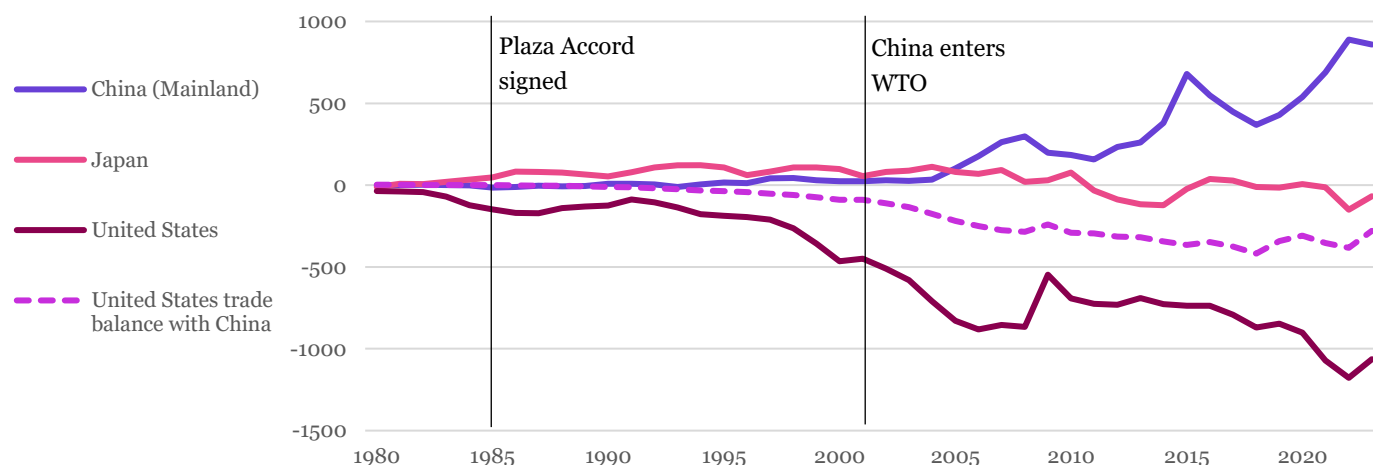
<sup>13</sup> The Tangled Woof, 2024, [Link](#)

<sup>14</sup> Kiel Institute, 2024, [Link](#)



In response to this perceived imbalance, the US, Japan, UK, Germany, and France collaborated in the Plaza Accord to weaken the US Dollar, aiming to mitigate the destabilizing situation wherein countries were overly dependent on US customers.

**Figure 3. Trade balance of goods (services excluded) for selected countries (billions USD)**



Source: Kaya Partners, data from IMF, 2024. [Link](#)

**The US is employing an increasingly comprehensive strategy to counter China's dominance, with strong bipartisan political backing.** The Biden Administration's recent decision to raise Trump's original Section 301 tariffs<sup>15</sup> is part of a broader effort to address China's circumvention of direct trade barriers. More measures (both trade and non-trade) are likely to follow to prevent Chinese goods entering the US via other countries (e.g., Southeast Asia, India, Mexico). This is in addition to imposing data security restrictions on imported EVs<sup>16</sup>, incorporating labour and environmental standards into antidumping and countervailing duties (AD/CVD) cost basis requirements, allowing AD/CVD trade investigations based on third country subsidies<sup>17</sup>, broadening the scope of the Uyghur Forced Labour Protection Act<sup>18</sup>, and adjusting IRA provisions to China's interim export surge.

**Not all countries have decided how to position themselves between the US and China.** The EU Commission, (under Ursula Von der Leyen), and France have expressed tough sentiment against China. French Finance Minister Bruno Le Maire recently called for a united front against China's industrial overcapacities<sup>19</sup>. In contrast, German Chancellor Scholz, under pressure from the automotive industry, espouses free trade with China. Germany's stance is notable given its past mistake of over reliance on cheap fuel from Russia. On a similar track, Germany's 'critical dependency' on China has increased from 6% in 2004 to 22% in 2022<sup>20</sup>. Australia has committed to building clean energy supply chains with the US which limit China even while pursuing "stable and direct" relations with China, as evidenced in China Premier Li Qiang's recent visit to Canberra<sup>21</sup>. The UK is ideologically aligned with the US but shares a still-important trading partnership with the EU and has enormous banking ties to China. The US pushed aggressively for, and was rewarded with, a harder G7 stance on Chinese trade policies in the recent meetings in Italy, but other nations will have to see what the US is proactively offering in exchange for further support.

<sup>15</sup> A Section 301 investigation in 2018 determined that China's acts, policies, and practices related to technology transfer, intellectual property, and innovation are unreasonable and discriminatory. Tariffs were consequently imposed on approximately USD 370bn worth of goods imported from China, including solar cells and modules, batteries and battery components, and other critical technologies.

<sup>16</sup> AP, 2024, [Link](#)

<sup>17</sup> Wiley, 2024, [Link](#)

<sup>18</sup> The Uyghur Forced Labor Prevention Act (UFLPA) prohibits the importation of goods into the US manufactured wholly or in part with forced labour in China, especially from Xinjiang

<sup>19</sup> Bloomberg, 2024, [Link](#)

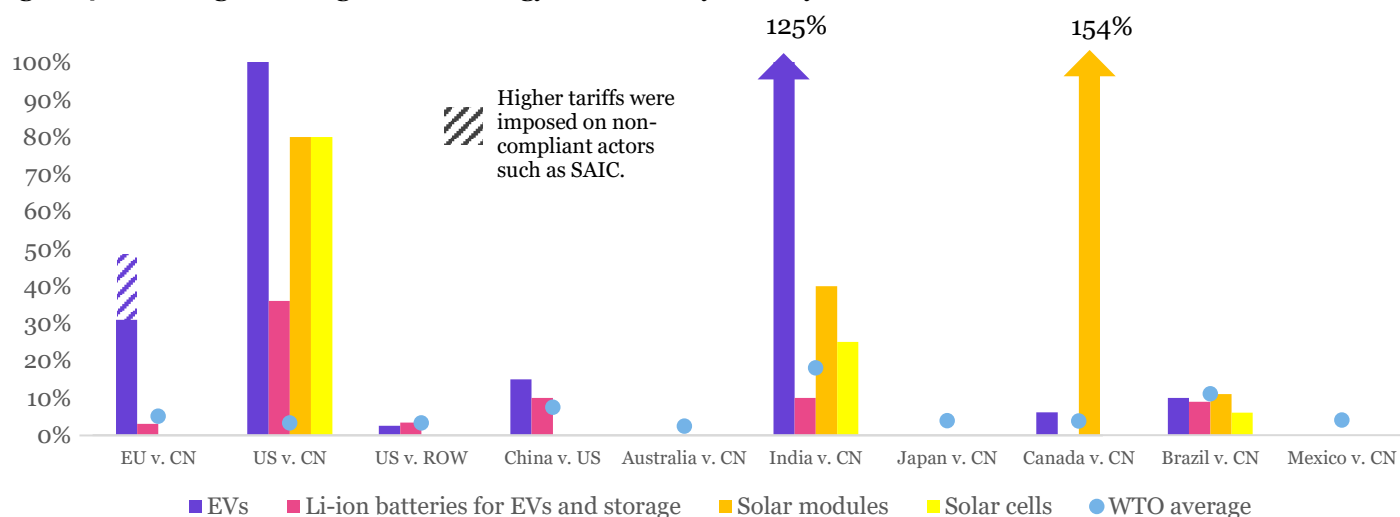
<sup>20</sup> Allianz, 2024, [Link](#)

<sup>21</sup> Prime Minister of Australia, 2024, [Link](#)

**Figure 4 shows differing trade approaches to dealing with Chinese clean energy trade imbalances:**

1. Tariffs across major economies are uncoordinated but show a tendency toward strong trade barriers on China. Tariffs on certain critical technologies are generally higher than the country's weighted average tariff rate.
2. The level of tariffs differs by product, reflecting different strategies of each country. For example, India has essentially banned Chinese EV imports to develop its own industry on the back of imported Chinese batteries, on which the tariff is over 100% lower than the finished car product.
3. Japan and Australia have no tariffs against China on critical infrastructure or components, having negotiated Free Trade Agreements as part of the Regional Comprehensive Economic Partnership (RCEP)<sup>22</sup>. India was the only one of 15 Asian countries invited to the RCEP who opted out. The case study below highlights how India utilizes high, actively changing, tariffs on China to arbitrage gaps in the US–China trade relationship in order to profit and to develop a domestic solar PV industry (Figure 5). Mexico has an open-door policy to Chinese goods and can export those with no tariffs into the US.
4. The EU is reacting to its exposed position of being a soft target and huge market for Chinese goods by raising EV tariffs.

**Figure 4. Tariff regimes for green technology industries by country**



Notes: Chinese auto manufacturer SAIC

Source: Kaya Partners, data from WTO, 2024.

**That any single nation can penalize the world on products necessary for global decarbonisation is an unaffordable risk to the transition.** China holds a clean energy monopoly, with an 80% or greater market share in 11 sectors deemed critical to the clean energy transition<sup>23</sup>. One could argue that global monopolies exist in critical sectors already, with the approval of the West, such as TSMC (61% of global semiconductor chip production<sup>24</sup>) and ASML (80% of chip lithography<sup>25</sup>). However, a Chinese monopoly on batteries, wind, EVs and other critical technology manufacturing raises concerns because China has previously exploited its dominant position by using export duties, quotas, and trading rights to undermine competitors, often for geopolitical rather than trade reasons. The WTO ruled in 2012 that this was the case for rare earths, tungsten, and molybdenum<sup>26</sup>. More recently, China imposed export licensing restrictions on gallium, germanium, and graphite, key transition minerals for all countries, responding to US export controls on semiconductor technology to China. Monopolistic leverage, regardless of what prompts its use, must be hedged.

<sup>22</sup> The Regional Comprehensive Economic Partnership (RCEP) is the world's largest trade agreement. Its members include AU, CN, JP, NZ, KR, BN, KH, ID, LA, MY, MM, PH, SG, TH, and VT. India was initially invited but withdrew, concerned about the protection of its domestic industries and agriculture from a potential surge in imports, particularly from China.

<sup>23</sup> Bloomberg, 2024, [Link](#)

<sup>24</sup> Data for Q42024. Statista, 2024, [Link](#)

<sup>25</sup> MoneyWeek, 2024, [Link](#)

<sup>26</sup> WTO, 2014, [Link](#)



## Case Study 1: India's activist approach to clean energy supply chains, a solar PV example

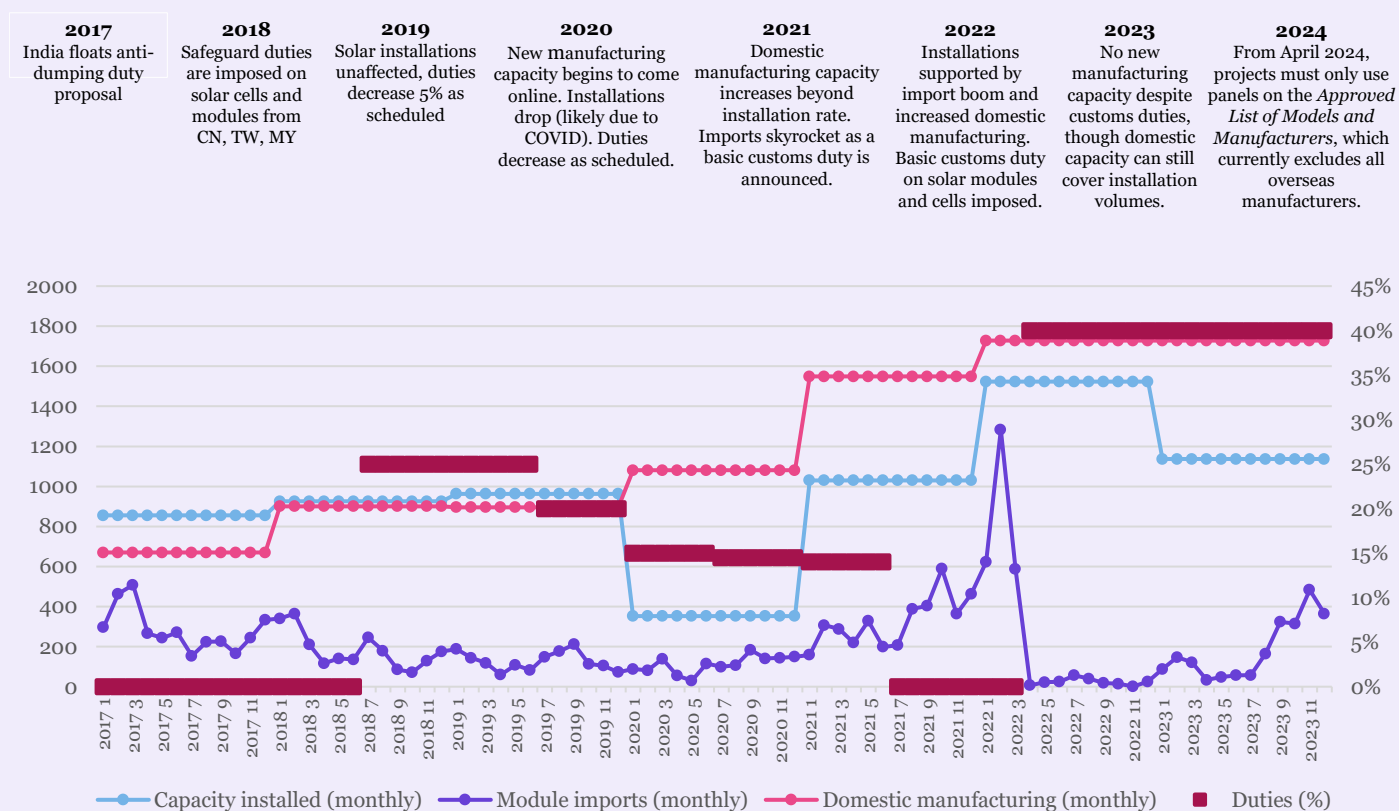
India takes full advantage of its developed market status under the WTO and its position between major economies to create value-add domestic industries and exploit value chain arbitrage. It uses tariff and non-tariff measures, adjusting both frequently to profit from rigidity in international trade agreements. Refining Russian oil for sale to the West is a classic example of this, solar is another.

India's current strategy in solar PV is to impose tariffs on Chinese solar cells (25%) and modules (40%), while allowing Chinese wafers to remain tariff-free. India can then manufacture cheap cells and modules from Chinese wafers for export to the US, avoiding US tariffs currently imposed on solar modules and cells from China and AD/CVD cases against SE Asian countries exporting Chinese solar cells and modules to the US. India has directed all solar module exports to the US amounting to 880 MW in March, 67% higher than the previous monthly record.

Figure 5 shows the history of India's tariff duties on panels. India slammed the door on Chinese module imports in early 2022, the result of which has been a slight reduction in monthly installation rates but continued high manufacturing. This has allowed for greater exports. The latest uptick in module imports from China, despite 40% tariffs, has led India to introduce the Approved List of Models and Manufacturers (ALMM), styled as a 'domestic instrument' requiring production standards but which essentially excludes overseas manufacturers. This could facilitate the export of domestically produced panels to the US at high prices, despite the use of Chinese components. Kaya Partner's view is that AD/CVD cases will soon be brought against Indian companies like the SE Asian case to prevent this from occurring.

\* Solar module production starts with polysilicon, which is turned into wafers, which are used in cells, which are assembled into solar panels, aka modules.

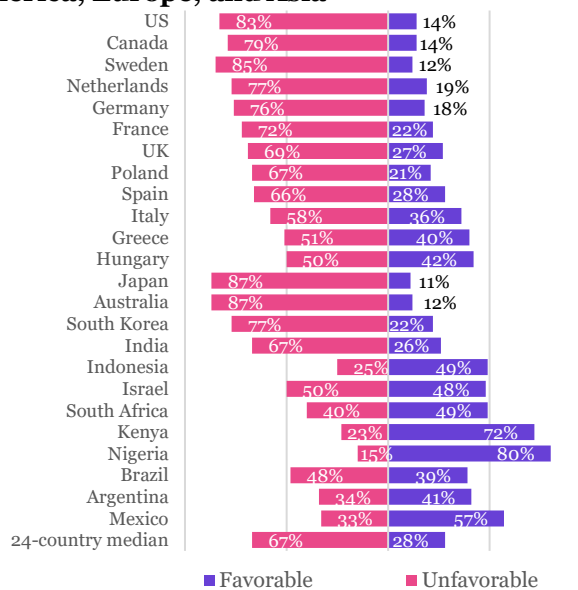
**Figure 5: The impact of tariffs on India's solar manufacturing industry and solar installations**



Source: Kaya Partners, data from Bloomberg, 2024; CBIC, 2024

A successful supply chain requires a quality product, effective transport, and appropriate political conditions<sup>27</sup>. It is the latter that China lacks. **Figure 6** shows 2/3rds of major economies view China ‘unfavourably’. This is likely influenced not by China’s acumen as a manufactured goods supplier as much as its anticompetitive business practices and geopolitical provocation (e.g., South China Sea, border with India, support for Russia against Ukraine)<sup>28</sup>. Positive attitudes toward China (the other 1/3<sup>rd</sup>) correlate with benefitting from the Belt and Road Initiative. But hostile geopolitical stances matter for supply chains, as seen with the EU’s misguided reliance on Russian gas ahead of the Ukraine invasion. This polling highlights how clean energy supply chains could continue to develop between blocs of nations. We forecast a strengthening of the AUKUS framework (Australia, UK, US) and/or potentially adding Japan/Canada as part of a JAUKUS/CAUKUS or ‘JAUKUSC’, under a Democratic Administration.

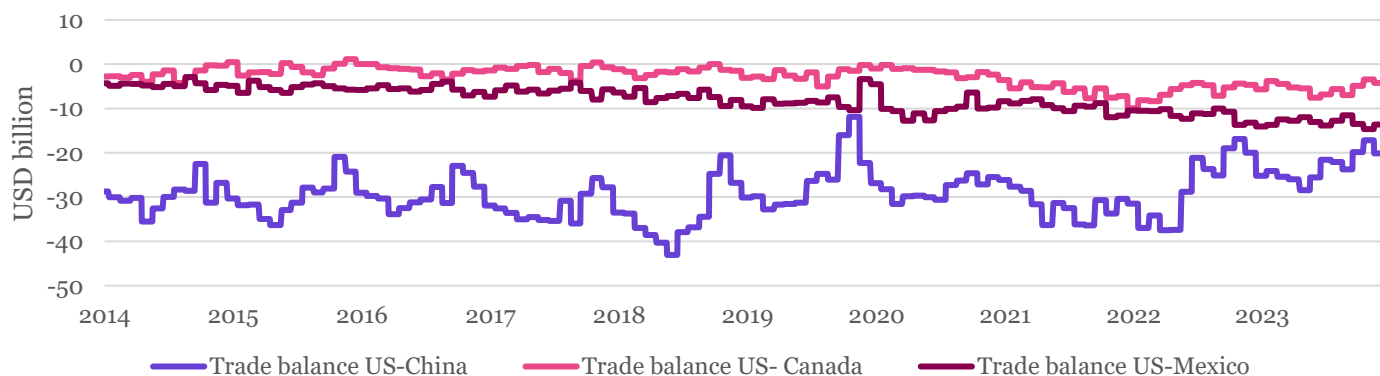
**Figure 6. China is seen unfavourably in North America, Europe, and Asia**



Source: Pew Research Center (2023), [source](#)

**Traditional trade deals will be altered by this moment.** As part of USMCA (formerly NAFTA), there are no tariffs on trade between the US, Mexico, and Canada. The US trade deficit with Mexico hit a record \$14.7bn in March 2024, coinciding with US imports from China falling to the lowest level in 4 years (**Figure 7**). This is explained in part by China’s US tariff circumvention efforts via Mexico. US officials like Gina Raimondo (Secretary of Commerce), Lael Brainard (Director of National Economic Council), and Katherine Tai (US Trade Representative) have all hinted at future measures to address China’s use of countries like Mexico to get around import restrictions<sup>29</sup>. Robert Lighthizer, Trump’s former Trade Representative and architect of the USMCA will certainly look to address these imbalances (see Battle 3). These trade dynamics will play a key when the USMCA is reviewed in 2026<sup>30</sup>.

**Figure 7. Decline in US monthly trade deficit with China matched by increasing US deficit with Mexico.**



Source: Kaya Partners adapted from Bloomberg, 2024

**Why does this all matter for the climate?** Simply put, duplication of supply chains will likely increase the cost of the transition for end consumers, at least in the short term.

<sup>27</sup> Mulder, 2022, [Link](#)

<sup>28</sup> USTR, 2023, [link](#)

<sup>29</sup> Politico, 2024, [Link](#)

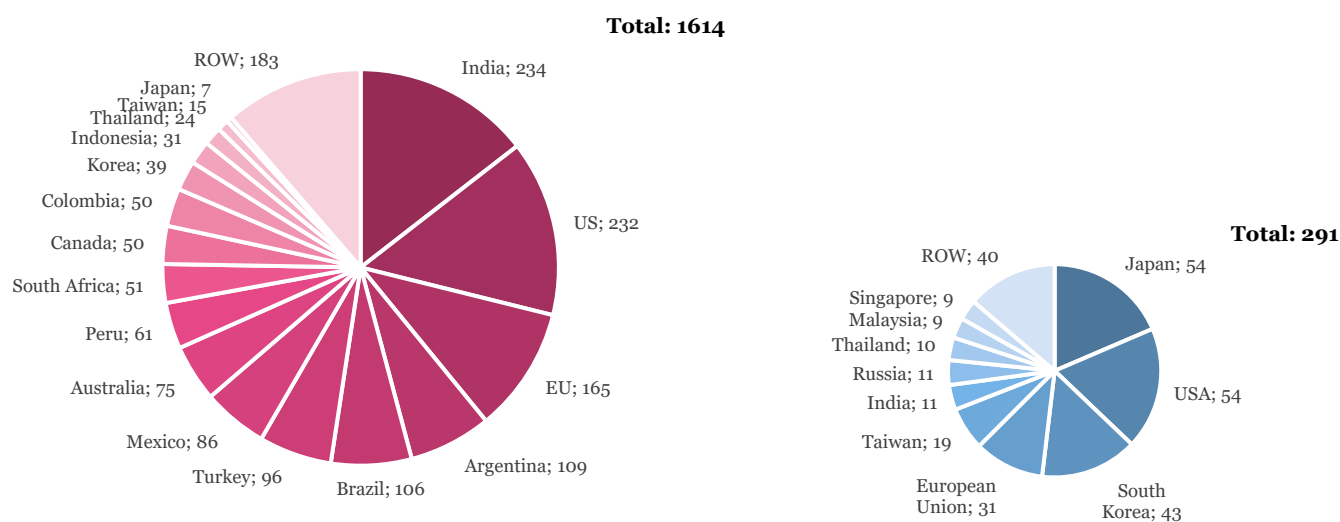
<sup>30</sup> Politico, 2024, [Link](#) and Arnold&Porter, 2024, [Link](#)

We have described a scenario where the two most powerful countries in the world are at odds on whether the manufacturing of clean energy should be a monopoly granted to one country and whether historically high trade imbalances should be reduced or expanded. China and the US compete for alliances with other countries, meaning this bilateral disagreement will spread to larger blocs.

**Some have floated a solution to use international finance to purchase Chinese clean energy overcapacity for installation in developing countries<sup>31</sup>.** While elegant on paper, in practice this is challenging, not least because it would require the use of G10 money to subsidize the overcapacity China is creating with unprecedented subsidies<sup>32</sup>.

Developing countries have raised their own complaints against aggressive Chinese dumping and may not wish to become saturated with cheaper Chinese goods. India and Argentina have accused China of nearly as many anti-dumping cases as the US and EU (Figure 8).

**Figure 8. Anti-Dumping Cases targeting (L) and brought by (R) China (1992-2021)**



Source: World Bank, 2021

**A trade war could be avoided.** In the absence of cooperation between China and the west, unilateral measures can be deployed. For example, China's huge solar, wind, and battery companies compete primarily among themselves, not with laggards in other countries. These companies are eager to find more lucrative markets outside of China. In China, this strategy is called something akin to *go abroad or die*. The US and other countries could take lessons from China's playbook, using this opportunity to structure intellectual property transfer and licensing agreements with Chinese companies setting up internationally (see Battle 3).

This could mitigate the risk that billions are wasted on failed subsidies, attract jobs, leapfrog the long lead time needed to match Chinese industries, and speed up decarbonisation. This strategy in the US seems unlikely before the election but a Biden, or other Democratic President, might offer the opportunity.

**Another solution, currently unavailable but perhaps imaginable if the Chinese economy worsens, could be a multilateral agreement in the vein of a 'Climate Plaza Accord'.** As mentioned above, G5 nations combined efforts to weaken the US dollar in the original 1985 Plaza Accord, primarily vs. the Japanese yen and with the assistance of the Japanese themselves.

<sup>31</sup> Ember, 2024. [Link](#)

<sup>32</sup> Kiel Institute, 2024, [Link](#)

A 'Climate Plaza Accord' could address the US' large trade deficit with measures that also solve for climate cooperation.

It could consist of some combination of:

1. Release valves for surplus Chinese product in affected countries (e.g., permissions for build out of grids to soak up capacity and increase instillation rates in the US or other countries)
2. China agreeing to (and actually implementing) enforced limits on its exports (tariff quotas), giving breathing room for the US and other countries to develop independent clean energy industries
3. China pursuing measures to rebalance its economy toward domestic demand rather than relying on exports
4. Strengthening of the Chinese currency, making its exports less competitive

**The next stage of trade war will be accompanied by increasing sanctions.** The US has already begun sanctioning global companies known to support Russia in its invasion of Ukraine, including Chinese entities. History has shown sanctions can be effective if wielded against isolated nations by a variety of other nations and when globalization is increasing, such as in the 1920s.

However, when unilaterally used against nations in autarkic mode, when economies are struggling, and geopolitical destabilization is under way - like in the 1930s - sanctions can reinforce self-sufficiency. From a climate perspective, the potential for unilateral financial sanctions against a country monopolizing the keys to the climate transition is a cause for concern.

Transition Battlefront 2: Introducing carbon value in trade

**Trade as a positive force in the transition, the other side of our trade coin, manifests as the incorporation of the value of carbon in products that cross a border.** Generally referred to under the catch-all phrase of Carbon Border Adjustment Mechanisms (CBAM), the climate benefits of incorporating carbon in trade are manifold and could have more practical impact on limiting global temperature increase than the Paris Agreement, which to date has not prevented global emissions from reaching all-time highs<sup>33</sup>. By taxing imports based on embodied carbon, industry is provided with an *economic* incentive to decarbonize, as opposed to the *voluntary* foundation of the UNFCCC process. It is our view that carbon in trade will proliferate and, as such, trade will offer a medium to long term solution for large-scale emissions reduction, a counterweight to the shorter term, destabilising force described in Transition Battle 1.

**There are two fronts in this carbon trade battle; the first is between countries seeking to embed a carbon value into traded goods and those who oppose it.** Brazil officials, for instance, have characterized the EU CBAM as “green protectionism”<sup>34</sup>. South Africa representatives have voiced similar complaints, claiming<sup>35</sup> a unilateral imposition of border adjustment tax would increase the North-South rift and obstruct industrialization efforts. While these are relevant complaints, we do not believe they will stop the eventual widespread adoption of carbon border taxes in some form.

**The second front is between countries seeking to embed a carbon value in trade but disagree on how.** Not all CBAMs are created equal, a truism frequently underappreciated. The prevailing argument against a US CBAM is that there will never be a trade national carbon price in the US. While that is likely true, this would not preclude a CBAM. The US version could simply be a protectionist tariff. A false dichotomy has also been constructed between a CBAM and a Climate Club; a Climate Club is simply a form of CBAM with the border in question ringing a group of countries rather than one. **Table 2** shows how the main forms of CBAMs currently compare.

Table 2. Comparison of Carbon Border Adjustment Mechanism Frameworks

	EU CBAM	US Republican CBAM*	US Democrat CBAM**	Climate Club***
Carbon value basis	Cap and trade ETS	Emissions intensity	Emissions intensity differential and a (non-traded) carbon price	Flexible
Incentivises domestic decarbonisation (e.g., via fees on domestic manufacturing emissions)	Yes, in conjunction with the ETS	N	Yes, by taxing domestic emitters	Yes, depending on design
Incentivises foreign industry decarbonisation	Y	Y	Y	Y
Flexibility to incorporate objectives besides decarbonisation (e.g., geostrategic partnerships or trade imbalances)	No, solely to prevent carbon leakage	Y	Y	Y
Flexibility to incorporate varying decarbonisation policies or regulations	Potentially	Yes, via establishment of "International Partnerships Agreement", like a Climate Club	Yes, exemption for Climate Club	Yes, this is the purpose of a Climate Club: to not only require a tradable carbon price
Includes fossil fuels	N	N	Y	Depends
Exemption for Least Developed Countries (LDC)	N	N	Y	Depends

\* Foreign Pollution Fee Act, \*\*Clean Competition Act, \*\*\*Likely the direction of the White House Climate and Trade Task Force

<sup>34</sup> MEPS International, 2023, [link](#)

<sup>35</sup> FT, 2022, [link](#)

**We believe the EU Carbon Border Adjustment Mechanism (CBAM) will not be implemented in its current form.** On January 1<sup>st</sup>, 2026, the EU Carbon Border Adjustment Mechanism (CBAM) is expected to begin charging the long-awaited import tax on select goods based on carbon content and begin phase out of free allowances to industry. Kaya Partners, in a 2022 paper for IPR, explained our view that the EU CBAM would be agreed and adopted (both since done) but not be implemented without substantial changes<sup>36</sup>. Our rationale is that the EU CBAM was constructed in a different geopolitical environment and will require alterations to a unilateral approach which requires trading partners to have a national carbon price and use carbon intensity measures defined solely by the EU. Additionally, the removal of free allowances for domestic industry (already under threat of de-industrialization due to structurally high energy prices) will be too painful to bear in the face of subsidized competition from both the US and China.

**The strongest aspect of the EU CBAM is its usefulness as a negotiating tool, compelling other countries to reduce the emission intensity of their industry.** The response to this impending threat of taxation when exporting to the EU has been, in a sense, encouraging. Thirty-six countries or subnational regions have since implemented an ETS, and twenty-two countries are either developing or considering an ETS to reduce the carbon intensity of their high-emitting industries<sup>37</sup>. The effectiveness of these schemes is limited, however, as carbon prices around the world remain too low to induce industry decarbonisation.

Table 3. Ten policy challenges for a Climate Club

Technopolitical	Data collection
	Calculation and agreement of emissions intensity values *
	The basis of the carbon price
	Treatment of final goods
	Which sectors to include
	Resource shuffling/redirection of trade *
	Enforceability
	Accounting for existing trade deals
Legal	WTO compliance
Ethical	Treatment of developing countries *

\*Kaya considers these the biggest issues

a Democratic President other than Biden. The task force offers no preconceived notion of how to solve the tricky policy issues, but it seems likely it will resemble a Climate Club. In a Climate Club, members trade based on emission intensity differentials, motivating industry decarbonisation and a race-to-be-the-cleanest, but the rules are more flexible than the EU CBAM regarding what constitutes the value of carbon (e.g. a tradable national carbon price is not required and other polices or regulations can be translated into a price of carbon). While the White House’s interagency approach signals strong commitment to this issue, differing objectives among agencies, ranging from pure decarbonisation to solving trade imbalances to positioning geopolitical alliances, require navigation and will impact how the final product is viewed by the rest of the world.

**The failure of the recent US-EU Global Arrangement on Sustainable Steel and Aluminium (GASSA) illustrates that the most contentious negotiation elements of trade based on carbon content have nothing to do with carbon at all.** The EU’s principal requirement in these failed talks was for the US to permanently drop the Trump-era Section 232 steel and aluminium tariffs. For its part, the US sought to imbed more stringent enforcement provisions against Chinese dumping. Both are technopolitical challenges in our list and proved to be stumbling blocks even before discussions on calculation of emissions intensity became relevant.

**Agreement on the emissions intensity measurement is the single most contested variable.** Different countries will have both political and economic reasons to construct a measurement which makes their intensity value look low. The formula to do this includes numerous factors such as the ‘boundaries’ of the manufacturing process, whether the process occurs with Electric Arc Furnaces or Blast Furnaces, environmental regulations, cost of energy and raw materials,

<sup>36</sup> PRI, 2022, [Link](#)

<sup>37</sup> International Carbon Action Partnership (2024) [Link](#)

**The recently introduced White House Climate and Trade Task Force marks an evolution in the debate on how to include carbon in trade.** The Task Force is a multi-agency effort, bringing together lead agencies like the National Economic Council, the National Security Council, and the US Trade Representative to design a carbon border mechanism. This plan to embed carbon in trade is just now being crafted and could take a year or more, and as such is exposed to a change in administration to either Trump or



CO2 emissions in the grid, type of feedstocks in the process, and more<sup>38</sup>. **Table 4** is a sample a framework to examine which countries might be amenable to a GASSA-type deal.

**Table 4. Low Emission Steel trade negotiation framework<sup>39</sup>**

	Emissions intensity (CO <sub>2</sub> e/t crude steel)	How much and value of exports from X to US in 2023	Exports to US as a total of x country steel exports - quantity and value	Average US ownership of steel producers (degree of cross ownership)	Enforceability of market protections from China
US	1			79%	No Free Trade Agreement with China. 0-5% standard tariffs on steel, a 25% tariff on all imported steel and aluminium under Section 232, and a 25% tariff on imported steel products from China under Section 301.
EU	1.3	3.6 million tonnes / \$7.6 billion	16% (of steel exports to US) 20% (in value)	24%	No FTA with China. No tariffs for steel imports. CBAM coming into effect in 2026 includes steel.
Russia	1.5	0Mt \$0 billion	0% / 0%	2%	Russia and China do not have an FTA but have recently signed agreements to deepen bilateral trade relations. Tariffs for steel and iron range from 0-5%.
UK	1.65	0.2 million tonnes \$0.4 billion	7% / 8%	2%	No FTA with China. No tariffs for steel imports.
Brazil	1.7	3.5 million tonnes \$2.8 billion	30% / 29%	20%	Brazil and China do not have an FTA but have recently signed agreements to deepen bilateral trade relations. Tariffs on steel and iron range from 0-11.2%
Japan	1.9	1.1 million tonnes \$2 billion	3% / 6%	25%	China and Japan have an FTA (RCEP). 0-2.5% tariffs on steel and iron imports from China.
China	2	0.6 million tonnes \$0.9 billion	1% / 1%	0%	
Australia	2.17	0.3 million tonnes \$0.3 billion	NA / 20%	30%	Australia and China have an FTA (RCEP). No tariffs on imported steel.
India	2.1	0.3 million tonnes \$0.6 billion	3% / 6%	6%	After India withdrew from RCEP, no China-India FTA exists. 15% tariffs for steel and iron imports.
Canada	2.5	6.2 million tonnes \$8 billion	94% / 92%	24%	No FTA with China. No tariffs for steel imports. USMCA trade agreement.

Our framework suggests the ideal partner in a steel agreement would have some combination of:

- Small differences in emissions intensity of steel production
- Large volume and value of steel trade
- US buying a relatively large percentage of the partner countries steel exports
- High crossholdings of steel companies
- Strong ability to keep out Chinese steel

**In the grid above, the EU ranks highly but we have discussed how the negotiations faltered on other issues.** Brazil also looks attractive, having a relatively low emissions differential, large volume of steel trade, the US as a large customer, and the ability -on paper- to enact trade barriers against China. Recent moves by President Lula's administration toward China have shown an increasing, rather than decreasing, propensity to cooperate however. Australia has large crossholdings but low volumes of trade and restricted ability to keep China out given the existence of a Free Trade Agreement (although non-trade barriers could be erected, such as those focused on standards). The UK and US have little in the way of steel trade and crossholdings, but a deal could be enforced which keeps China out and the emissions differential is relatively low.

<sup>38</sup> Blue Green Alliance, 2021, [Link](#)

<sup>39</sup> There is no agreement on how emissions intensities should be calculated and the different methodologies can be endlessly debated. The different design choices lead to significant discrepancies. Emissions intensity data for all countries except the UK and Australia (Global Efficiency Intelligence, 2022, [source](#)). UK emissions intensity (JRC, 2022, [source](#)). Australia emission intensity is based on BlueScope (CO<sub>2</sub>CRC Limited, 2020, [source](#))

## Transition Battlefront 3: US 2024 Elections, it's not just about the IRA

There are eight potential federal election scenarios in the US in November, the impacts of which are analysed in Table 5. We feel that this framework largely holds true even if a new Democratic candidate other than Biden is chosen at the August convention, with a few caveats (see discussion below). In this heatmap, red highlights potential negative outcomes for the climate, green positive, and yellow uncertain or neutral.

**Table 5. Scenario analysis heatmap, impacts of US federal elections on climate related variables**

Scenario Name	TRR Supermajority	TRR	T + split	TDD	BRR	B + split	BDD	BDD Supermajority	
President	Trump					Biden			
Senate	R		R	D	R	R	D	D	
House			D	R		D	R		
Total IRA repeal	Potentially, to find savings to extend expiring Trump tax cuts in 2025	Unlikely, too many red states benefitting from IRA spending	No						
IRA 2.0	No						Possible, via reconciliation process, but unlikely	Maybe, but focus could be on non-tax legislation which imposes carbon price / 'stick' provisions	
CBAM	Possible, tariff variety	Possible				Likely		Likely, with national carbon price	
EV tax credits (30D, 25E, 45W)*	Repealed, defunded		Substantially weakened via guideline changes		Potentially weakened due to poor value for money (30D)		Retained, but potentially with less funding or stricter guidelines	Unchanged	
Hydrogen - 45V	See case study on page <b>XX</b>								
Federal Energy Infrastructure Programs (Title 17, ATVM)	Cessation of any loans via the Department of Energy Loan Program Office				Continued grants and loans, at least until sunset of Title 17 (2026) and ATVM (2028)				
Agriculture and Land	Repurpose IRA climate-smart agriculture, offer larger subsidies to farmers/ranchers in FARM Bill without offsetting		Repurpose IRA climate-smart agriculture via guidelines		IRA climate-smart agriculture retained		More movement to link crop insurance to emission reduction, carbon sequestration, and nature	Legislation which links crop insurance to emission reduction, carbon sequestration, and nature	
Transmission / Permitting	Elimination of circa \$3bn in DOE loans for transmission, more drilling on Federal lands				Retention of DOE transmission loans, continued limitations on drilling on Federal lands		FERC given widespread authority over transmission and grid regulation and permitting		
China & trade	Substantial protectionism (blunt tariff and non-tariff), potential revocation of Permanent Normal Trade Relations		Substantial protectionism, higher and blunt tariffs		Increased protectionism, build-out of anti-China multilateral trade blocks, somewhat bigger fence, and higher yard, 'green' 301, Climate and Trade linked via carbon clubs work continues				
Methane Emissions Reduction Program	IRA provision repealed, defunded (\$1.3bn). Elimination of Methane Task Force and GHG reporting requirements	Reduced active engagement from agencies. Elimination of Methane Task Force and GHG reporting requirements			Continuation of Methane Task Force and GHG reporting			Strengthened legislation regulating methane, increased fines	
Paris Agreement	Out				In				
\$27bn GHG Reduction Fund	Potential legal challenges to the \$27bn already 'obligated'	Potential legal challenges to \$27bn already 'obligated'			Maintained, money is 'out the door'				
Financial regulation	Severely curtailed, potential mandate change of Federal Reserve	Severely curtailed			Status quo or enhanced banking regulation		Strengthened regulation but at risk from Supreme Court 'major questions' doctrine		
Supreme Court	6-3 conservative majority continues to weaken the ability of Federal agencies to interpret Congressional laws; potential codification of this if 'Chevron Deference' is weakened or overturned. The 'major questions' doctrine created to deny the EPA 'fleet wide' plan for state level reduction in power sector emissions could be employed as a deterrent or denial for future EPA attempts to decarbonize the power sector.								
EPA	Exempt coal and gas plants from decarb regulation. More roll-back of CAFE standards. Eliminate CO2 pollutant classification from IRA.	Alter rules for coal and gas plants to not have to decarbonize. More roll-back of CAFE standards.			Development of state level targets for decarbonisation of existing gas plants, potentially challenged or watered down if/when brought to the Supreme Court. EPA and other agencies under threat to interpret Congress if Supreme Court overturns Chevron Deference				

\*Addressed in the IRA

**As discussed above, a CBAM appeals to Republicans and Democrats alike.** For Republicans, the allure of a CBAM is that it provides further means to impose tariffs on China, whose emission intensity in manufacturing is generally higher than in the US. Notably, the Republican bill in front of Congress, the Foreign Pollution Fee Act, does not mention ‘carbon’ in the title but amounts to using carbon intensity as a basis to impose a fee on imports. This Republican version of a CBAM would not call for domestic manufacturers to pay the fee which make it challenging from a WTO perspective. On the other end of the spectrum, an all-Democrat version of a CBAM, called the Clean Competition Act, would charge a fee both to domestic industry and importers based on an emissions intensity benchmark. Two other bills, both bipartisan, are also in front of Congress: the PROVE IT Act calls for a non-controversial 2-year GHG emissions intensity study while the MARKET CHOICE Act proposes a tax on emissions of domestic fossil fuel combustion and industrial facilities as well as a tariff at the border charging importers the same. A CBAM offers all political parties something valuable, but constructs differ.

**The Damocles Sword of a 6-3 conservative majority Supreme Court has dropped.** In a case regarding the EPA’s attempt to make commercial fishing boats pay for an on-board observer of their catch, the Supreme Court overturned the 40-year-old ‘Chevron Doctrine’ which has enabled US agencies to interpret Congressional legislation. This move will impede the ability of the US administrative state to carry out regulations, including those related to climate. The ruling moves power from agencies to the courts and will no doubt kick-off a tumultuous era of lawsuits to overturn legislation already deciphered by agencies.

**A Biden, or other Democratic candidate, victory in the November elections is a necessary, but not sufficient, requirement to prevent methane leakage from eradicating any potential emissions reductions promised by the IRA.** This becomes more salient in a global context, given the US now produces more oil and oil condensate than “any country, ever”<sup>40</sup>. The IRA includes a notable Methane Emissions Reduction Programme (MERP) which provides for a Waste Emissions Charge (WEC), in essence an escalating fee on oil and petroleum producers of methane. A total repeal of this fee is possible under a decisive Trump victory but unlikely in other scenarios. Certain aspects of the MERP could be watered down without a full IRA repeal, such as slow-playing or defunding the \$1.3bn allocation for financial and technical assistance. President Biden’s Methane Emissions Reduction Action Plan (MERAP) would certainly be scrapped under a Trump 2.0.

**Unrelated EPA methane guidelines under the Clean Air Act are hotly contested by fossil fuel industries and likely to be challenged legally now that Chevron Deference has been overturned.** Even before any potential watering down, Bloomberg analysis suggests the current design of the EPA rule would “allow upstream oil and gas methane emissions to generate 5.3GT of CO<sub>2</sub>e thru 2030 over a 20-year horizon, 75% more than the 3.1GT in greenhouse gas reduction estimate by Rhodium from the IRA”. To appease fossil fuel industries, the EPA Methane Rule could be watered down or eliminated in a Trump 2.0 under a Congressional Rule Act or through a rule making process, leaving the WEC in the IRA as a primary source of methane reduction. Under a Biden, or other Democratic, Administration, guidelines could be maintained, and the EPA might also address gaps in the regulation or even add non-oil sources of methane. But again, expect severe legal challenges.

**Climate-related financial regulation would be severely curtailed under Trump Presidency.** Financial agencies (e.g. Securities and Exchange Commission, Office of the Comptroller of the Currency) are classified as *independent regulatory agencies*, meaning they are more insulated from the President than what are called *executive agencies* (e.g. Department of Defence). The former entails the President appointing, say, a Secretary of Defence who reports to him or her directly, whereas the latter involves a bipartisan ruling body. For example, the SEC is run by a body of 5 commissioners of which no more than 3 can belong to the same political party. But as the President does most of the appointing (subject to Senate approval), there is still a large degree of control by the Executive branch. There is a rule making process which must be followed including public notification and period for public comments, with any potential regulation, such as financial reporting disclosure rules, also being subject to legal challenge. Even under Biden, or other Democratic candidate, conservative legal challenges to financial regulation finding their way to the Supreme Court could impede meaningful advancement of climate related financial regulation in the US.

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<sup>40</sup> EIA, 2024, [link](#)

**The speed and nature of the grid build-out depends highly on election outcomes, as parties are formulating legislation with divergent focus.** Recent final rules issued by the FERC (Orders 1920 and 1977) and various executive orders have delivered the biggest advancement to grid expansion in 20 years. These could deliver 30-50% of what is required<sup>41</sup>, provided they remain in place<sup>42</sup>. Order 1920 mandates that regional transmission organisations (RTOs), independent system operators (ISOs), and vertically integrated utilities must conduct long term (e.g., 20 years) cost-benefit planning. Also, states will no longer be able to opt out if they cannot agree on cost sharing, a huge factor in stalling past projects.

While robust, these rules and orders address *intraregional* grid issues (e.g., within a given RTO/ISO) but fail to address *interregional* grid (e.g., long distance HVDC lines crossing the US); for the latter, legislative action would be needed. We can look at the congressional bill docket to see how both parties might negotiate on transmission and planning.

**Table 6** lists 2 recent laws and 17 pending bills in this area: of the 17 pending, 10 are sponsored by Democrats, 6 by Republicans, while one is a bipartisan initiative.

**Table 6. Bills related to transmission, grids, and permitting introduced in the last 4 years**

Bill	Sponsor	Grid expansion	Permitting reform	Supply chain resilience, incl CRMs	NEPA / environment	Oil & gas
Infrastructure Investment and Jobs Act - <b>PASSED</b>	Bipartisan	Covered in the bill				
Inflation Reduction Act - <b>PASSED</b>	Democrat					
Clean Electricity and Transmission Acceleration (CETA) Act						
Clean Future Act						
Grid Modernization Act						
Energy Resilient Communities Act						
Advanced Energy Technologies and Grid Efficiency Act						
American Jobs Plan (White House proposal)						
Connect the Grid Act						
CHARGE Act						
SPEED and Reliability Act						
BIG WIRES Act						
ACCESS Act	Republican					
Securing America's Critical Minerals Supply Act						
Energy Security Cooperation with Allied Partners in Europe Act						
American Energy Innovation Act						
NEPA Accountability and Reform Act						
TRANSMISSION Act						
The POWER Act						

**The Democratic bills focus on grid expansion and modernization, while the Republican bills focus on supply chain resilience and are often tied to oil and gas infrastructure.** The Conservatives' long-held view that the grid cannot handle renewables is ironically reinforced by the lack of Republican bills proposed that would promote grid expansion.

It is interesting that no Democratic bills focus on supply chain resilience, which includes critical raw materials (CRM) while two Republican bills do. Oil and gas permitting and infrastructure naturally feature in the Republican versions. Only the Democratic versions address changes to FERC or connecting the Texas grid (ERCOT) to the national system. Internal Democratic contradictions can also be seen, for example, in the CETA which aims to expand the grid and increase permitting while also strengthening community involvement and environmental assessments, a combination which can potentially slow down the permitting process.

**Hundreds of billions in Department of Energy funding for clean energy are at risk.** Founded under George W. Bush in 2005, the Department of Energy Loan Program Office (LPO) is a source of current and potentially huge financial support for the development of clean, low emission technology.

<sup>41</sup> Volts, 2024, [Link](#)

<sup>42</sup> Rule 1920 is likely to be challenged by conservative coalitions with the aim of reaching the Supreme Court and potential overturning on 'major questions' grounds. The executive orders would be overturned by Trump.

Since inception, this program has given loans worth nearly \$40bn, just under half of which has been paid back, leaving an outstanding portfolio of ~\$20bn. It has created nearly 40k jobs and saved 40mm tonnes of CO2 emissions<sup>43</sup>.

This 20y track record pales in comparison to what might be accomplished if the \$100s of billions of still available funds are deployed before the expiration dates (2026 for the Title 17 bucket, 2028 for the ATVM bucket<sup>44</sup>). We estimate up to \$40bn more might be deployed in the remainder of 2024.

As the President has considerable sway over direction of any government agency, we would expect a single Trump term to freeze any further deployment while a Biden, or other Democratic candidate, term could see the funds deployed. The possible exception for expenditure under a Trump might come for carbon capture and storage (CCS) funding, including direct air capture.

**When it comes to trade, a Biden 2.0 or Trump 2.0 would both be more protectionist against China.** The difference is that under a Trump Presidency, the actions would be more severe, potentially bordering on the chaotic. Here it is useful to look at the philosophy of Robert Lighthizer, Trump's former US Trade Representative and someone likely to hold a senior cabinet position if Trump wins.

Lighthizer designed the tariff war with China during Trump's term and negotiated the Phase One Agreement in addition to the USMCA (formerly NAFTA). Lighthizer's views on China are consistent and unambiguous, calling the granting of Permanent Normal Trade Relations (PNTR) to China as one of the "worst mistakes in history" and an "unmitigated disaster"<sup>45</sup>.

His thinking, once considered fringe but now mainstream, makes the argument that many of China's most egregious infractions in global trade are not sufficiently addressed by a crucially flawed WTO construct, including demanding forced technology transfer from foreign companies in China and intellectual property theft on scales not seen in human history<sup>46</sup>.

**An empowered Lighthizer would seek a 'structural decoupling' from China, whom he labels a 'lethal' global advisory.** Lighthizer has recommended putting constant tariffs on Chinese goods (perhaps not as high as Trumps touted 60%), only altering the levels dependent upon any behavioural change. Lighthizer feels China doesn't have the ammunition to respond to a renewed US trade war, owing to China's large trade surplus (but we see a likely risk that China responds with export controls on items essential for *all countries* to meet their transition goals like rare earths).

Under Trump and Lighthizer, a policy of reducing investment between the two countries would ensue, along with strong export controls (probably countered by China in areas it dominates like solar wafer machinery). Novel use of the International Emergency Economic Powers Act (IEEPA) to limit Chinese investment into US technology would likely be implemented, and a repeal of PNTR would be vigorously pursued.

Lastly, and certainly if Lighthizer receives the US cabinet post of Secretary of Treasury, look for Lighthizer and Trump to pursue a weaker US Dollar at the expense of the Chinese Renminbi with repercussions for the global economy and the Dollar's status as the world's reserve currency.

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<sup>43</sup> Loan Programs Office, 2022, [Link](#)

<sup>44</sup> The Title 17 Clean Energy Financing Program (\$300 bn) can finance US clean energy deployment projects and energy infrastructure reinvestment to reduce emissions and air pollution. The IRA expanded the scope of Title 17 to include certain state-supported projects and projects that reinvest in legacy energy infrastructure. The Advanced Technology Vehicles Manufacturing (ATVM) Loan Program (\$40 bn) provides loans to support eligible advanced technology vehicles and qualifying component manufacturing. The program includes newly authorized modes from the Bipartisan Infrastructure Law. The IRA removed the \$25 billion cap on ATVM loan authority and appropriated \$3 billion in credit subsidy to support these loans.

<sup>45</sup> Lighthizer, 2023, [Link](#)

<sup>46</sup> USTR, 2023, [Link](#)



**Box 3. A framework upon which to evaluate climate policy other Democrat candidates should they emerge**

**Who might replace Biden as a Democratic candidate for the Presidency, should Biden choose to step aside?** A list of potential candidates includes Vice-President Kamala Harris by virtue of her rank and her position as the highest profile woman in the party. Her tenure in the Vice-Presidency has earned her mixed reviews however, with many questioning her effectiveness and ability to attract support beyond the party base. Other names include Governor Gretchen Whitmer of Michigan, Governor Gavin Newsom of California, Secretary of Commerce Gina Raimondo and dark horse candidates like Governor Andy Beshear of Kentucky, Governor Jared Polis of Colorado, and Governor Josh Shapiro of Pennsylvania.

A governor who can deliver a key swing state will have an advantage, a benefit to Whitmer, who can tell a convincing story of turning her state from Republican to Democrat through good governance and a focus on what matters to voters. Her slogan: “fix the damn roads” allowed her to pivot away from culture war fights to practical concerns. As the intended victim of a far-right plot to kidnap and murder her in 2020, she also has standing to talk about the threat to democracy from Trump’s violent rhetoric. She could also point to polling in Michigan earlier this year that showed her beating Trump by 4 points in the state but Trump beating Biden by 8 points.

Conveniently, her memoir, “True Gretch” is coming out on July 9th, which gives her an ideal opportunity to tell her story on a national book tour.

**How would a Democratic candidate, other than Biden, impact our climate variables?** As mentioned above, we think any other candidate would broadly replicate the policies we analyse. The two likeliest candidates, Newsom and Whitmer, have robust climate records. For her part, Whitmer transformed Michigan’s approach to clean energy with a series of clean energy bills which require the state to generate electricity solely from clean sources by 2040, tighten energy efficiency requirements, encourage rooftop solar and shift the politics of an industrial state that previously relied on cheap, carbon intensive energy.

**The exception, and an important one, to climate related variables in our matrix, might be the approach to China and clean energy supply chains.** As an example, Whitmer has taken the lead in attracting electric vehicle and battery manufacturing to her state, including from Chinese manufacturers like CATL and Gotion. Her statement that “we will work with anyone and compete with everyone to keep bringing supply chains of batteries, chips, and electric vehicles home to Michigan” has been challenged by Republican Michigan Congressmen LaHood and Moolenaar who introduced the NO GOTION Act to block Chinese manufacturers from building plants in the US.

Her close political ally Elissa Slotkin, the Michigan Senate candidate, has long raised concerns about Chinese control over critical supply chains, proposing the Protecting Against Foreign Adversary Investments Act bill to increase scrutiny of foreign entities of concern (FEOC), the term for Chinese, Russian, North Korean and Iranian controlled companies.

However, Slotkin has stopped short of campaigning against technology transfer deals that would bring jobs and intellectual property to her district. This pragmatic balancing of economic and national security interests would likely be the Whitmer approach to supply chain derisking in a national race. Currently, the Biden Administration is more hardline on China.

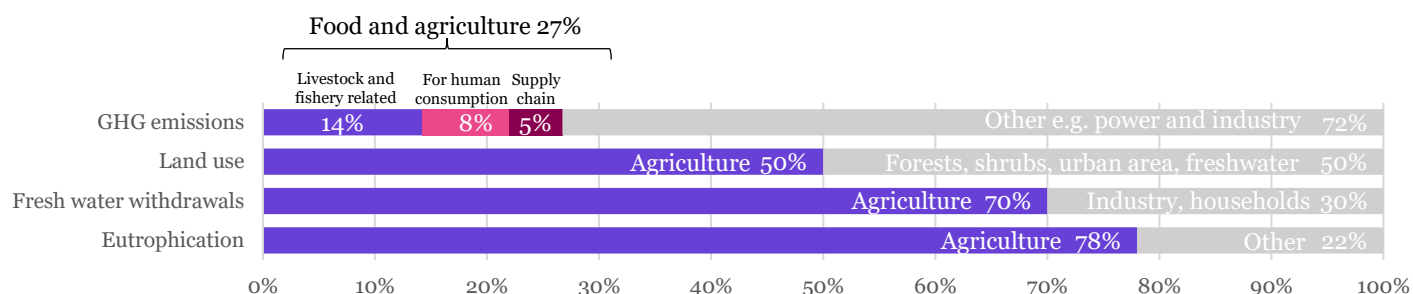


## Transition Battlefront 4: Finding a workable climate solution for agricultural emissions

**The battle to make agriculture part of the climate solution, rather than part of the problem, is being lost.** Models forecast the relative share of emissions from agriculture will grow compared to all other sectors (Figure 9). Only one existing Emissions Trading Scheme incorporates agriculture (Austria), revealing the challenges of accounting for, and penalizing emissions in, the food sector. New Zealand, where emissions account for half of gross emissions, just decided to exclude the sector from its ETS system<sup>47</sup>. The COP statement on agriculture also exemplifies the challenge, reading as a list of broad intentions as opposed to specific goals like tripling renewables or phasing down unabated coal power<sup>48</sup>. All this reflects the challenge of crafting policy solutions for agriculture.

**Losing the agriculture transition battle likely puts achieving Net Zero at high risk.** Livestock, fisheries, crop production, and food production-related land use account for 27% of global CO<sub>2</sub>e emissions (6GT/yr)<sup>49</sup>. Carbon removal solutions will struggle to scale sufficiently to draw down these gap emissions<sup>50</sup>. Furthermore, agriculture is an ecological disaster; half of the world's habitable land is dedicated to agriculture, while 70% of freshwater withdrawal and 78% of eutrophicated water bodies can be attributed to agriculture (Figure 9).

Figure 9. Global environmental and climate impact of food and agriculture<sup>51</sup>



Source: Kaya partners adapted from World in Data (2022) [source](#)

**Our analysis uses the EU as a lens, where efforts to reduce land use and agricultural emissions have been, and are currently forecast to remain, a failure.** Emissions from agriculture in the EU have only declined 4.8% since 2005<sup>52</sup>. This is despite 25% of the EU climate budget (Euro 578bn) being funnelled through the Common Agriculture Policy (CAP) between 2021-2027<sup>53</sup>. The Commission's own 2024 impact assessment predicts a paltry 10% reduction in agricultural emissions by 2040, compared to a 73% reduction in all GHG emissions<sup>54</sup>.

**Projected EU emissions can be interpreted either as an implicit surrender on reducing agricultural emissions, or a call to arms.** The EU Net Zero plan currently envisions that decarbonisation is achieved in virtually every sector but agriculture and assumes that effectively unchanged agriculture emissions will be offset by land sinks, the calculation of which are subject to debate.

**Mitigation options have been understood for decades.** It is accepted that emissions can be reduced at all stages of the supply chain – design, production, use, and end of life (Figure 11). Agroforestry and silvopastoralism (intentional planting of trees into farming systems) offer the biggest potential in the EU<sup>55</sup>. Optimizing livestock grazing patterns can also offer significant emissions reductions. Meat and dairy alternatives offer the next biggest potential.

<sup>47</sup> BNEF, 2024, [link](#)

<sup>48</sup> COP28 UAE, 2023, [link](#)

<sup>49</sup> Agricultural emissions in 2020. World in Data, 2023, [link](#)

<sup>50</sup> IEA, 2023, [link](#)

<sup>51</sup> Eutrophication refers to bodies of water getting overly enriched, leading to oxygen loss which endangers.

<sup>52</sup> Emissions reduction between 2005 and 2022. European Environmental Agency, 2023, [link](#)

<sup>53</sup> European Commission, 2024, [link](#)

<sup>54</sup> European Commission, 2024, [link](#)

<sup>55</sup> Silvopastoralism is a subset of agroforestry where trees are integrated into land grazed by animals.

**Figure 11. Potential emissions reductions up to 2050 in the EU by mitigation option**



Source: European Environmental Agency (2022) [source](#)

**If mitigation solutions are possible, why is crafting effective climate policy for agriculture so difficult?** One explanation is that agriculture is an emotional issue; farmers provide the nutrition humanity needs to survive and food itself is intertwined with culture in a way that oil or cement are not. Another culprit could be the ability of agricultural companies to lobby more freely than fossil fuel companies (and tobacco lobbies before them) on the issue of emissions impact. In the EU, ‘Agriculture Inc.’ is portrayed as representing small, independent farmers but 80% of farm subsidies go to just 20% of the largest farms. Copa-Cogeca, the most powerful agriculture sector lobby in the EU, claims it represents 22 million people, but this is the number of people who work in the food production sector, not its membership. Other structural challenges to mitigation in the agriculture sector include lack of climate awareness and available solutions, potential negative effects on crop yields grown with alternative farming methods, subsidies based on increased production, insufficient crisis reserve funds, and perceptions that diet change away from animal products limits freedom of choice and cultural identity.

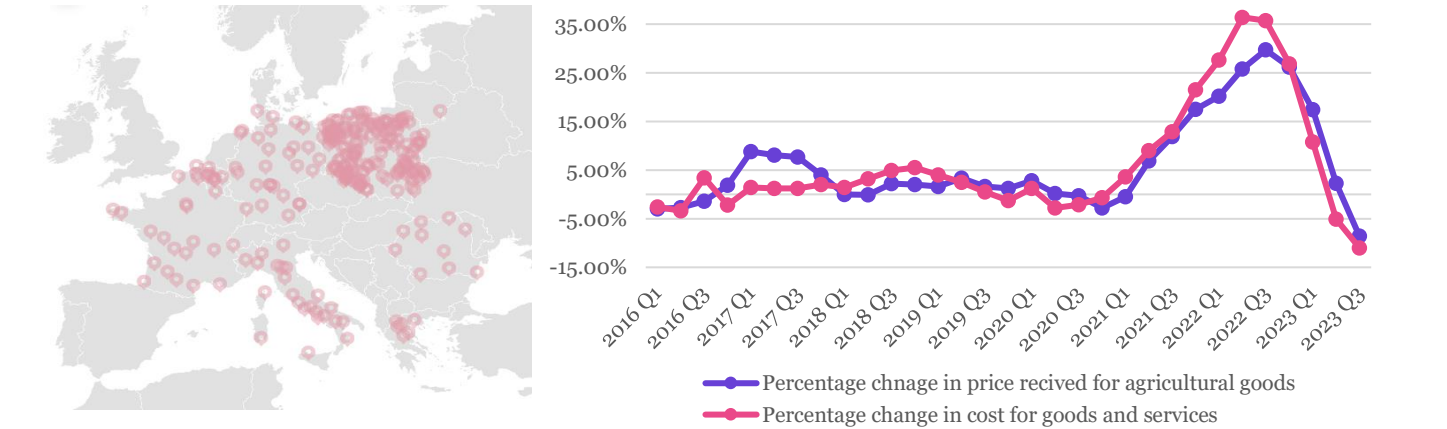
**Table 7. Recorded farmer complaints during recent protest, only half related to climate**

Farmer complaints
Cheap goods from foreign competition (MERCOSUR, Ukraine)
Falling profits
Subsidies given disproportionately to large players
Vehicle taxation
CAP payments
Burdensome EU regulations generally
Nitrogen requirements under the Water Framework Directive
Insufficient adaptation measures

The pink highlights topics directly related to climate. Source: Politico, 2024, [link](#)

**A season of farmer discontent has infected the EU.** This began with Polish farmers blocking roads in protest of Ukrainian agriculture imports and culminated in widespread protests across the bloc in the first quarter of 2024<sup>56</sup>. Farmers complaints were varied, and many justified, but only half related to climate (**Table 7**). The cost ‘squeeze’ on farmers was a major source of discontent. (**Figure 12b**).

**Figure 12. a) Locations of the 2023- 2024 farmers protests b) Prices received vs. costs of goods for farmers**



Source: Politico, 2024, [link](#)

<sup>56</sup> Politico, 2024, [link](#)

**The farmer protests culminated in a disorderly retreat by EU politicians on climate-related goals for agriculture.** For example, all meaningful language on agriculture was eliminated from the 2040 EU Climate Target<sup>57</sup>; the text proposal to “*reduce non-CO2 GHG emissions in the agriculture sector by at least 30% in 2040 compared to 2015*” was replaced with “[*agriculture*] can also play a role in the transition”. Mentions of healthier diets based on diversified protein were eliminated, as was the quote “[*agriculture is*] one of the core areas to reduce emissions”. What was left was an expectation that every sector *but* agriculture would do the work to reduce emissions. Additionally, The Sustainable Use of Pesticides Regulation, which proposed halving pesticide use in the EU by 2030, was withdrawn by the EU commission. In the CAP, six of nine Good Agricultural and Environmental Conditions (GAEC), which are environmental requirements to receive money, were watered down. Cattle ended up being excluded from The Industrial Emission Directive (IED). And finally, the Nature Restoration Law was passed in June, albeit in a significantly diluted form, after an unprecedented delay in the European Council and despite a formal agreement already being reached among EU institutions.

**In a demonstration of the power of agricultural interests, support for the Dutch Farmer-Citizen Movement (BBB) party surged ahead of that country’s elections, helping far-right candidate Gert Wilders defeat Frans Timmermans, the former EU climate chief (Box 4).**

#### **Box 4. Netherlands, an agriculture revolt helps overturn a government and creates blueprint to freeze climate progress**

Agriculture is uniquely crucial to the Netherlands; the country is the second largest agriculture exporting country in the world, only behind the US and ahead of Brazil and China, each over 20x bigger in area. Agriculture accounts for 10% of the Dutch economy compared with 7% for Brazil and China, and just 1% for the US.

In response to increasing environmental requirements limiting the amount of nitrogen that could be used in fertilizer, the Farmer-Citizen Movement (BBB) party has grown, championing an agenda to water down climate action in the agriculture sector. In the latest election, the BBB acquired enough seats in Parliament to become a 4<sup>th</sup> member of the ruling coalition which is led by the anti-immigration party of Geert Wilders (PVV).

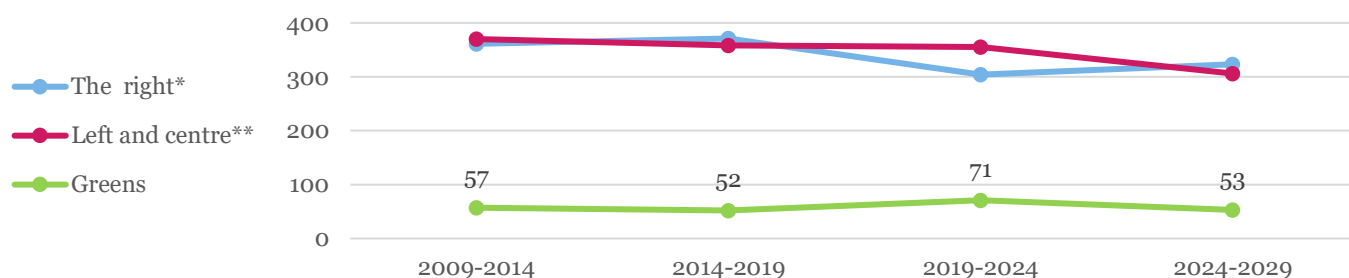
The resulting coalition agreement, reflecting BBB views, effectively freezes climate mitigation progress and serves as a blueprint for right wing governments in other EU countries to do the same. It does so not by retreating from climate policy altogether, but rather by frustrating and obstructing implementation of previously agreed mitigation trajectories. New Dutch coalition agreement and ‘the blueprint’ to stall climate action:

1. **Execute the bare minimum:** existing agreements will be respected, such as the 2050-target of 95 % net emissions reductions. However, no new national regulations will be introduced those mandated by the EU, and only if existing targets are off track will the government consider policy interventions.
2. **Focus on fossil fuels:** long-term gas contracts will be concluded, setting up gas reserves and increasing North Sea gas production, counteracting winding down extraction in the Groningen field. Phasing out fossil fuel subsidies will proceed in a European context, which effectively maintains status quo as revisions to the Energy Taxation Directive has not reached agreement in this election cycle.
3. **Less renewable energy, more nuclear energy:** wind turbines will be placed offshore rather than on land, and fisheries will take precedence in seabed planning. Existing and planned nuclear facilities will proceed with two new plants.
4. **Repurpose climate subsidies:** to alleviate the social impact of the energy transition, insulating low-income homes will receive less support and subsidies to electric vehicles will end to create a level playing field with ICE-vehicles. Remaining funds will support long-term technologies such as CCS and green hydrogen, with blue hydrogen eligible as needed. A recent increase in the domestic CO2 tax on industry will be reversed.
5. **Prioritize adaptation:** new or updated regulation to focus on the effects of droughts on food production and the availability of fresh water, particularly in relation to salinization. The High Water Protection Program will be recalibrated to ensure dikes continue to provide adequate future protection.

<sup>57</sup> In February 2024, the Commission presented an assessment for a 2040 climate target, recommending a -90% net reduction target. A legislative proposal will be presented by the incoming Commission.

**The ‘Green’ EU Parliament of 2019-2024 exists no more.** In 2019, when the previous EU Parliament elections took place, the Greta Thunberg phenomenon was at its apex. The result was pro-climate body which helped pass the historic EU Green Deal with its policies aimed at achieving EU climate neutrality by 2050. The European Parliament has now lost this ‘green premium’ and shifted right in its ideology. The Green Party lost 18 seats in the June 2024 elections, bringing its representation from 71 to 53 seats for the coming 2024-2029 period. 53 is about the average number of seats it held in the previous 10y period (2009-2019) and suggests the environmental representation of 2019-2024 may have been an exceptional moment in the EU (**Figure 13**). Four EU parties campaigned on addressing emissions in the agriculture sector: The Left, S&D, Greens, and most of Renew. Combined, these parties lost 46 seats (349 to 303). Meanwhile, the four parties which typically align with conventional agricultural interests and deprioritize climate - EPP, ECR, ID, and NI - gained a total of 9 seats, from 356 to 369. Combined, this is a 55-percentage point swing from left-centre to right. EPP, the largest party in Parliament notably led campaigns against key agricultural environmental policies in the previous election cycle.

**Figure 13. The European Parliament has lost its ‘green’ premium, and swung right**



\*EPP, ECR, ID, EFDD, ENF, EFD \*\*S&D, Renew Europe, ALDE, GUE/NGL, Greens/EFA, The Left. No-attached members and others not included.  
Source: European Parliament, (2024), [link](#)

**We have reached a ‘call to arms’ moment, when the EU should, and we feel perhaps might, adjust its strategy to address emissions in the agricultural sector.** To date, paying out large subsidies based on crop yield while writing prescriptive regulations, has proven unsuccessful in materially lowering emissions or appeasing strained farmers. The recently launched Strategic Dialogue on the Future of Agriculture provides the opportunity to pivot towards what we feel could be a more conducive strategy for all sides, namely shifting to an ‘outcome-based’ approach which would involve presenting a goal and offering options to achieve the goal, and closer linkage of subsidies to environmentally friendly processes. Aside from this Strategic Dialogue, we offer 4 other signposts to look for to determine how the EU’s agriculture policy will look:

### 1. Creating an Agriculture ETS (AgETS) and a ‘Danish Solution’ to make farmers pay

**As previously mentioned, the inclusion of agriculture in a meaningful ETS would be a landmark accomplishment, unprecedented in a large country or bloc.** The core principle of an ETS is to tax actors in covered sectors on the emissions they produce, thus incentivizing actors to find production methods which are less emissions intense. The EU already has two ETS constructs covering high-emitting industries, which together account for over 80% of the bloc’s emissions.

The original ETS includes 4 sectors: energy, manufacturing, maritime, and aircraft flying within the EU. The ETS2 covers road transport and buildings.<sup>58</sup> Dialogue is ongoing to construct a third ETS specifically for agriculture that would become operational in the 2030s. A 2023 Commission study on how an AgETS might look (and who would pay)<sup>59</sup> outlined five different ETS designs (**Table**

<sup>58</sup> European Commission, 2024, [link](#) and Transport & Environment, 2024, [link](#)

<sup>59</sup> For the European Commission’s Directorate General for Climate Action by Trinomics and its partners the Institute for European Environmental Policy (IEEP) and Ecologic, and Austrian Environment Agency (Umweltbundesamt) and consultancy Carbon Counts, 2023, [link](#)

**Table 8. Agriculture ETS design options**

ETS design option	Emissions in scope	Payer of ETS tax
On farm: all GHG	All emissions from all farms	All farms, potentially with a size threshold
On farm: livestock	All livestock production emissions (enteric fermentation and manure management)	Livestock and mixed farms, potentially with a size threshold
On farm: peatlands	Emission from drained peatlands used for agricultural purposes	Farms with such lands, potentially with a size threshold
Downstream	Enteric fermentation and manure management	Companies who process meat or dairy
Upstream	Emissions from feed production and importation (enteric fermentation), and use of fertiliser (nitrous oxide emissions from soils and urea application)	Companies that produce or import fertiliser or feed

Source: European Commission, 2023, [link](#)

**Any version which puts the cost of decarbonizing directly on farmers is likely to elicit fierce backlash.** It might be that small farms would be excluded, leaving large agriculture companies to pay the tax. However, a ‘downstream’ option remains the politically most viable option in the EU, as it does not take direct aim at farmers and hence enables a “food-systems” narrative around the levy. In all scenarios, it is expected that costs are passed to consumers after first eating into taxpayer margins. Member States with low-emission agricultural production will have competitive advantages in an EU-wide AgETS framework and may support such a scheme, as exemplified by Denmark’s endorsement. Unsurprisingly, Copa-Cogeca opposes all options.

**Denmark has just released a novel potential solution to the tricky dilemma of making farmers financially responsible for their emissions, essentially a world-first carbon tax on agriculture.** The tax would start at €40 per tonne of CO<sub>2</sub>e in 2030 and increase to €100 in 2035. It would apply to emissions from livestock and manure management. By 2030, the proposal is estimated to reduce CO<sub>2</sub>e emissions worth 1.8 million tonnes, making delivery possible on the remaining reductions to achieve a national 2030-target of -70% net emissions reductions.

**However, there is a substantial discount to the tax and an associated, large package of financial incentives designed to ensure farmer buy-in.** The tax rate comes with a 60 % average discount, which reduces the effective tax rate to just €16 by 2030 increasing to €40 by 2035. The agreement also includes numerous subsidies such as €1.35bn for biochar along with a government commitment to compensate stranded assets. Additionally, the proposal introduces a €5.35bn Green Area Fund designed to procure roughly 400.000 hectares of marginal land for nature restoration and afforestation and to address eutrophication in near-shore waters. While many had hoped for a more ambitious level of taxation, the agreement remains a significant achievement.

**To prevent putting Danish farmers at a competitive disadvantage, Denmark now has a strong incentive to leverage its pioneering role to push for broader EU action like the AgETS.** As Denmark gears up to assume the EU’s rotating presidency in the second half of 2025, it is poised to play a crucial role in shaping agricultural policy. Despite the challenging political climate, the pressure on farmers to address their significant climate and environmental impacts is increasing, both politically and due to climate change. The Danish approach, developed with and supported by the farming community itself, could serve as a replicable blueprint for the Commission and other Member States eager to tackle the agricultural problem in climate policy.

## 2. CAP Renegotiation

**The current CAP (2023-2027) was reformed under the auspices of the ‘Green Parliament’ to deliver on the ideas of the EU Green Deal.** As seen above, the good intentions of these reforms have been waylaid by political considerations to an extent. Consultations for the next CAP, which will run from 2028 to 2034, are already underway and will continue under a less climate-friendly Parliament. The CAP, traditionally the largest item in the EU budget. It accounts for one-third of overall spending and consists of two funds (often referred to as Pillars I and II). Pillar 1 is the European Agricultural Guarantee Fund (EAGF), which makes up 75% of spending mainly for direct payments to farmers linked to the size of the area being farmed. Pillar 2, the other 25%, is the European Agricultural Fund for Rural Development (EAFRD).



**Various potential reform proposals are currently discussed, most of which aim to transform existing unsustainable incentives into more sustainable and constructive alternatives, including:**

- Changing incentives by shifting funds from area-based (Pillar I) to outcome-based (Pillar II) payments, in anticipation of Ukraine joining the EU and consequently the CAP.
- Altering environmental (GAEC) standards (this could involve weakening them and thus come at the expense of emission accountability).
- Transforming Pillar II from the CAP into a conventional development fund, such as the European Regional Development fund, which would be managed by the Commission, unlike the current joint management with Member States.
- Allow Member States to incentivise sustainable practices by revising the Temporary State Aid framework
- Cut Pillar I funding by 50 % and allow Member States to provide remaining funding from national budgets instead, to shift accountability from Brussels to Member States

### 3. Adaptation, and the balance with mitigation

**The increasing frequency of extreme weather events is itself an input into negotiations on agriculture.**

The impacts of climate change, especially water stress and extreme weather, are increasingly felt by farmers. Greek farming protests contained demands for more action on climate adaptation e.g. preventing flood damage on farmland<sup>60</sup>. Funding for adaptation is notably insufficient, underscored by the oversubscription of the crisis response reserve under the CAP in 2022 and 2023 due to extreme events. These developments may put policymakers under pressure, and divide the farming community, on the use of government money for preventing emissions (mitigation) or helping when climate change induce catastrophes (adaptation). If the limited available funds are simply repurposed from mitigation to adaptation efforts, reducing emissions will become more challenging.

### 4. Biosolutions and lab-grown proteins

**The Commission aims to support biosolutions to reduce agricultural emissions, but widespread adoption will take years due to technological immaturity and regulatory barriers.** Biosolutions, which rely on microbiological processes to produce low-carbon dairy and meat replacements, face high costs and uneven support across Member States. The discussion on lab vs. farm grown proteins will be tough, especially in the Parliament. Notably, Italy banned lab-grown meat in November 2023 and, along with France and Austria, voiced concerns that lab-grown meat threatens the “very heart of the European farming model”<sup>61</sup>. The Commission's Biotech and Biomanufacturing Initiative, established in March 2024, will need to accelerate quickly and likely require either temporary exemptions or a new framework regulation to address industry concerns about the inadequacy of the existing legislative environment.

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<sup>60</sup> <https://www.carbonbrief.org/qa-the-impact-of-farmer-protests-on-the-eus-upcoming-parliamentary-elections/>