



**中国环境与发展国际合作委员会**  
China Council for International Cooperation  
on Environment and Development

# **Sustainable Trade and Investment**

**Scoping Study for a CCICED**

**Special Policy Study**

In 2022, CCICED initiated a scoping study to examine some recent policy issues related to the relationship between trade and climate, nature, and environmental policies. The study group considered a [number of issues](#) that interact with trade flows, trade policies, and trade rules and focused its work on four topics:

- A. Green industrial policy
- B. Zero-deforestation goals
- C. Plastics pollution
- D. Carbon pricing and competitiveness.

A starting point of the scoping study is the recognition that trade is an important engine of economic development. Trade has contributed to overall economic growth in many countries, notably China, and has had indirect and dynamic effects on employment, technological innovation, poverty alleviation, and other developmental benefits.

China's shift toward high-quality, green development has implications for the main levers of economic policy, notably monetary, fiscal, and trade policy. While first-generation environmental policy largely concentrated on focused pollution abatement and place-based nature protection, key objectives like carbon neutrality, circular economy, and the sustainable use of biodiversity entail economy-wide, sector-specific, supply- and demand-side measures that increasingly involve trade.

Work on the intersection between trade and the environment has been underway for decades, including early work by CCICED. A major focus of earlier work has been to anticipate and avoid friction or conflicts between the two regimes. This next generation of trade–environment work involves identifying how these two systems can be better aligned and integrated; in this phase, trade becomes a proactive catalyst in advancing key climate, nature, circular economy, and pollution objectives in ways that also advance common prosperity and innovation goals.

The international co-chairs of the CCICED scoping study were **Bernice Lee**, Research Director, Futures, Chatham House, Hoffmann Distinguished Fellow for Sustainability, and **Dr. John Hancock**, Head, Policy Development, the World Trade Organization (WTO). A series of meeting with Chinese and international experts (see Annex 1) was held in the first quarter of 2022.

**Overall Recommendation:** CCICED should examine how to strengthen governance and institutional synergies between trade and the environment. Specific areas of future CCICED work include how to implement green and zero-deforestation supply chains, the reform of environmentally harmful subsidies, the control of single-use plastics, and tracking emerging work on border carbon adjustment, with focused work on energy-intensive and trade-exposed sectors like steel and aluminum. A priority of CCICED's green trade work should be how it can amplify economic development, job creation, income growth, and gender equality. More detailed recommendations are below.

This report is organized as follows: Chapter 1 briefly notes some contextual issues related to trade and the environment. Chapter 2 examines emerging green industrial policies, notably those to support net-zero carbon neutrality targets, and the role of trade and investment. Chapter 3 examines the role of trade in relation to zero deforestation. Chapter 4 examines the recent decision to build a multilateral plastics pollution framework and the role of trade in that initiative. Chapter 5 examines national carbon pricing and border carbon adjustment. Chapter 6 provides more detailed recommendations for future CCICED work.

## Chapter 1: Trade and Environment Synergies

Trade continues to make a significant contribution to GDP growth in many countries and has been vital to the economic recovery of many countries, particularly in the Asia–Pacific region, following the initial economic shocks of the coronavirus pandemic.

Trade has helped support common prosperity objectives such as expanded employment, higher wages, poverty alleviation, and recurring inequity gaps. For example, data strongly suggest a [positive correlation](#) between trade openness and higher wages: for example, participation in global supply chains shows higher average wage levels of 4%. Trade openness can indirectly contribute to [improved social conditions](#) such as working conditions. However, social benefits never happen automatically as a consequence of trade, underscoring the vital importance of strong domestic or behind-the-border measures to be sequenced with [trade openness](#).

The same is true in tracking the complex and indirect interaction between trade, innovation, and total factor productivity. Trade in [services](#) can be an important generator of net employment growth, including higher rates of income growth in some sectors, such as financial services, telecommunications, or engineering-related services. Importantly, embodied services in many higher-value-added traded goods are a growing source of employment in some countries.

**Trade and Gender:** An important development objective is closing the gender inequality gap. A growing body of evidence confirms that closing gender inequality gaps makes compelling economic sense: for example, [greater gender equality](#) is associated with higher rates of GDP. Ongoing initiatives like Aid for Trade have included programs to increase the participation of women entrepreneurs in trade, close wage gaps between men and women, and support women’s leadership roles in trade. In 2020, the World Trade Organization (WTO) [Informal Working Group on Trade and Gender](#) was launched to improve data tracking women in trade, measuring the effects of trade policies and patterns on women’s employment and wages, and assess how trade-related price effects of goods and services affect the most vulnerable. The [Buenos Aires Joint Declaration on Trade and Women’s Economic Empowerment](#), signed in December 2017 by more than 125 WTO members, has underscored the importance of improved gender-based analysis (GBA+) to assess trade effects on women and identify concrete options for women in the areas of greater empowerment, entrepreneurship, and wage parity, among others. However, women face persistent barriers, including limited access to trade finance and more general financing due to restrictive laws, lack of collateral and training, and other barriers. The [World Bank International Finance Corporation](#) estimates the capital gap for female entrepreneurs is USD 300 billion.

**Green Trade:** 2022 marks the 30th anniversary of the United Nations (UN) Conference on Environment and Development, held in Rio de Janeiro, wherein governments pledged to ensure a “mutually supportive” relationship between trade and the environment in sustainable development.

Trade continues to play an important role in the global distribution, at scale, of a widening basket of green, low-carbon goods and services. For example, trade plays a vital role in increasing the availability and affordability of solar photovoltaics and other renewable energy goods and related services. In the past decade, the [price of solar panels has dropped](#) by roughly 80%, with tariff levels for most components at around 2%, helping to spur global renewable energy trade.

Green trade extends well beyond low-carbon, renewable energy. For example, markets for low-carbon, zero-deforestation, pollution-free goods and services are estimated at around USD 200 billion per year. Most forecasts expect green markets for hundreds of traded goods and services—from steel and automobiles to coffee and tourism—to expand.<sup>1</sup>

**Green Hydrogen:** An important emerging area of green trade involves green hydrogen. Many national net-zero plans prioritize green hydrogen—that is, hydrogen produced with renewable energy—as a route to carbon neutrality. The first bulk shipment of liquefied hydrogen occurred in 2021 using a new purpose-built bulk container. As trade expands, trade policy can help differentiate between categories of hydrogen (brown, grey, and green) through certification standards and promote greater cooperation between exporting and importing markets.

Recent [ministerial statements by WTO members](#) reflect the breadth of linkages connecting trade and the environment, with work underway examining the role of trade in net-zero transition pathways, plastics pollution, zero-deforestation supply chains, disciplining fossil fuel subsidies, and other areas.

Scoping study experts noted multiple opportunities for trade and green goals to work in synergy, as well as several conceptual differences that pose underlying challenges. Both trade rules and climate and ecosystem protection initiatives, such as natural capital accounting, prioritize the need to correct market and pricing failures. Both systems, in theory, support the internalization of environmental externalities. However, in practice, perspectives on how to implement internalization vary widely. For example, an [estimated USD 1.8 trillion](#) in environmentally harmful subsidies were provided by many of the same governments that were using carbon and other pricing to reduce externalities.

Study experts noted that trade has allowed for narrow and time-limited exceptions for some green subsidy support—notably, the prior use of the temporary WTO green box for agriculture. Given the scale of subsidy reform needed to support the goals of Kunming and Glasgow biodiversity and climate outcomes, permanent approaches to green subsidies need to be reinstated, while existing disciplinary rules to curb harmful subsidies must be enforced.

Other differences between trade and environmental governance were noted. While the WTO and most regional or bilateral trade agreements are based on a relatively homogenous set of rules—like those based on trade without discrimination, which include principles such as “most-favoured nation” and “national treatment,” and the prohibition of export restrictions—the Paris Climate Agreement governance architecture is based on bottom-up, heterogeneous approaches established through nationally determined contributions (NDCs). Differences between NDCs are often significant, in terms of both differing targets and timetables related to greenhouse gas (GHG) emissions reductions and the choice of measures used, such as market-based carbon pricing, regulations, mandatory standards, green procurement, green financing, carbon capture utilization and storage, green infrastructure investments, research and development innovation financing, and other measures.

Given that these differences in policy choice are likely to increase throughout 2030, scoping study experts emphasized the importance of international cooperation, dialogue, and trust-building to avoid friction. The WTO system of notification in supporting transparency offers lessons for international cooperation around carbon pricing. Beyond transparency, heterogeneous climate

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<sup>1</sup> One indicator of the extent of trade in green goods and services comes from the [WTO Environmental Database](#), which shows the proportion of notifications linked to environmental criteria steadily growing in the past 20 years to more than 16% of all traded goods notified in 2020.

mitigation measures are likely to lead to trade friction, notably through the proposed use of border carbon adjustments, market access bans, sanctions, and other tools. Again, current WTO practices to help determine the comparability and equivalency of differing regulations and standards are useful: for example, the WTO Technical Barriers to Trade Agreement's emphasis on conformity assessment coupled with international standards provides a framework to compare and build convergence among different carbon mitigation measures.<sup>2</sup>

A similar bottom-up approach will likely characterize the outcome of the Kunming Conference of the Parties (COP) negotiations, in which the Global Biodiversity Framework will be implemented at the domestic level through [updated National Biodiversity Strategic and Action Plans](#). With the growing importance of the sustainable use of biodiversity, coupled with the growing actions of some private sector agricultural commodity companies, green financial services, and action taken to identify and reform environmentally harmful agricultural subsidies,<sup>3</sup> many trade and climate issues are likely to also involve global biodiversity targets.

**Green Standards:** Nowhere is the heterogeneity of nature-related domestic measures more evident than in the area of sustainability sourcing standards. There are now hundreds of mandatory and voluntary standards at play in global markets, all intended to promote green development outcomes. Such standards differ widely, both in the criteria used to define green, low-carbon, low-pollution, sustainability, or other characteristics and in the different auditing standards used to measure implementation and outcomes. Since most green standards focus on changing how products like steel, electricity, cement, agricultural commodities, and other goods are produced or priced through measures like carbon taxes, they also create tension with the trading system's primary focus on differentiating produced goods.<sup>4</sup>

**Regional Trade Agreements:** Early models like the [North American Free Trade Agreement](#) have helped guide subsequent bilateral and regional free trade agreements in setting out environmental provisions in stand-alone chapters, as well as, in some cases, building an international environmental cooperation program. The early NAFTA model has influenced the [Comprehensive and Progressive Transpacific Partnership](#) (CPTPP), which includes a chapter on the environment. China applied to become a CPTPP member in September 2021.

The 2019 agreement of the [Regional Comprehensive Economic Partnership \(RCEP\)](#) marks a significant achievement. While RCEP contains no environmental provisions, it is linked to a wider Association of Southeast Asian Nations (ASEAN) institutional structure that has several ongoing areas of work related to climate change, the Sustainable Development Goals (SDGs), biodiversity protection, and other areas.

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<sup>2</sup> One example of a carbon tax with planned increased stringency is Canada's national carbon price, introduced in 2019 at a rate of CAD 20/tonne, rising to CAD 50/tonne in 2022, and then at yearly intervals to reach CAD 170/tonne by 2030. Among the interesting features of the [Canadian example](#) is the use of equivalency between federal- (state-)level pricing and different provincial market-based approaches—notably, the provinces of Quebec and Nova Scotia, which use cap-and-trade rather than carbon pricing.

<sup>3</sup> In 2021, an estimated USD 1.8 trillion in environmentally [harmful subsidies](#) were provided by governments, including subsidies for fossil fuels, agriculture, and other areas. An important report prepared by the Nature Conservancy, the Paulson Institute, and Columbia University set out a [financing proposal](#) that included eliminating environmentally harmful agricultural and other subsidies that undermine conservation objectives. Following work in the CCICED Green Finance Special Policy Study (SPS) that recommended China tackle harmful agricultural subsidies, the 2022 CCICED scoping study on innovative finance has identified subsidy reform as a priority for future CCICE work.

<sup>4</sup> Recent work to build convergence in green financing taxonomies and standards, such as the creation of the [new International Sustainability Standards Board](#) of the IFRS Foundation, illustrates efforts to reduce gaps among dozens of major standardization bodies.

**Green Belt and Road Initiative (BRI):** The BRI is among the largest sources of trade finance ever and provides a significant platform to advance green trade. The World Bank estimates that [BRI financing](#) has the potential to increase global trade between 1.7% and 6.2% and to increase global real income by between 0.7% and 2.9%. CCICED continues to work to green new BRI investments through financing standards and safeguards and prohibiting financing in important areas like overseas coal. In March 2022, the National Development and Reform Commission issued new comprehensive, ambitious guidelines to further [advance green BRI outcomes](#). Among the priority areas of this new guidance is green trade, specifically calling for BRI to “continue to optimize the trade structure and vigorously develop high-quality, high-tech, high-value-added green product trade. [It also calls for BRI to] [s]trengthen the import and export of energy-saving and environmentally friendly products and services.”

**Chapter Two: Green Industrial Policy:** There have been multiple efforts to define and classify industrial policies, although, given their wide differences, a more useful approach is to examine the composition and effects of government policies through case studies.<sup>5</sup>

Following the 2008 global financial crisis that exposed extensive market failures and weak government oversight, interest in [industrial policy](#) has steadily increased. The United Nations Conference on Trade and Development’s (UNCTAD’s) [World Investment Report 2018](#) estimates that 84 countries accounting for 90% of global GDP have adopted formal industrial policies in the past 5 years. An influential 2019 economic study by the International Monetary Fund (IMF), entitled [The Return of the Policy That Shall not be Named](#), examined what it called “true industrial policy,” which revolves around government support that concentrates less on picking industrial “winners”—which governments generally do badly—in favour of providing support for technological innovation.

The IMF title reflects the tainted reputation of industrial policy among many economists and trade experts. However, a new generation of industrial policies focuses on setting large, mission-oriented objectives—or what the economist Mazzucato<sup>6</sup> calls moonshot missions—supported by enabling measures like front-end financing or tax incentives to de-risk innovative start-ups or establish what Dani Rodrik calls an ongoing institutional process within which companies work with governments to unclutter regulations that impede innovation.

The IMF argues that successful industrial policies rely less on the invisible hand of the market than on what it calls the “leading hand of the state.” In examining the reasons behind the success of Asian economies in economic growth, the IMF concludes that technology- and innovation-focused industrial policy is based on state intervention that facilitated a shift in domestic firms toward more sophisticated sectors beyond their existing comparative advantage. They observe that trade, in general, and export-oriented policies, in particular, play a key role in innovation by exposing companies to external competition and, in turn, prompting further innovation.

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<sup>5</sup> The Organisation for Economic Co-operation and Development’s (OECD’s) Production Transformation Policy Review has set up a peer review process to examine different approaches to industrial policies. Its 2018 [assessment of Shenzhen](#), for example, showed that the city of 18 million, today, grew from a fishing village in the 1970s to a global finance, technology, and innovation hub.

<sup>6</sup> Mazzucato’s [report](#) to the EU’s Horizon has characterized industrial policy as a “mission-oriented” approach to tackle grand societal challenges. Instead of beginning with stating the problem one is trying to solve, such as sluggish productivity rates of low levels of high-value clean power patents, Mazzucato favours identifying the mission or objective that needs to be reached, arguing that missions embed five criteria: (i) boldness and inspiration with wide societal relevance; (ii) a clear direction with goals that are targeted, measurable, and time-bound; (iii) ambitious goals that entail realistic research and innovation actions; (iv) objectives that are cross-disciplinary and cross-sectoral, and that involve cross-actor innovation; and (v) objectives that drive multiple bottom-up solutions.

This export-led focus contrasts with earlier versions of industrial policies—for example, those pursued in the 1980s and earlier—that were based on import substitutions that led to inefficiencies, stifled innovation, and created ongoing reliance on imported inputs in supply chains. This system impeded a shift to higher-value-added outputs and sectors.

**Whole-of-Government Net-Zero Plans:** Against this background of recent industrial policies, there has been a surge in green industrial policies in recent years, notably in emphasizing the role of green technological innovation in achieving net-zero climate goals, a circular economy, and alternatives to pollution-intensive manufacturing. [Green industrial policies](#) are defined as “government intervention to hasten the restructuring of the economy towards environmental sustainability.” By its nature, low-carbon and green transition planning is complex, covering economy-wide measures like taxation; government investments in green technologies; sector-specific plans covering energy, transport, agriculture, industry, buildings, and other sectors; and demand-side measures like energy efficiency. Net-zero plans generally highlight specific areas of innovation like e-vehicles, the development of large-scale battery storage, or what the International Renewable Energy Agency ([IRENA](#)) recommends in developing green hydrogen.

Ensuring coherence and coordination among these different measures will be immensely challenging. Cambridge economist Ha-Joon Chang has argued that industrial policies should take a more [holistic approach](#) to ensure that links across different sectors are clearly understood and mapped with clear plans.

This focus on a comprehensive or holistic approach to green industrial policies is especially timely, given the similarity of most national plans in their goal to achieve carbon neutrality. For example, in March 2022, Canada released its updated net-zero plan, which consists of 79 different implementation plans comprising combined climate funding programs worth CAD 29 billion to advance green technology innovation, regulations, a national carbon-pricing mechanism, and other measures. Similarly, the United Kingdom’s 2020 *Ten Point Plan for the Green Industrial Revolution* envisions the United Kingdom being the world leader in green technology and green finance. The United Kingdom plan includes various quantitative targets, like creating 250,000 new green jobs, planting 30,000 hectares of trees annually by 2025, quadrupling offshore wind capacity by 2030, and re-wilding 30,000 parcels of land the size of football fields, along with other goals in 10 clusters.

The [2020 EU industrial strategy](#) positions its net-zero targets within its Twin Transition Pathways of green development and digitization. The details of the EU’s climate plan are set out in its updated [2021 Green Deal](#), which sets out sector-specific targets and pathways similar to the United Kingdom and many other government low-carbon plans. In the case of the EU, these comprise sustainable transport, green industrial transformation, clean energy, green buildings, protecting nature, and building multilateral cooperation, with details set out in its [Fit for 55](#).<sup>7</sup>

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<sup>7</sup> There are many other examples of green industrial policies. For example, the [France 2030](#) strategy calls for the “re-industrialization” of the economy, with EUR 30 billion in financing to develop small-scale nuclear energy facilities, develop the world’s first low-carbon aircraft, produce 2 million electric or hybrid automobiles annually, and be a world leader in green hydrogen. The [Biden Administration](#) has released several climate plans to reach its net-zero targets, including [whole-of-government approaches](#) that include industrial strategy investments, plans for green procurement, and other targets. In 2020, Singapore released its whole-of-government [Green Plan](#) to coordinate net-zero carbon and green development implementation, building on previous highly successful industrial policies to attract financial service, processing, marine, and other business investments. In addition, [Singapore](#) has typically offered generous fiscal and financial incentives to attract investors. For example, this industrial strategy helped leverage the industrial agglomeration in the Jurong Island Export Processing Zone (EPZ) to diversify investments along the value chain, including in refining, storage, and shipping, supported by diversified financial and service sector clusters.

Recent updates of the EU plan reflect the importance of adaptability—which has been noted by the IMF. In 2021, an updated [EU industrial strategy](#) was released in light of the ongoing COVID-19 pandemic. In March 2022, the EU dramatically [moved up the timetable](#) for its shift away from imported oil and gas, calling for a “lightning speed” shift to renewable energy in light of the Ukrainian crisis.

**Trade Dimensions of Green Industrial Policies:** Given the economy-wide and sectoral coverage of most green industrial policies, it is not surprising they have various trade dimensions as well as concerns. For example, the British plan calls for batteries to be made in the Midlands, while the proposed [Biden Administration net-zero automobile strategy](#) envisages electric cars made in America, raising concerns about national treatment, non-discrimination, or the trade effects of subsidies and incentives.

A further dimension involves the use of various performance requirements that investors are required to meet. Local content and other performance requirements vary widely but typically include measures to support local labour markets or require joint ventures in which the government takes an equity stake or stipulates management participation targets. Other provisions include technology transfer provisions, investments in local infrastructure, the provision of local public health services, local procurement contracts, gender equity, and other objectives. Local content requirements can also contain blunter trade instruments like export restraints, including export licences, taxes, and other measures intended to increase local higher-value-added content.

While [local content practices](#) vary widely, many are strongly linked to socio-economic and human capital goals like employment, wage and income security, closing equity gaps, and other objectives set out in SDGs, in particular SDG 8, which pledges to “promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.”

**Chapter Three: Zero Deforestation:** Each year, between 3 million and 4 million hectares of primary tropical forests are lost, and with them, the enormous ecosystem and climate services they provide, in addition to livelihood sources for Indigenous and local communities. Since 1990, roughly 80 million hectares of forests have been destroyed.

Rates of deforestation differ widely between countries. For example, deforestation in Indonesia has declined since 2016, largely as a result of that government’s moratorium on new forest concessions coupled with other measures. However, as that moratorium will be lifted in 2022, experts will monitor deforestation rates.

By contrast, deforestation rates in Brazil’s tropical Amazon region reached their worst level in more than a decade in January 2022. Data from Brazil’s national forestry service reported a 400% increase in monthly deforestation compared to January 2021. Government data show that 3,235 square kilometres (5,110 square miles) of rainforest were cleared in the Brazilian Amazon between August 1, 2020, and July 31, 2021. Since one third of the earth’s total tropical rainforests are located in Brazil, these losses have global implications, with the Brazilian portion of the Amazon [flipping from a net sink to a net source](#) of carbon dioxide in 2021.

By far the single [biggest cause of deforestation is agriculture](#): the UN estimates that 90% of global deforestation is driven by agricultural extension, roughly evenly divided between burning forests for croplands and livestock grazing. Accordingly, there have been a number of initiatives by companies, governments, philanthropy organizations, and others to tackle the underlying causes of deforestation by focusing on the production, export, and consumption of crops and livestock products that have led to deforestation and displaced local communities.



The 2021 CCICED SPS on green supply chains highlighted China's important role in supply chains: China is among the world's largest importers of soft commodities. The 2021 study recommended the following concrete steps to reduce deforestation linked to soft commodity trade: (i) ensure that all imported soft commodities are legally sourced in the country of origin; (ii) advance international sustainable sourcing standards through contracts with companies that import soft commodities; and (iii) apply the tools needed to support sustainable sourcing—including third-party certification, traceability, and the use of digital tools like blockchain.

Moreover, the CCICED SPS recommended that the government develop a strategic, comprehensive, and robust system to support the sustainability of soft commodity imports.

This emphasis on the role of government in working with private companies to implement zero-deforestation soft commodity supply chains is becoming more important, as is raising trade dimensions. Three recent developments underscore the growing role of governments in using regulations or other measures to condition market access to commodities.

First, at the UN COP 26 meeting in 2021, 141 governments signed the [Glasgow Leaders' Declaration on Forests and Land Use](#) to collectively halt and reverse forest loss and land degradation by 2030. Trade is specifically identified as one of the main instruments to reach this 2030 goal:

Facilitate trade and development policies, internationally and domestically, that promote sustainable development, and sustainable commodity production and consumption, that work to countries' mutual benefit, and that do not drive deforestation and land degradation.

Second, several governments have adopted or proposed domestic trade measures intended to stop imports within their jurisdictions of soft commodities that may be linked to deforestation. Examples of this approach include proposals by the EU, United Kingdom, and France, and policies enacted by Norway and others. While such measures are in keeping with the spirit of the above Glasgow declaration regarding the use of domestic trade policies to support the 2030 goals, questions persist about how such actions align with the WTO and other trade agreements.

There are various data issues, including reliable means to differentiate between legally and illegally harvested timber, traceability, and due-diligence steps that can account for the source and chain of custody of imported commodities, and the cost these and other efforts may pose to consumer products.

Third, there have been a number of new private sector pledges to tackle deforestation. These new promises should be seen in the context of past pledges. In 2014, the [New York Declaration on Forests](#) set the goal of cutting deforestation rates by one half by 2020; meanwhile, over 440 companies made over 700 pledges through the Consumer Goods Forum to curb deforestation in their supply chains and cut deforestation. Those [earlier voluntary targets](#) have not been met.

The question is whether these new voluntary pledges will fare any better. Among the lessons from past voluntary deforestation pledges is the need to provide financing to local farmers, communities, and Indigenous groups to address complex systemic drivers of deforestation and land degradation. These drivers can include the reform of land-tenure laws, providing access to farm-level credit to support sustainable land-management approaches like non-commercial mixed cropping, agroforestry, or other approaches generally frowned upon by commercial credit providers that favour high commercial crop yields. Roughly USD 36 billion in funding from

donors, multilateral agencies, and philanthropic organizations has been committed to advancing these and other objectives.

Rather than tackling deforestation-free and legally harvested trade by relying on either mandatory regulations or voluntary private sector initiatives, study experts identified the need for private–public sector cooperation. Lessons from green industrial policy can help identify specific forms of cooperation, for example, in providing incentives for private-company traders, importers, and retailers to use blockchain and other tools to strengthen due-diligence traceability.

The need for new, robust, transparent tools is especially pressing.

**Chapter Four: Plastic Pollution:** In March 2022, at the UNEA-5 meeting in Nairobi, 175 countries endorsed the resolution regarding marine plastics, prompting the United Nations Environment Programme’s (UNEP’s) Executive Director to call this the most important multilateral agreement since Paris.

The [resolution text](#) authorizes an international negotiating committee (INC) to begin work immediately to develop an international, legally binding agreement on plastic pollution. Among the objectives of this new treaty will be

- A comprehensive approach that addresses the full life cycle of plastics
- The promotion of the sustainable production and consumption of plastics
- The use of national and international cooperative measures to reduce plastic pollution in the marine environment
- The coordination of regional and international conventions<sup>8</sup>
- The encouragement of the private sector to participate, and other actions.

In addition to the diverse risks of marine plastic pollution, the [UNEA discussion](#) also identified the link between plastics and climate change, including the production of GHG emissions— notably methane emissions—as a result of manufacturing plastics.

The INC mandate includes trade by way of reference to international cooperative measures and the reference to the Basel Convention. Work is underway on determining what types of trade measures may be needed to tackle plastics. For example, the 2021 [Ministerial Statement](#) circulated among roughly 30 WTO members references the extent to which plastics are traded, referencing data by the United Nations Conference on Trade and Development (UNCTAD) estimating global trade in plastics by value at USD 1 trillion per year, or an astonishing 5% of total merchandise trade.<sup>9</sup>

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<sup>8</sup> The conventions and international agreements noted in the plastics resolution are the International Convention for the Prevention of Pollution from Ships and its 1978 Protocol, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the Stockholm Convention on Persistent Organic Pollutants, the Rotterdam Convention on the Prior Informed Consent Procedure for certain Hazardous Chemicals and Pesticides in International Trade, the United Nations Convention on the Law of the Sea, the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matters and its 1996 Protocol, the Strategic Approach to International Chemicals Management, the United Nations Framework Convention on Climate Change, and the Convention on Biological Diversity. They also recognize international organizations and regional instruments and programmes, as well as efforts led by nongovernmental organizations and the private sector.

<sup>9</sup> Data show primary forms of plastics comprise 56% of this total, followed by intermediate forms at 11%, intermediate manufactured goods at 5%, final manufactured products at 21%, and waste at 2%. In some categories— notably synthetic textiles and rubber tires—the UNCTAD [report](#) estimates as much as 60% of the total volume of global production is traded internationally.

The WTO initiative, which China has been instrumental in putting in place, identifies several options, including the transition to more circular plastic economy models, improving the environmentally sound management, recovery, and recycling of plastics; improving access to green technologies; expanding trade in more sustainable plastics substitutes; and other options.<sup>10</sup> The WTO group also notes the need for improved international standards to benchmark practices, notably through the International Organization for Standardization (ISO) or differentiating products with specific green tariff codes through the World Customs Organization.

This list of trade policy options underscores the possible role of trade in supporting the expanded trade in goods and services that are defined as being greener than or environmentally preferable to standard goods and services. Various regional trade agreements have included trade preferences for green goods and services, which, once defined, would benefit from lower tariff and non-tariff barrier levels. The WTO has struggled to reach its own [Environmental Goods Agreement](#).

## Chapter Five: Carbon Pricing, Competitiveness, and Border Carbon Adjustment

Carbon pricing has long been identified as the first-best pathway to tackle carbon pollution. By leveraging markets, carbon pricing can affect economy-wide changes, incentivize behavioural changes toward less carbon-intensive options among consumers, and provide a powerful catalyst to internalize environmental externalities. Leading economists like Nobel-prize winner William Nordhaus have argued that putting a price on carbon pollution provides signals to consumers about the carbon footprint of their consumption, induces producers to move toward lower-carbon options, incentivizes innovators and financiers to scale up low-carbon investments, and economizes information and data needed to implement these changes.<sup>11</sup> International organizations as diverse as the IMF, WTO, OECD, World Bank, UNEP, and others have long argued in favour of market-based instruments like carbon emissions trading systems (ETSs) or carbon taxes.

Jurisdictions are listening to this evidence. According to the World Bank's [Carbon Pricing Dashboard](#), 65 carbon-pricing initiatives have been implemented across 45 national jurisdictions in 2021. While this uptake is welcome, the [global average price of GHG emissions](#) remains very low, at USD 3/tonne.

China has introduced the world's largest carbon market, measured by coverage. Following almost a decade of pilot carbon market projects, in late 2020, China's Ministry of Ecology and Environment introduced the ministerial regulation covering the legality of its national ETS. The national ETS was launched in 2021, covering 2,200 power sector companies.

The first ETS trade occurred in July 2021 at the Shanghai carbon market exchange with an opening price of RMB 48 per tonne, or USD 7.4 in late 2021, rising to roughly USD 9/tonne in the first quarter of 2022.

**Competitiveness Issues:** An ongoing concern of companies subject to taxation involves their competitiveness relative to other companies in the sector located in jurisdictions with lower tax levels. Compliance carbon markets are no exception.

For Chinese businesses, a proxy measure of potential competitiveness concerns relates to expectations about the price of ETS credits. Results of a [2021 survey](#) of businesses found that the

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<sup>10</sup> The most significant [trade measure](#) related to a circular economy and plastics remains China's changes to its import licensing in 2017 and 2018 that bans the import of waste, including plastic waste.

<sup>11</sup> Nordhaus, W. (2013). *The climate casino*. Yale University Press.

majority of respondents anticipated a gradual increase in the price of carbon credits over the coming decade, with expectations varying from RMB 139/tonne by 2029, to higher-level expectations of nearly RMB 200/tonne by 2029.

Interestingly, a majority of respondents expected their investment decisions to be increasingly affected by the ETS system, with 53% expecting those investment decisions to be strongly affected and another 31% moderately affected by 2030. While investment decision options are not identified in the survey, one can assume these involve capital and operating investments needed to avoid the rising costs of ETS pricing.

**Border Carbon Adjustments** proposals are one policy option to address both competitiveness issues linked to carbon pricing and possible leakage issues (that is, companies relocating to jurisdictions with low or no carbon taxes).

Proposals regarding border carbon adjustment are not new. The WTO has examined different proposals for several decades. In 2009, the Waxman-Markey Bill proposed a carbon adjustment measure, which died with the overall bill. However, interest in border carbon adjustment has been greatly rekindled with the 2021 release of the EU's Carbon Border Adjustment Mechanism ([CBAM proposal](#)). This is the most detailed border carbon adjustment proposal ever made, and some version very likely will come into effect as early as 2023, with full implementation by 2029. The proposed CBAM covers iron and steel, cement, aluminum, fertilizers, and electricity—and its proposed structure and operations.

An [analysis](#) by leading expert Aaron Cosbey from IISD traces the evolution of the border carbon adjustment concept, its alignment with the goals of the Paris Agreement, details of the EU CBAM proposal, and provides an initial analysis of what this could mean for Chinese exports of these industrial and other goods. This analysis references work by [UNCTAD](#) and others, suggesting a material effect on Chinese exports.

Modelling analysis of CBAM by E3G and the [research group Sandbag](#) finds that, while effects on Chinese exports like steel are likely to be significant at the aggregate level, the effects on sub-categories of exports like direct-reduced-iron steel are likely to result in net pricing benefits, reflecting the modern Chinese manufacturing capacity in this area compared to European counterparts.

Another quantitative assessment of CBAM using the [GTAP 10 global trade database](#) was co-authored by Drs. He Xiaobei, Zha Fan, and Ma Jun. Among the conclusions of their [March 2022 study](#) is that CBAM will have different but important spillover effects in several emerging economies and developing countries, leading to macro-economic impacts, including income-related effects. Given these macro-economic dimensions, the authors propose that the IMF should be more involved in helping smooth CBAM-related price spikes that will likely affect some exporting countries. They also propose that the revenue generated by CBAM be managed through a new IMF fund to assist developing and emerging economies buffer the price effects of, and help finance, green technology and other low-carbon transitions.

## **Chapter Six: Recommendations**

Recommendation One: CCICED should examine how to support the implementation of the March 2022 NDRC green BRI guidelines with a specific focus on how to increase the overall proportion of green trade among BRI partners. This work can include ways to expand trade in

high-tech green goods and services, phase out trade finance linked to coal and other fossil fuels, and increase green trade among BRI partners in sustainably sourced soft commodities.

Recommendation Two: Green industrial policies are needed to meet urgent climate, biodiversity-related sustainable use and circular economy objectives. Within its ongoing work, CCICED should track emerging and leading practices in green industrial policy, drawing on lessons and case studies of how to design and implement public–private sector partnerships that prioritize innovation and technology as tools to increase productivity in meeting performance outcomes.

Recommendation Three: CCICED should continue its work related to green value chains, with a specific focus on research and recommendations on trade and other measures coupled with voluntary instruments that can help China fulfill the Glasgow Forestry and Land Use Pledge before 2030.

Recommendation Four: CCICED should examine how green trade can close gender inequality gaps and contribute to broader common prosperity outcomes linked to jobs, wage parity, skills training, and other areas.

Recommendation Five: CCICED should identify ways in which trade can support the INC’s work toward a new global plastics treaty. CCICED’s contribution can include further work on trade preferences for environmental goods and services, beginning with a technical analysis of the current level of plastics trade in China; an analysis of substitute products/services that would reduce the environmental harm of plastics; an analysis of tariff and, more importantly, non-tariff barriers to greener plastics substitutes; and an analysis of the likely impacts of green tariff preferences. This work could expand to other areas of trade, notably sustainably sourced soft commodities, with an analysis of how trade preferences could reduce deforestation and other harmful impacts.

## Annex 1: Scoping Study Team Structure

<b>CHAIRS</b>	
Scott Vaughan	CCICED International Chief Advisor
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John Hancock	Senior Policy Advisor, World Trade Organization
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Carolyn Deere Birkbeck	Director, Forum on Trade, Environment, Graduate Institute of International and Development Studies Geneva
Nicolas Lockhart	Lawyer, Sidley Austin LLP
Kimberley Botwright	Head, Sustainable Trade, World Economic Forum
Daniela Garcia	DPR Mission of Ecuador, World Trade Organization
Vicky Chemutai	Economist, World Bank
Wang Yi	Standing Committee of the National People's Congress of China; Vice President, Institutes of Science and Development, Chinese Academy of Sciences
Zou Ji	CCICED Special Advisor; CEO & President, Energy Foundation China
<b>PARTICIPATING EXPERTS</b>	
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Christophe Bellmann	Head of Policy Analysis and Strategy, Forum on Trade, Environment & the SDGs (TESS)
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Dong Ke	China-Global Engagement Director, The Nature Conservancy
Jackson Ewing	Senior Fellow, Duke University, Nicholas Institute for Environmental Policy Solutions
Peter Govindasamy	Director, International Trade Cluster, Singapore Ministry of Trade and Industry
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Michael Mehling	Deputy Director, MIT Center for Energy and Environmental Policy
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Jonny Peters	Senior Policy Advisor, E3G

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Alice Tipping	Lead, Sustainable Trade and Fisheries Subsidies, International Institute for Sustainable Development
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