THE FUTURE OF TRADE

DMCC

DMCC SUSTAINABLE TRADE ANALYSIS 2026

2026
REBUILDING THROUGH RUPTURE

INTRODUCTION: ABOUT THE INDEX

A note on this section: unlike the Commodity Trade Index and the Industry Digitalisation Index, this is not a composite index. There is no single score, no ranking, and no weighted methodology producing a comparable result across hubs or editions. What it is, instead, is a structured analysis of trade in environmentally sound technologies (ESTs) – the goods and equipment that enable the world to decarbonise – drawing on UN Comtrade data covering 144 EST product categories, supplemented by Eurostat time-series analysis tracking EST trade flows between major economies since the turn of the century. The purpose is to reveal the direction of travel, who is important and exporting ESTs, where the fastest growth is occurring, and what three plausible scenarios for sustainable trade look like over the medium term.

KEY FINDINGS

The most striking finding is how little the top-line rankings have shifted in two years. China leads EST exports by a commanding margin, at $183.3 billion in 2024, nearly double Germany's $101.5 billion and more than twice the US's $81.7 billion. The ranking of the top ten exporters is almost entirely unchanged from 2022. The stability at the top, however, masks intensifying pressure in the middle: China's growing trade surplus with the EU in ESTs reflects the competitive gap. The race for clean technology leadership is not close.

On the import side, the United States remains the world's largest importer of ESTs at $135.7 billion – a position that reflects both strong domestic demand and a manufacturing base that is not oriented towards EST production. That demand held firm through the end of 2025. Whether it continues to hold is one of the more consequential open questions in sustainable trade. Among the fastest-growing exporters and importers, the most notable pattern is the strong presence of African nations and hydrocarbon-rich states beginning to diversify. These are not yet significant in volume but are early signals of a structural shift in who participates in the global EST trade.

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WHAT THESE FINDINGS MEAN FOR TRADE

The EST trade data provides the empirical foundation for the central argument of the Future of Trade 2026 report's Chapter 4: the energy transition is no longer primarily an environmental story. It is a story about who controls the supply chains, manufacturing capacity, and technology standards that the global economy will depend on for decades.

Three connections stand out. First, China's dominance in EST exports is the downstream consequence of the upstream dominance in critical minerals and rare earth processing that Chapter 4 identifies as the defining chokepoint in the clean energy contest. A country that controls rare earth refining and manufactures the solar panels, EV components, and wind turbine parts those inputs feed into will naturally lead EST exports.

Second, the resilience of U.S. EST imports through late 2025, despite tariffs and a hostile policy environment, suggests that demand for clean technologies has become structurally embedded in the U.S. economy in a way that is not yet fully reversible by policy alone. Chapter 4 notes the tension between the U.S. administration's retreating climate ambition and the industrial momentum already in motion; the import data makes that tension concrete.

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The emergence of African nations and Gulf states among the fastest-growing EST traders shows how the energy transition is creating new competitive arenas and new entrants.

Third, the emergence of African nations and Gulf states among the fastest-growing EST traders is consistent with Chapter 4's finding that the energy transition is creating new competitive arenas and new entrants, particularly among economies that previously sat at the margins of the clean tech conversation.

Taken together, the analysis does not offer cause for optimism about the pace of decarbonisation. Policy is diverging faster than it is converging. The scenario most likely to decelerate sustainable trade is a live policy reality in several of the world's largest economies. What the data does show is that the underlying demand for clean technologies remains robust, that the competitive positions being established now will be durable, and that the economies treating this as an industrial opportunity are already pulling ahead.

Table 1

Largest exporters of ESTs, 2024

Rank	Country	Value ($ billion)
1	China	183.3
2	Germany	101.5
3	United States	81.7
4	Italy	44.5
5	Japan	33.7
6	Mexico	27.1
7	Republic of Korea	25.3
8	France	23.1
9	Netherlands	22.9
10	United Kingdom	21.6

Source: UN Comtrade Database, Cebr analysis

Table 1 list contains seven of the top ten largest economies by nominal GDP, with the top three being the world's largest, albeit not in order. It outlines the evident correlation between trade in ESTs and economic size. China and Germany's outperformance of the United States is also likely a reflection of the respective countries' strong manufacturing capabilities amongst all goods categories, rather than just in ESTs. That said, both economies have set emissions targets and climate commitments, suggesting that policy also plays a role. China in particular has committed to rapid electrification of its energy systems, paving the way for renewables, particularly solar, to assist with energy generation. Germany has also introduced household incentives to move away from fossil fuels, in the aim of meeting its 2045 net zero emissions target.

Exports of ESTs were analysed as a share of national gross domestic product (GDP). Table 2 provides a better indication of national prioritisation and specialisation in ESTs. Here, trends previously described with 2022 data also appear to be robust, with Trinidad and Tobago maintaining its place as the largest exporter of ESTs as a share of its GDP, at 5.5% in 2024. This does mark a 0.4 percentage point decrease compared to its value in 2022.

Trinidad and Tobago's hydrocarbon-intensive economy was identified in its 2030 development strategy document as a key domestic challenge, citing exposure to commodity price volatility and the compromising of growth in the non-energy economy. Renewable energy and climate change initiatives have thus seen significant prioritisation in the country, evidently to great effect.

The rest of the top four reflect continued leadership from the European Union on sustainable development goals. Several of the bloc's major manufacturers (notably excluding Germany and Poland) make up the rest of the top five, while a further market, Denmark, sits in eighth. Free access to the European market, containing many of the world's top importers of ESTs, will also drive leadership in exports of sustainable technologies as a percentage of GDP.

Table 2

Largest exporters of ESTs as a share of GDP, 2024

Rank	Country	Value (% GDP)
1	Trinidad and Tobago	5.5
2	Hungary	4.1
3	Slovakia	3.9
4	Czech Republic	3.7
5	Slovenia	3.4
6	Singapore	3.2
7	Hong Kong	2.6
8	Denmark	2.3
9	Thailand	2.3
10	Malaysia	2.2

Source: UN Comtrade Database, Cebr analysis

Two major commodities hubs place among the largest exporters of ESTs as a share of GDP, those being Hong Kong and Singapore. Both hubs have high trade intensities, with exports making up well over 100% of GDP. This is driven by strong institutional factors in both hubs, which support innovation and improve competitiveness for EST exports.

Turning attention to major importers, again trends remain largely similar to those seen in 2022, with the United States first, followed by China, Germany, and Mexico (see Table 3). The top ten countries are unchanged, with only small changes to the order, such as the United Kingdom overtaking France, and Japan falling to tenth behind the Republic of Korea and the Netherlands. Japan's drop in EST imports reflects weakening domestic demand amidst increased labour market slack and meagre real earnings growth. Since the 2020 Future of Trade report, which used data from 2018, Japan's import of ESTs has fallen by five places relative to global competitors. Meanwhile, the value fell by 8.3% in nominal terms between 2022 and 2024.

Table 3

Largest importers of ESTs, 2024

Rank	Country	Value ($ billion)
1	United States	135.7
2	China	63.5
3	Germany	54.7
4	Mexico	30.8
5	United Kingdom	27.6
6	France	26.2
7	Canada	24.0
8	Republic of Korea	20.9
9	Netherlands	19.9
10	Japan	19.9

The United States remains by far the largest importer of ESTs, reflecting strong domestic demand while also suggesting that U.S. manufacturing is skewed away from ESTs, requiring them to be imported. In 2024, the United States imported ESTs valued at $135.7 billion, growing by 8.7% nominally compared to 2022 and greater than the imports of China ($63.5 billion) and Germany ($54.7 billion) combined. This was likely to be driven by strong investment into renewables from the Inflation Reduction Act over that period. That said, a change in administration has seen renewables fall significantly in the policy agenda and import-disincentivising tariffs introduced in a heavy capacity.

Outside of the top three, imports of ESTs among the United Kingdom, France, Canada and the Republic of Korea all sit between $20 billion and $30 billion, while Japan and the Netherlands saw values below $20 billion. Of note is the decline in import of ESTs across several of the countries compared to 2022. China, Germany, Mexico, Japan, the Netherlands, and Canada all saw imports decline in nominal terms.

Cebr analysed the import performance of notable trade hubs, using the ten countries analysed in the Commodity Trade Index (see Figure 1). Four of the trade hubs were in the top ten importers of ESTs globally.

The ranking here has changed slightly compared to 2022, with Singapore overtaking Hong Kong, and the UAE overtaking Switzerland in the rankings, at $9.4 billion and $9.0 billion, respectively. Both Hong Kong and Singapore saw the value of their EST imports fall between 2022 and 2024, with the largest contribution for both coming from ESTs within HS code 53, electrical machinery and equipment and parts thereof. In this instance, the reduction in Hong Kong far outmatched Singapore's, resulting in it being overtaken in the ranking.

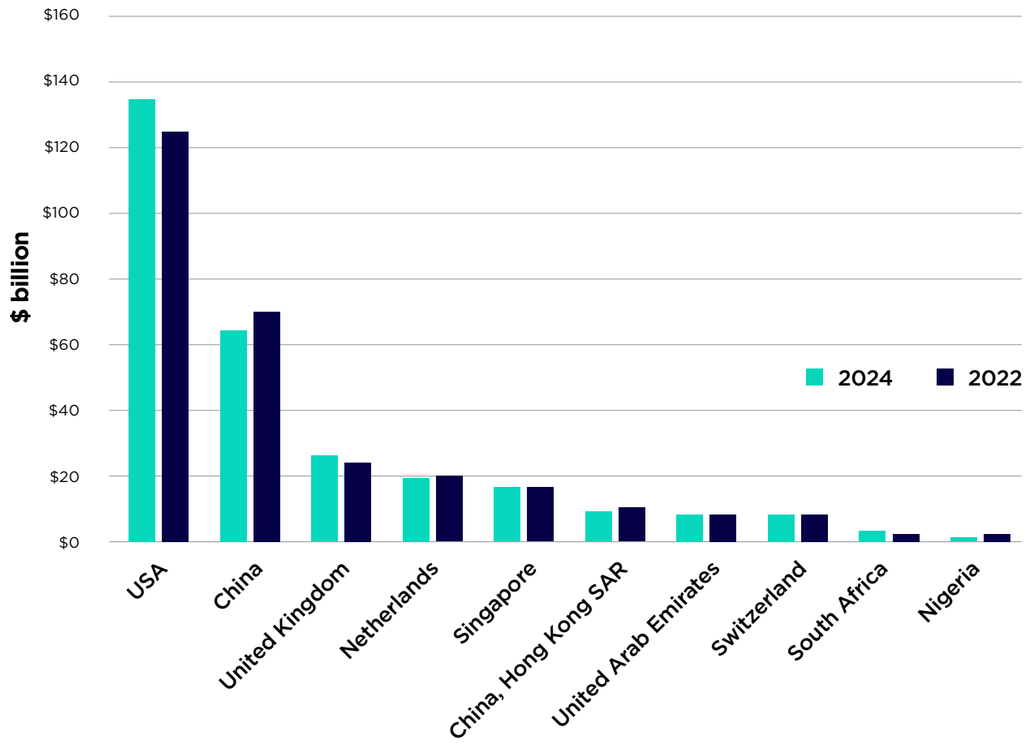
The UAE reported a $0.4 billion net increase in EST imports. By far the most significant driver of this change came from a $0.7 billion increase in imports of ESTs within HS code 84, relating to nuclear energy. Rising imports in this sector align with the development of the country's nuclear programme, with the Barakah Nuclear Power Plant's fourth and final commercial nuclear reactor coming online in 2024. When fully operational, the plan provides approximately 25% of the country's electricity[1].

The final two trade hubs of strategic importance, South Africa and Nigeria, imported ESTs in 2024 with a value of $4.2 billion and $2.1 billion, respectively.

[1] Zawya, 2024

Figure 1

Value of imports of environmentally sound technologies, 2024, trade hubs[2]



Source: UN Comtrade Database, Cebr analysis

UN Comtrade data reveals the fastest-growing imports and exporters of ESTs in 2024. Given the relatively small values of exports and imports of such goods, near-term growth rates tend to be more volatile. This is reflected in 2024's results, whereby none of 2022's fastest growing exporters remain in the top ten. Some trends remain, such as the strong presence of African nations, reflecting the continent's rapid pace of growth and development. Change is also evident in more developed, hydrocarbon-rich states, such as Qatar and Norway, as they diversify their economies away from oil and gas. The fastest-growing exporter was Panama, showing a rebound from 2023.

[2] Trade data for the UAE is only accessible from Comtrade up to 2023

Table 4

Fastest growing exporters of ESTs, 2024, annual growth

Rank	Country
1	Panama
2	Zambia
3	Namibia
4	Lesotho
5	Guyana
6	Qatar
7	Morocco
8	Senegal
9	Zimbabwe
10	Norway

Source: UN Comtrade Database, Cebr analysis

Looking at the fastest growing importers, only Guyana remains from the top ten in 2022's data and moves into the top spot for import growth in this sector. Zambia and Namibia are also of note, seeing as they feature in both the top ten fastest growing importers and exporters. The list shows substantially more diversity of continents compared to 2022, although Asia and Africa remain the heaviest contributors.

Table 5

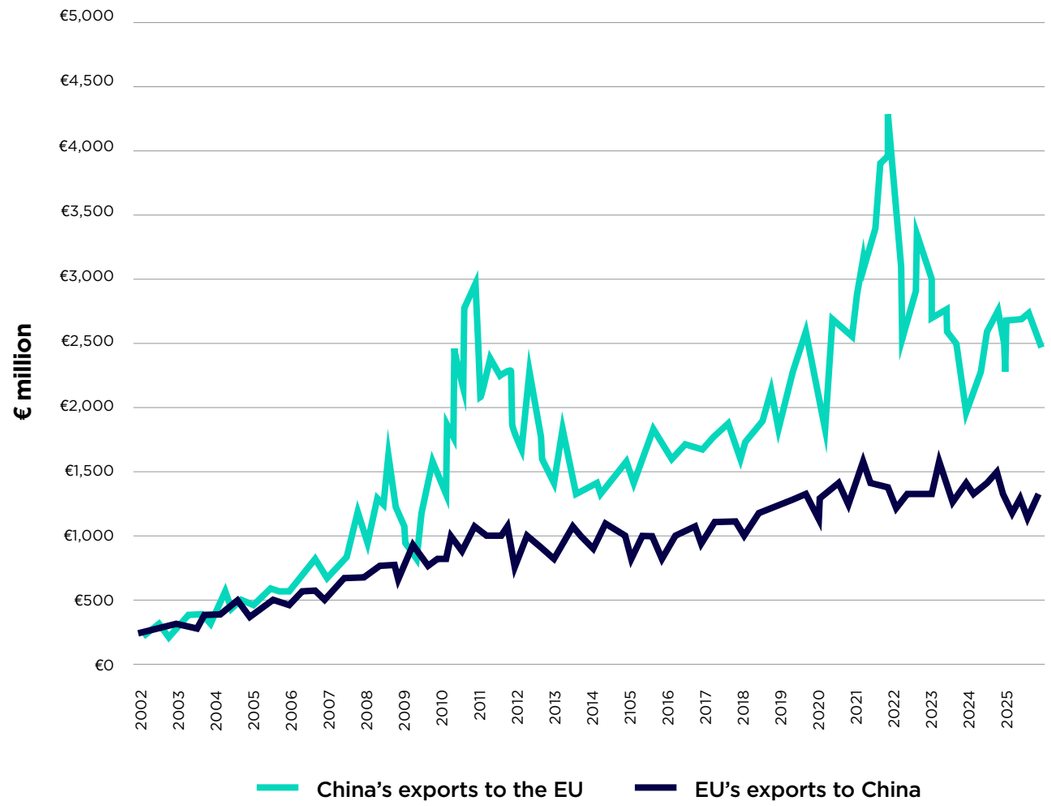
Fastest growing importers of ESTs, 2024, annual growth

Rank	Country
1	Guyana
2	Zambia
3	Pakistan
4	Oman
5	Namibia
6	Ukraine
7	Saudi Arabia
8	Samoa
9	Belize
10	Uganda

Source: UN Comtrade Database, Cebr analysis

Figure 2

EU/China trade in environmentally sound technologies



Source: Eurostat, Cebr analysis

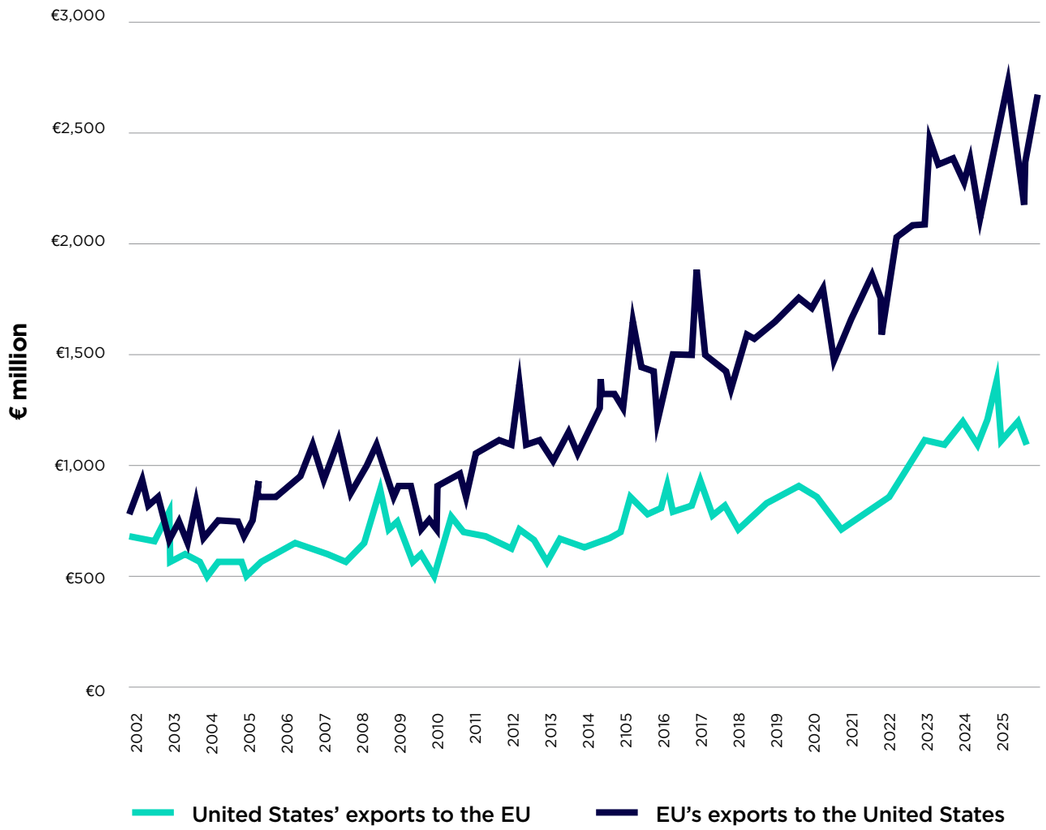
Sustainable trade over time

Cebr employed Eurostat data to analyse how trade in ESTs has evolved since the turn of the century. The purpose of this section is to analyse trends in EST trade across the tree largest EST importers and exporters, Germany, the United States, and China. Eurostat's up-to-date and comprehensive monthly database allows for analysis with smaller time lags and a larger timeframe, with the caveat being that trade flows must be analysed through the EU.

Trends in EST trade between China and the EU reflect much of the former's ongoing expansion as a powerhouse in manufacturing. The growing trade surplus with the EU highlights the difference in competitiveness, as heavily subsidised Chinese industry competes with the greater regulation facing European manufacturers, even in the supply and export of ESTs. The 2021 boom in Chinese EST exports to the EU reflects both the recovery in global demand following the pandemic, and China positioning itself to meet this demand for ESTs.

Figure 3

EU/U.S. trade in environmentally sound technologies

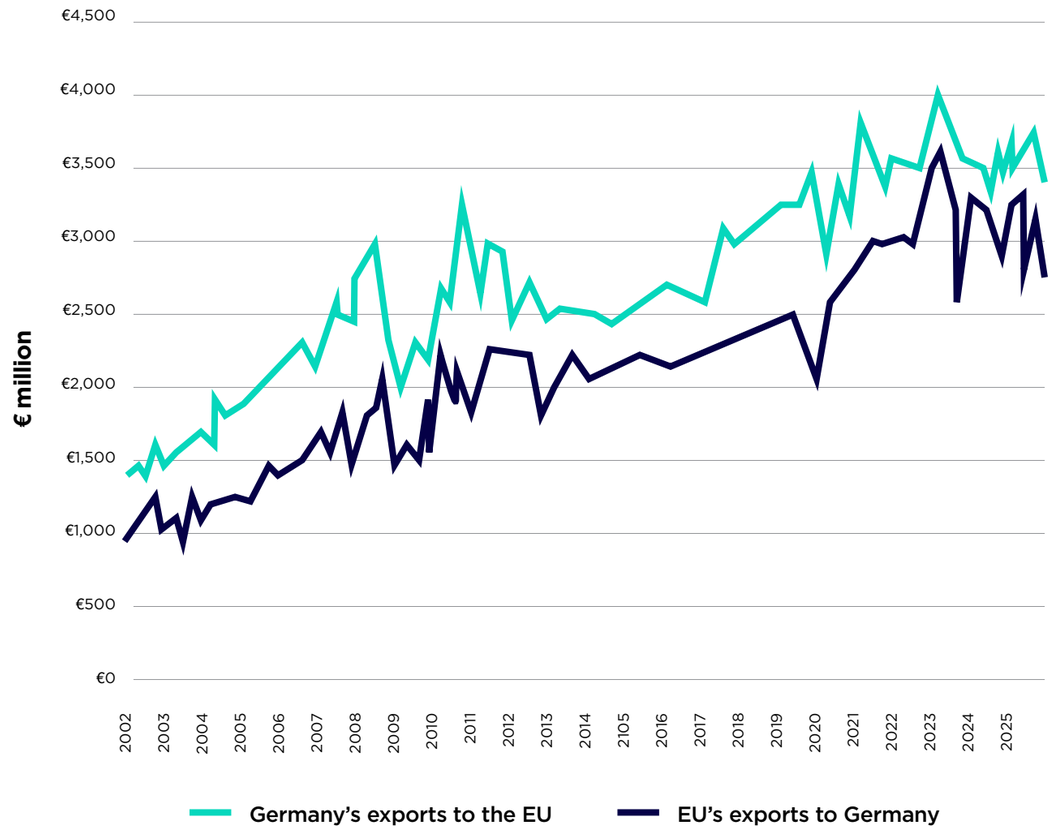


Source: Eurostat, Cebr analysis

By contrast, the United States shows almost the reverse of this trend, building up a substantial deficit in EST trade with the EU. Interestingly, with data reaching up to the end of 2025, this shows U.S. demand for EST exports from the EU, and its trade deficit with the EU, not significantly affected by either tariff chaos post April 2025 or the increasingly anti-climate-change rhetoric coming from Washington. The Eurostat data would give reason to believe that the U.S.'s position as by far the largest importer of ESTs in the world should be expected to continue.

Figure 4

Germany/rest-of-EU trade in environmentally sound technologies



Source: Eurostat, Cebr analysis

By comparison, the dynamics of trade with the rest of the EU for Germany appear to be far more regular, driven by the fact that many of the various economic pressures facing the country would be reflected in the wider bloc. Germany's manufacturing leadership makes it a net exporter to the rest of the EU. However, growth in both exports and imports has been more limited in recent years, suggesting a relative loss of momentum for Europe when compared to the rapid import and export growth of the United States and China, respectively.

THE FUTURE OF SUSTAINABLE TRADE

Global trade currently faces significant challenges from a geopolitical perspective. Increasingly anti-globalist sentiment has prevailed in the United States, with sweeping tariffs a worrying omen for trade hubs around the world. More recently, disruption to the Strait of Hormuz stemming from conflict in Iran has not only led to significant disruptions to global shipping but may have caused much longer-lasting damage to the perceived viability of the passage. With this in mind, the landscape for global trade in the short run, including EST, looks challenging.

In the medium term, Cebr considers that trade in ESTs, as well as movements in sustainable development more generally, may develop under three potential scenarios:

Scenario One: Sustainable trade as a pathway to competitive advantage

In the first most likely scenario, Cebr envisages that current volatility surrounding commodity prices, particularly in oil and gas, drives an increasing move to diversify, in order to shore up supply chains and improve self-sufficiency. In a short six-year span, the world has seen a collapse in oil prices during the pandemic, followed by wars in Ukraine and Iran driving a global energy crisis. An interest in self-sufficiency and insulation from supply shocks may drive a push towards sustainable trade in the medium term.

Analysis from the Hinrich-International Institute for Management Development Sustainable Trade Index from 2025 suggests that developed economies have already engaged in practices that facilitate transition towards "higher-value, less resource-intensive trade profiles"[3]. Additionally, the UN's Voluntary Sustainability Standards, as discussed in the 2024 Future of Sustainable Trade report[4], appear to have been expanded beyond smaller scale private adoption into more expansive mandatory features of access to developed markets. The analysis of trade in ESTs shows how global leaders can emerge and benefit from investment into sustainability. China, the world's largest exporter of ESTs, continues to see its economy grow at a pace to overtake the United States by 2045, according to Cebr forecasts.

The first scenario faces limitations on the adoption of sustainable technologies through this mechanism. Developing and emerging nations continue to see that competitive advantage and development trajectories remain heavy on emissions and natural resources.

[3] Tippig, et at., 2024
[4] UN, 2025

Scenario Two: Sustainable trade accelerates through multinational cooperation

In the second scenario, sustainability can only be delivered through international cooperation, both in relation to developed and developing countries. This requires buy-in to international institutions and laws that may hinder short-term growth objectives in order to maximise the uptake of sustainable technologies.

Legally binding trade rules are present both in institutions and smaller scale international pacts. A recent example of the latter is the Agreement on Climate Change, Trade and Sustainability (ACCTS) signed by Costa Rica, Iceland, New Zealand, and Switzerland. It covers controls on fossil fuel subsidies, alongside the expansion of free trade in certain environmental goods. It serves as an example of using trade rules between countries to pursue wider sustainability goals. These goals are also found in broader institutions, such as the UN and WTO. The latter's Trade and Environmental Sustainability Structured Discussions have made progress in incentivising trade in sustainable goods[5].

[5] WTO, 2026

Scenario Three: Sustainable Trade Decelerates due to Economic Concerns

A third scenario sees immediate economic priorities being championed. This shifts the balance of growth and sustainability trade-offs and may result in greatly reduced progress in sustainable development.

Two key examples are the United States and the UK. The former has introduced sweeping tariff legislation in an attempt to revitalise manufacturing. This has damaged free trade, a facilitator of the transition, to prop up often carbon-intensive industry against international competition. Pledges to support hydraulic fracking to maximise oil and gas production have also highlighted that current jobs and wellbeing are being prioritised over future sustainability commitments. In the UK, two major opposition parties to the current government are running on the promise to scrap net zero targets on the basis that the cost in the short run for economic growth and inflation are too great. Inflationary pressures from the conflict with Iran could also add considerable weight to these arguments.

An important addition to this is that such actions may increase short-run competitiveness, which increases the incentives for other nations to do the same, at the risk of losing their edge in the international market. Under this scenario, progress in trade sustainability would be greatly endangered.

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