

Border Carbon Adjustments:

Trinidad and Tobago country report

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Border Carbon Adjustments: Trinidad and Tobago country report

July 2024

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Executive Summary

The European Union's implementation of the Carbon Border Adjustment Mechanism in October 2023 has sparked a global trend. This mechanism aims to level the playing field for domestic producers by placing a cost on imports with a high carbon footprint. Countries like the United States, Canada, the United Kingdom, and Japan are considering similar measures. Trinidad and Tobago's reliance on hydrocarbon exports—ammonia, methanol, and fertilizers—and carbon-intensive production processes makes it particularly susceptible to border carbon adjustment (BCA) measures by its trading partners. Despite its minimal contribution to global emissions (less than 0.1%), the country ranks high in per capita emissions.

BCAs could significantly impact Trinidad and Tobago. Increased production costs due to carbon pricing could make exports less competitive. Compared to its more decarbonized country competitors, Trinidad and Tobago has lower greenhouse gas reduction goals, regulations, capabilities, technology, and access to finance for reducing emissions and implementing carbon-efficient production. The country may face declining demand and market share, potentially leading to job losses and economic hardship. Furthermore, multinational corporations may relocate to jurisdictions with less stringent regulations. The domestic financial sector may struggle to support the significant investments needed for decarbonization. However, BCAs also present opportunities. They can incentivize cleaner production technologies and practices, ultimately reducing the country's overall carbon footprint. The country has made some progress here through its national climate plans, carbon capture and storage and sequestration initiatives, green hydrogen roadmap, and green manufacturing initiatives. However, greater investment in energy efficiency, clean technology, and renewables is needed to create green inputs, carbon capture, storage, and emissions measurement. However, financing, technical expertise, supportive policies, and institutional support are crucial for success.

Stakeholders in Trinidad and Tobago view BCAs with a mix of apprehension and opportunity. While concerned about potential harm to competitiveness, they see a chance to diversify exports, boost climate action, and be a leader in trade and climate discussions. The fairness and effectiveness of BCAs are key worries, with stakeholders advocating for special treatment for the country and the use of BCA revenue to aid developing nations. They support domestic carbon pricing but also emphasize non-fiscal measures like adaptation, mitigation, and clean technology adoption. Seeking clarity on the exact impact of BCAs, stakeholders propose international principles for a smooth transition, including technology transfer, multilateral cooperation, phased implementation, and fair rules. Overall, Trinidad and Tobago's fate with BCAs hinges on design details (product coverage, emissions scope, crediting policies, revenue use, and exemptions) and the industry's ability to adopt cleaner technology and lower emissions. Government support for mitigation and clean production will also be critical, as will the ongoing international negotiations around BCAs.



Trinidad and Tobago's future with BCAs hinges on a multi-pronged approach. Collaboration among stakeholders is key to both minimizing potential harm and seizing opportunities. The country can implement a carbon pricing scheme domestically, invest in clean technologies and energy efficiency, and prepare its workforce for a low-carbon future. Trade diversification can lessen reliance on markets with BCAs. International collaboration is critical to securing financing for green initiatives. Trinidad and Tobago also needs to be a proactive player on the international stage. Engaging in dialogue with implementing countries and advocating for fair, transparent BCA design that considers developing nations' needs are both crucial. The country should champion multilateral solutions and international agreements promoting a just global shift to a low-carbon economy. Sharing knowledge and seeking international support (financial and technical) will further strengthen their position. Ultimately, in the long term, economic diversification away from the energy sector offers long-term resilience.



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Abbreviations and Acronyms

AOSIS	Alliance of Small Island States
BCA	border carbon adjustment
CARICOM	Caribbean Community
COP	Conference of the Parties
CBAM	Carbon Border Adjustment Mechanism
EITE	emissions-intensive trade-exposed
ETS	emissions trading system
EU	European Union
FDI	foreign direct investment
GDP	Gross Domestic Product
GHG	greenhouse gas
HS	Harmonized System
LNG	liquefied natural gas
NDC	nationally determined contribution
SIDS	Small Island Developing State
TTEITI	Trinidad and Tobago Extractive Industries Transparency Initiative
UNFCCC	United Nations Framework Convention on Climate Change
WTO	World Trade Organization



1.0 Background, Methodology, and Approach

1.1. Introduction

Border carbon adjustments (BCAs) are a proposed policy tool gaining significant traction as countries look to scale up their climate change ambition and address competitiveness concerns. In essence, BCAs act as import charges levied on goods based on the carbon emissions associated with their production. It puts a price on the carbon created by goods that cross the border, as an adjustment to place imported goods on a level playing field with domestic goods. Essentially, BCAs aim to create a level playing field for domestic and foreign companies by factoring the carbon cost of production into the final price of imported goods. Governments are under increasing pressure to act, with BCAs becoming a key tool as the science around climate change becomes clearer, the impacts of climate change are increasingly being felt, and the cost of low-carbon technologies come down. BCAs could continue to grow in popularity as a key policy tool since they can accomplish the following:

- **Address carbon leakage:** One major concern with implementing carbon-pricing policies within a country is carbon leakage. This leakage occurs when companies simply move their production to countries with less stringent regulations, effectively exporting their emissions and undermining the effectiveness of the initial policy. BCAs aim to prevent this by charging an equivalent carbon price at the border, regardless of where the good was produced.
- **Encourage global climate action:** By making carbon-intensive imports more expensive, BCAs create an incentive for other countries to adopt stricter climate policies to remain competitive in the global market. This could lead to a ripple effect of carbon-pricing implementation, accelerating progress toward global climate goals.
- **Protect domestic industries:** Domestic companies complying with stricter carbon regulations could be at a disadvantage compared to cheaper, less regulated foreign competitors. BCAs help level the playing field, protecting domestic jobs and industries while driving innovation toward cleaner production methods.
- **Contribute to revenue generation:** The collected carbon charges from BCAs could be used to fund various initiatives, such as clean energy projects, climate adaptation measures, and support for developing countries in their transition to low-carbon economies.

The European Union (EU) is leading the charge on BCAs with its Carbon Border Adjustment Mechanism (CBAM), which came into effect on May 16, 2023, with the adoption of Regulation 2023/956. CBAM is being rolled out in two phases. During the transitional phase (October 2023 to December 2025), importers of covered goods aimed at emissions-intensive trade-exposed (EITE) sectors (cement, iron and steel, aluminum, fertilizers, electricity, and hydrogen) are required to report on the embedded emissions in their imports, and no financial adjustment is applied. The purpose of the transitional phase is to collect data and



allow stakeholders to familiarize themselves with the CBAM requirements. This is followed by the operational phase (January 2026 onwards), where importers of covered goods would be required to purchase and surrender CBAM certificates corresponding to the embedded emissions in their imports. The price of CBAM certificates will be linked to the price of carbon allowances under the EU Emissions Trading System (ETS). The CBAM is expected to gradually expand to cover other sectors and products once the transitional phase is over. The measure would affect producers and exporters worldwide, including Trinidad and Tobago. Other developed countries, such as the United Kingdom, the United States, Canada, and Japan, are evaluating the possibility of adopting similar BCA mechanisms.

In the context of Trinidad and Tobago, BCAs would apply a carbon-related charge to the country's exports that are at risk of carbon leakage. Taking the CBAM as an example, the mechanism would reflect the costs that the EU imposes on domestic producers under its ETS. Given that Trinidad and Tobago is a trade-dependent, hydrocarbon-based economy and is among the largest exporters of ammonia and fertilizers in the world, BCAs like the CBAM are expected to have significant economic, social, and environmental impacts. Moreover, as the EU is expected to extend the CBAM to other products, such as methanol and liquefied natural gas (LNG), more of Trinidad and Tobago's exports would be affected. Similarly, if countries such as Canada, the United Kingdom, the United States, and Japan are expected to impose their own BCA policies, Trinidad and Tobago stands to be further impacted. Currently, Trinidad and Tobago firms do not pay carbon taxes and would have to adopt the prices imposed by the BCA implementer based on the carbon content of their products. This would increase the price of the country's exports. Further, exporters would need to verify their emissions, which requires costly upgrades in technical capacity and technology.

The threat from BCAs is that exports from Trinidad and Tobago will be rendered less competitive through price increases, and there will be potential adverse effects on economic growth, government revenue, foreign exchange earnings, employment, and the standard of living. At the same time, BCAs offer an opportunity for Trinidad and Tobago to increase its climate ambition, accelerate diversification and decarbonization, and develop its own carbon taxes, pricing mechanism, and carbon market. The effects of BCAs on Trinidad and Tobago would depend on the country's trade patterns with the implementing country and its carbon policies, as well as the carbon intensity of its products and the production process. The primary concern for Trinidad and Tobago is the socio-economic impact of BCAs and how best to support its exporters in understanding and complying with BCA provisions, with the least possible impairment of competitiveness. At a higher level, the challenges include how Trinidad and Tobago can influence the policy and design choices made by its trading partners and how to ensure that its realities and concerns are taken into account. As part of that challenge, a key question is how to help ensure that if there are multiple BCA regimes, their various institutions and measurement and reporting protocols are not divergent, needlessly forcing exporters to conform to different requirements in regimes that are aimed at essentially the same objectives. As another part of that challenge, there is the question of what norms to use in assessing and critiquing BCA regimes and proposals. Trade law offers one benchmark by which some aspects of a BCA regime can be judged, but it is not particularly helpful on many important design questions.



1.2 Objectives of the Report

As the interest in tools like BCAs continues to grow as a part of the inevitable policy response to climate change, more such tools will be rolled out in the coming years, and more traded goods and sectors will be covered. While the current trends weigh heavily toward use by developed countries, that may change, as many developing countries have strong industrial sectors and ambitious plans for climate ambition of their own. The objective of this paper is to investigate the potential socio-economic and environmental impacts of BCAs on Trinidad and Tobago and its stakeholder response. More specifically, the report addresses the following questions:

- What are Trinidad and Tobago's sectoral vulnerabilities to foreign BCAs? What are the potential impacts?
- What have been the responses and actions by the government, affected industries, civil society, and other relevant stakeholders?
- Which of the key design elements of BCAs are most relevant to exporters in Trinidad and Tobago?
- What principles or best-practice standards could be used as benchmarks to judge the design choices made by foreign designers in elaborating a BCA regime?
- What options or channels exist to influence the adoption or design of foreign BCAs?
- What role could the financial sector play in supporting the decarbonization of BCA-exposed sectors? How could BCAs be designed to help the financial sector play this role?

1.3 Methodology and Approach

This country report has been prepared through a systematic process that consisted of the following three phases (see Figure 1):

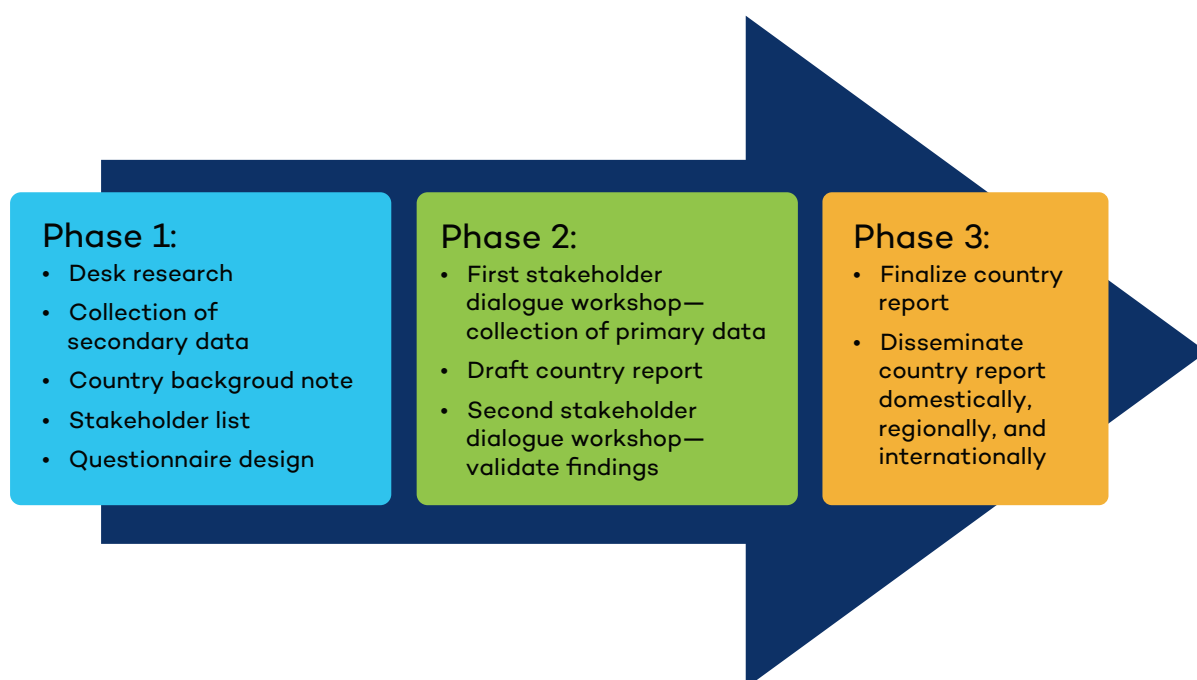
- Phase 1 involved the use of desk research and the collection of secondary data, including socio-economic and trade data and environmental data. The secondary data were used to write a background paper on the potential economic, social, and environmental impacts of BCAs on Trinidad and Tobago. A mapping of key stakeholders affected by BCAs in Trinidad and Tobago was also completed. These persons were invited to the First Stakeholder Dialogue Workshop and were provided with a copy of the background paper. A questionnaire was developed to guide data collection from workshop participants through a moderated discussion. Another questionnaire was developed for participants to fill out and return.
- Phase 2 involved the presentation of the background paper at the First Stakeholder Dialogue Workshop to engage with stakeholders on their reactions and responses to BCAs. A total of 45 participants attended. Primary data collection at the workshop arose from a moderated discussion using open-ended questions. A questionnaire was also given to participants containing both open- and close-ended questions to fill out and return. A draft country report was then produced using secondary data from the background paper and primary data collected from stakeholders at the first workshop.



Next, the draft country report was shared with stakeholders, who were then invited to the Second Stakeholder Dialogue Workshop, which 31 participants attended. At the workshop, the country report was presented, feedback was obtained, and findings were validated.

- Phase 3 involved the finalization of the country report based on feedback received at the Second Stakeholder Dialogue Workshop. Once finalized, the country report and its research findings will be widely shared domestically, regionally, and internationally.

Figure 1. Methodology and approach



Source: Author's compilation.

This report presents the Trinidad and Tobago case study on BCAs. Apart from the first section, which presents the background, introduction, methodology, and approach of the study, the report has four main sections. Section 2 gives the findings on the potential economic, social, and environmental impacts of BCAs on Trinidad and Tobago. Section 3 gives the reactions and responses of stakeholders in Trinidad and Tobago to BCAs, including their key design elements and use of international principles and best practices. Section 4 discusses the role of the financial sector in Trinidad and Tobago in funding the country's climate ambition and the decarbonization of BCA-exposed sectors and the wider economy, along with designing BCAs in a way that enables the financial sector to play this role. Section 5 concludes the report and provides policy recommendations.



2.0 The Potential Impacts of BCAs on Trinidad and Tobago

2.1 Trinidad and Tobago: Context

Trinidad and Tobago has a trade-dependent hydrocarbon-based economy. It has been involved in the energy sector for well over 100 years, which has led to the development of a large petrochemical sector and an energy-intensive manufacturing sector. The country has the largest manufacturing sector in the Caribbean. It is among the largest exporters of ammonia, methanol, and LNG in the world and is also a major exporter of iron and steel, machinery, and mechanical appliances and parts. The energy and manufacturing sectors utilize considerable amounts of non-renewable energy resources—in particular, domestically produced natural gas—making these products carbon intensive. The hydrocarbon sector accounts for more than 37% of the country's GDP, 40% of government revenue, and 80% of export earnings (Central Bank of Trinidad and Tobago, 2022). Given the capital-intensive nature of the energy sector, it accounts for just 3% of employment (Central Bank of Trinidad and Tobago 2022). There is, however, a large and growing oil and gas services sector, which provides significant indirect employment and self-employment (Mohan et al., 2021). The manufacturing sector accounts for 19% of the country's GDP and employs more than 52,000 persons (Ministry of Trade and Industry 2022).

The country has a relatively high GDP per capita of USD 14,480 (constant 2015 dollars) and is classified as a high-income country by the World Bank (World Bank, 2023). Trinidad and Tobago is nonetheless a Small Island Developing State (SIDS) with a high level of trade openness and vulnerability to climate shocks and disaster events.¹ The country is responsible for less than 0.1% of global GHG emissions. However, given its fossil fuel-based economy and small population, its CO₂ emissions per capita are over 20 tonnes, which is among the highest in the world (Ritchie & Roser, 2020). The industrial sector, primarily comprised of petrochemicals and manufactured products along with power generation and transportation, accounts for over 70% of greenhouse gas (GHG) emissions. The country aims to achieve a 15% reduction in cumulative GHG emissions from these sectors by 2030 (Ministry of Planning and Development, 2021). It is estimated that 0.6% of the population, or 10,000 persons (in 2021), is multi-dimensionally poor, while an additional 3.7% is classified as vulnerable to multidimensional poverty (56,000 people in 2021) (United Nations Development Programme, 2023). Copious amounts of oil and gas revenues have allowed the government to provide free education, generous pensions, and high social investment in the past.

¹ Trinidad and Tobago is classified as a SIDS by the United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and the Small Island Developing States (UN-OHRLLS).



Trinidad and Tobago has a well-established institutional environment and stable macroeconomic indicators, which give companies the confidence to invest in the oil and gas industry and its downstream sectors. There has been large-scale investment by multinational corporations and large publicly owned companies, together with a nascent local industry that has developed the capacity to provide products internationally in the exploitation of hydrocarbon reserves and the conversion of natural gas into LNG, petrochemicals, and manufactured products. The country has outlined its ambitions to attract private investment to green its industrial transformation through its green hydrogen road map. There is also growing interest in the storage aspect of carbon management. In its *Strategy for Reduction of Carbon Emissions in Trinidad and Tobago to 2040*, the Ministry of Planning and Development identified the development of a Carbon Capture and Storage Map with several viable locations across the country (Government of the Republic of Trinidad and Tobago, 2015). Trinidad and Tobago's banking sector remains liquid, and following COVID-19, lending to businesses has rebounded (Central Bank of Trinidad and Tobago, 2022). The country's Central Bank is seeking to integrate climate change considerations into its financial sector supervision and risk assessment and is a member of the Network for Greening the Financial System, which seeks to mobilize capital for green and low-carbon investments (Ramlogan & Nelson, 2023).

2.2 Economic Impacts

An examination of Trinidad and Tobago's export basket and trading partners reveals that the economic impact of BCAs on the country is expected to be large. The country's top exports fall under the EITE sector and are carbon intensive. Moreover, the country has high export shares going to the EU and other countries that are likely to implement BCAs. As a major exporter of products with highly embedded carbon emissions, if BCAs are implemented by major trading partners, Trinidad and Tobago's exports could potentially become less competitive and lose market share. Increased production costs due to BCAs could make Trinidad and Tobago's exports less competitive. This could negatively impact foreign exchange earnings, employment, government revenue, investment, exchange rate stability, and economic growth. Job losses could occur in extraction, refining, manufacturing, and related sectors, such as energy services. These economic impacts would, however, depend on the specific design of the BCAs, such as the carbon-pricing mechanism, coverage of products, calculation of carbon intensity, and adjustment periods. Also, Trinidad and Tobago's ability to adopt clean technology in production processes and decarbonize its economy will be crucial in mitigating negative impacts and seizing opportunities. In the long term, diversification of the economy away from carbon-intensive products and toward climate-resilient sectors, as well as market diversification toward countries without BCAs, can further reduce negative economic impacts.



Table 1 shows the top export products of Trinidad and Tobago, and Table 2 shows its top export partners. Thirty-three percent of the country's total exports would be affected by BCAs using products that fall under the EITE sector—representing approximately 13.5% of GDP.² Exports that are expected to be covered by BCAs would extend to all products with a risk of carbon leakage. For instance, the CBAM's scope is expected to extend to all product groups covered by the EU ETS by 2030. Similarly, other countries implementing BCAs would likely include these broader ranges of products. If the basket of affected products were to be expanded to other petrochemical and manufactured products, exports affected would increase to 83% and approximately 34% of GDP.³

Trinidad and Tobago's top export destination is the United States, which accounts for 37% of its total exports (Table 2). Roughly 82.4% of Trinidad and Tobago's exports to the United States would be covered by the BCA if it were to implement such policies (see Table A2 in the Appendix).⁴ The United Kingdom, Canada, and Japan, which have also indicated an interest in implementing BCAs, constitute a relatively small proportion of Trinidad and Tobago exports, at 1.41%, 1.04%, and 0.32%, respectively. Over 90% of exports to these countries are carbon intensive and are expected to be covered by BCAs (see Tables A3, A4, and A5 in the Appendix). Other top export destinations for Trinidad and Tobago include Morocco (6%), Guyana (5%), Mexico (3.5%), and Brazil (3.4%). Developing countries such as these are carefully monitoring the situation and have not completely ruled out the option.

Table 1. Trinidad and Tobago's top export products in 2021

Harmonized System (HS) classification	Exports (USD million)	% of total
Ammonia	1,741	18
Acyclic alcohols	1,700	17
Petroleum gas	1,338	14
Crude petroleum	1,319	13
Iron reductions	796	8
Nitrogenous fertilizers	758	7
Refined petroleum	544	6

Source: Author's compilation based on UN Comtrade Database, 2023.

² Trinidad and Tobago exports to the world include ammonia (18%), iron reductions (8%), and nitrogenous fertilizers (7%).

³ Trinidad and Tobago exports to the EU include acyclic alcohols like methanol (17%), petroleum gas in the form of LNG (14%), crude petroleum (13%), and refined petroleum (6%).

⁴ Trinidad and Tobago exports to the United States include mineral fuels, mineral oils, and their distilled products (26%), iron and steel (22%), inorganic chemicals (15%), organic chemicals (11%), and fertilizers (8.4%).

**Table 2.** Trinidad and Tobago's top export partners in 2022

Country	Exports (USD million)	% of total	Country rank
United States	4,906	37	1
Belgium	836	6.30	2
Morocco	753	5.68	3
Guyana	655	4.94	4
Spain	607	4.58	5
Mexico	462	3.49	6
Brazil	446	3.36	7
France	345	2.60	8
Puerto Rico	308	2.32	9
Korea	289	2.18	10

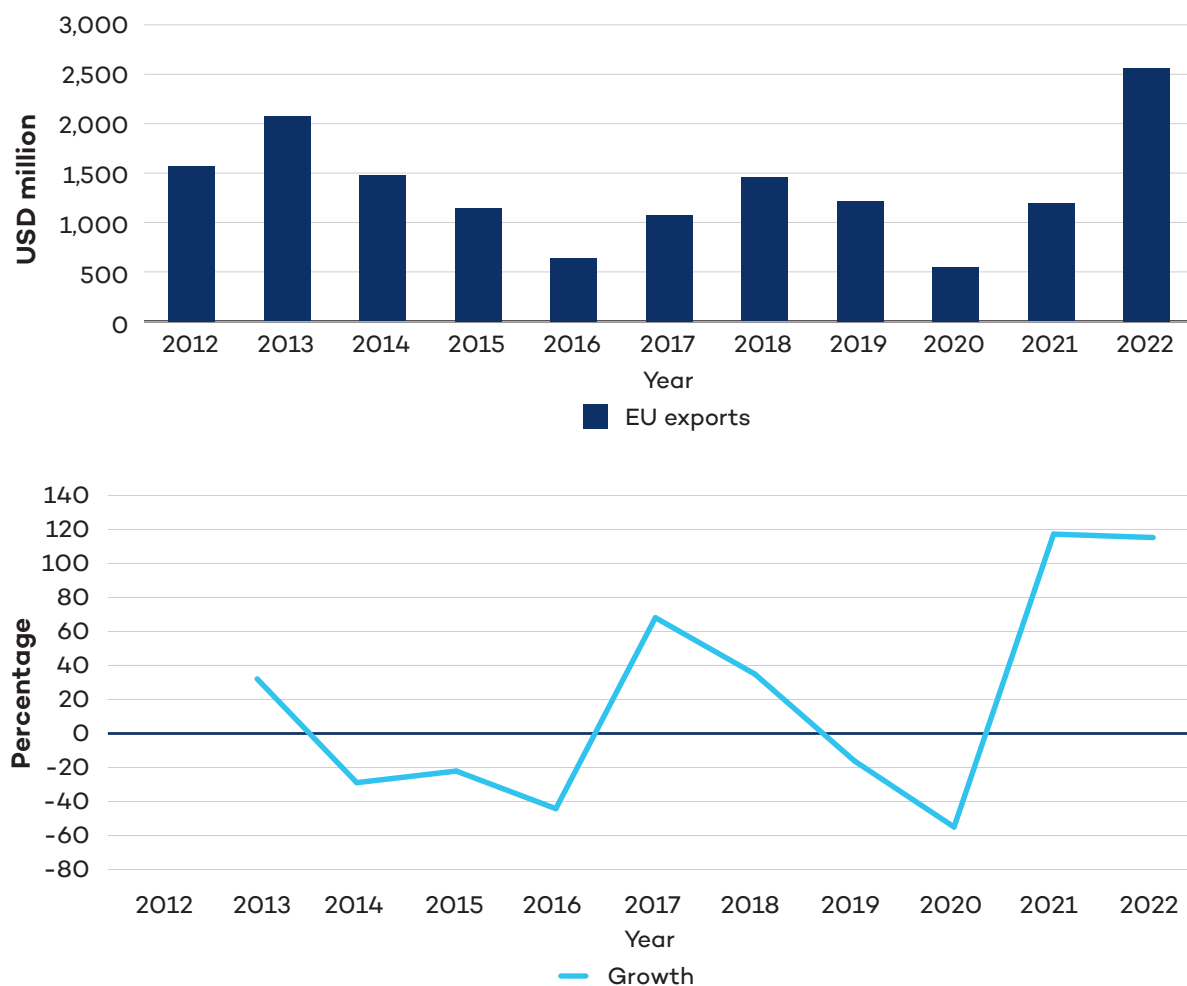
Source: Author's compilation based on Central Statistical Office of Trinidad and Tobago, 2023.

Looking specifically at the CBAM, the EU is Trinidad and Tobago's second-largest trade partner, with an export share of 14% of total exports. Moreover, Trinidad and Tobago's exports to the EU have been increasing since 2022 following the COVID-19 pandemic. Exports doubled between 2021 and 2022, driven by the Russia/Ukraine war, which increased global energy prices, including those of ammonia and fertilizer (Figure 2). The value of exports that would be affected by the CBAM total USD 2,320.6 million, or 90.5% of Trinidad and Tobago's exports to the EU (see Table A1 in the Appendix).⁵ It must be noted that this figure may be an overestimate, as it covers goods expected to be covered by the CBAM in the future.

⁵ Trinidad and Tobago exports to the EU affected by the CBAM are inorganic chemicals (USD 721.9 million, or 28% of Trinidad and Tobago exports to the EU), mineral fuels (USD 687.4 million, or 27% of Trinidad and Tobago exports to the EU), organic chemicals (USD 499.5 million, or 19.5% of Trinidad and Tobago exports to the EU), and fertilizers (USD 411.8 million, or 16% of Trinidad and Tobago exports to the EU).



Figure 2. Trinidad and Tobago’s exports to the EU



Source: Eurostat Comext, 2023.

Table 3 displays the world’s main exporters of BCA-affected products along with Trinidad and Tobago’s rank (based on its export shares to the world). These data indicate Trinidad and Tobago’s global export competitiveness with BCA-exposed products. Trinidad and Tobago ranks 15th for inorganic chemicals. Its main competitor is China, followed by the United States, South Korea, Germany, and Chile. These countries all have relatively more advanced environmental ambitions, renewable energy resources, and regulations than Trinidad and Tobago. Technical capacity and access to green finance are also higher in these countries, which would assist them in more easily incorporating BCA trading rules, meeting regulatory standards, adopting clean technology, and decarbonizing their economies. Another trade category where Trinidad and Tobago would be affected is fertilizers: the country ranks 23rd, and its main competitors are Canada, China, the United States, Morocco, and Germany. Again, most of these countries have higher environmental goals, better access to renewable energy sources, and more green regulations than Trinidad and Tobago. As such, the introduction of BCAs could have a strong negative impact on market share and the international competitiveness of Trinidad and Tobago’s exports if the nation is not able to reduce its GHG emissions in line with its global competitors.

**Table 3.** The world's main exporters of BCA-affected products

Chapter and description	1st	2nd	3rd	4th	5th	Trinidad and Tobago rank
Salt, sulphur, earths and stones, plastering materials, lime, and cement	Australia	China	Turkey	United States	Germany	98
Ores, slag, and ashes	South Africa	Brazil	Canada	Ukraine	EU	88
Inorganic chemicals	China	United States	South Korea	Germany	Chile	15
Fertilizers	Canada	China	United States	Morocco	Germany	23
Cast iron, iron, and steel	China	EU	Japan	Germany	South Korea	46
Works of cast iron, iron, or steel	China	EU	United States	South Korea	Japan	90
Aluminum and its works	China	EU	Canada	United States	India	107

Source: Author's compilation based on World Integrated Trade Solution, 2023.

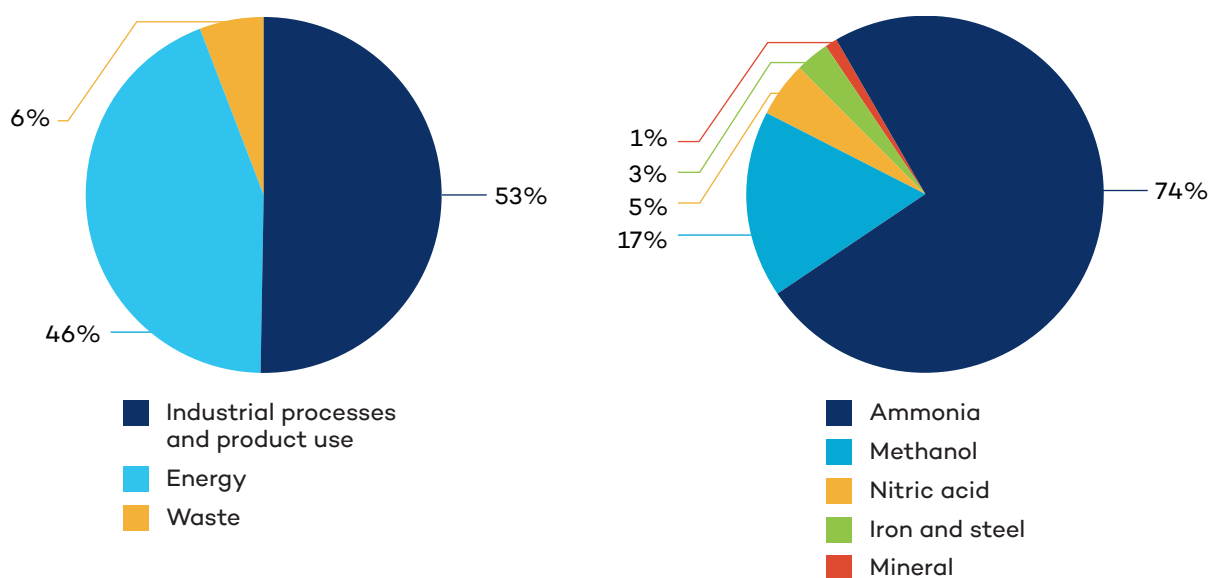
2.3 Environmental Impacts

Trinidad and Tobago's status as a SIDS makes it particularly vulnerable to climate change impacts and extreme weather events, raising concerns about its ability to build climate resilience while facing the economic challenges of BCAs. The overall environmental impact of BCAs on the country would nonetheless depend on the design of the BCA—stringent BCAs with broad coverage would have a greater positive impact on the environment but bring higher economic fallout. The response of other countries is also important. If other major emitters do not adopt measures to reduce the carbon content of their exports, the global environmental impact of BCAs might be limited. BCAs could nonetheless create a strong incentive for Trinidad and Tobago to accelerate its transition away from fossil fuels and toward renewable energy sources, as well as improve energy efficiency and the use of carbon capture and storage technologies in the production of petrochemicals and manufactured goods. The transition to a low-carbon economy could attract new investments in renewable energy, clean technologies, and sustainable infrastructure. The country could also derive long-term benefits by diversifying the economy away from the energy sector, creating green jobs, increasing economic growth, and enhancing climate resilience. Less air pollution would also be an added benefit. Air pollution is the 6th leading cause of death in Trinidad and Tobago. It can irritate the lungs, worsen asthma, and contribute to heart disease, stroke, lung cancer, and other health problems (Our World in Data, 2019). Additionally, working in a cleaner air environment facilitates higher levels of worker productivity. Health issues can also lead to more sick days and lower productivity at the workplace. These actions may, however, be hindered by a lack of access to finance, as well as technical capacity and skills in the workforce.



A small number of large publicly owned and multinational companies in Trinidad and Tobago are engaged in BCA-exposed exports. These exports are responsible for over 50% of Trinidad and Tobago’s electricity consumption, which comes from natural gas (Ministry of Planning and Development, 2021). These exports (classified as the industrial sector) were responsible for over half the country’s domestic GHG emissions (Figure 3). Within the sector, ammonia (74%) accounted for the largest share, followed by methanol (17%), nitric acid (5%), iron and steel (3%), and minerals (1%) (Figure 3). Thus, the production process of Trinidad and Tobago’s BCA exports is carbon intensive. Moreover, trends over time illustrate that the country’s total GHG emissions and emissions associated with the industrial sector have remained constant, with little progress in reducing these emissions (Figure 4).

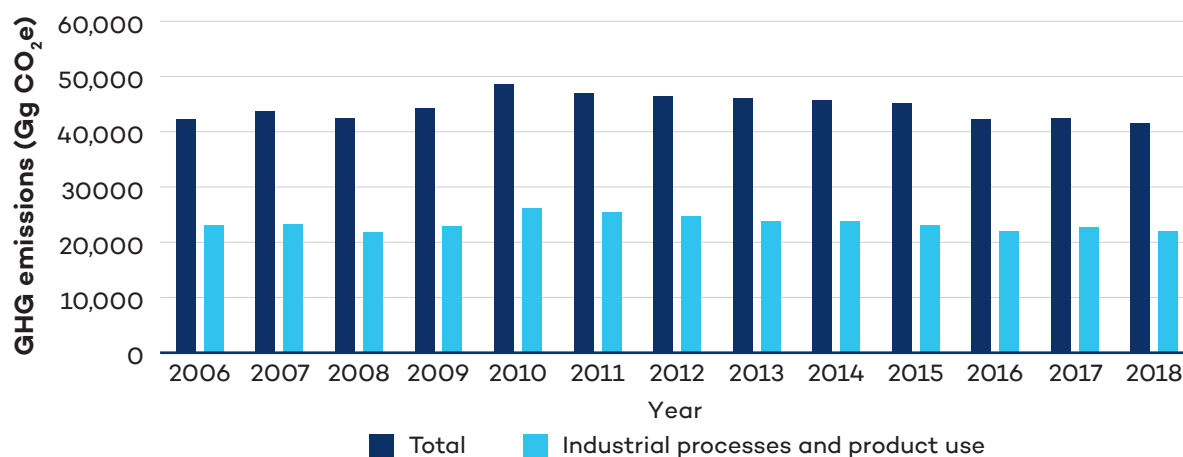
Figure 3. GHG emissions by sector and BCA-affected sub-sectors



Source: Ministry of Planning and Development, 2021.

Note: The figure excludes agriculture, forestry, and other land uses because their contribution was negative (-5%).

Figure 4. GHG emissions, total and industrial sector (in gigagrams of carbon dioxide equivalent [Gg CO₂e])



Source: Ministry of Planning and Development, 2021.



Trinidad and Tobago's existing climate commitments and plans would influence the environmental impact of BCAs on the country. The country was among the first to submit its nationally determined contributions (NDCs) to the United Nations Framework Convention on Climate Change (UNFCCC), which outlined its national plan to reduce GHG emissions. The country's NDCs were based on its Carbon Reduction Strategy, which was developed for the industrial sector (made up primarily of BCA products), as well as power generation and transportation, given that these are the major GHG-emitting sectors. The country aims to achieve a reduction in overall emissions from the industrial sector along with power generation and transport by 15% by 2030 from a business-as-usual scenario (equivalent to 103 million tonnes of CO₂). USD 2 billion is the estimated cost to be met by domestic and international funding. To achieve its NDCs, the government also defined a policy framework for a low-carbon development plan through its National Climate Change Policy and an NDC implementation plan. More recently, the government has enhanced its climate ambition and set a target of 30% of renewable energy sources in the country's power supply by 2030, mainly through solar and wind power, which can help reduce GHG emissions in BCA-exposed sectors (Office of the Prime Minister, 2022). The country is also in the process of developing a Just Transition of the Workforce Policy to facilitate an effective and inclusive transition to a low-carbon-emission economy by creating new opportunities for the workforce, including those engaged in BCA-affected products.

To mainstream climate action into BCA-affected sectors, a Nationally Appropriate Mitigation Action was designed in 2016. It focused on reducing flaring and venting and providing financial incentives for emission reductions in BCA products. More recently, detailed mitigation measures have been proposed to reduce GHG emissions in BCA sectors, as shown in Table 4. These measures include energy audits, carbon capture and storage, improved use of energy and heat, renewable energy sources, thermal desalination, reduced venting and flaring, efficient technologies, energy conservation, and lower waste generation. Deadlines for the implementation of these mitigation measures have, however, not been provided by the government, and CBAM measures are already being implemented, with full implementation scheduled for 2026.

Trinidad and Tobago has developed a Roadmap for a Green Hydrogen Economy. The aim is to position the country as a regional green hydrogen, ammonia, and methanol exporter, which would significantly reduce the country's exposure to BCA measures. The country is also well placed to start positioning itself in the market for low-carbon ammonia with the introduction of carbon capture on existing downstream facilities. It could subsequently transition to renewable energy and green hydrogen once the upstream green infrastructure is in place. The petrochemicals industry currently consumes 1.5 million tonnes of grey hydrogen per annum, which could eventually be displaced by green hydrogen (IDB, 2022). To transition to a green hydrogen economy, Trinidad and Tobago requires the right enabling policies, regulatory frameworks, and institutional support to build capacity and attract green finance and foreign direct investment (FDI). The benefits of a green hydrogen economy to BCA-exposed exports would therefore take time.



The Ministry of Trade and Industry implemented the Green Manufacturing Initiative. This initiative aims to improve energy efficiency and engender a culture of sustainable manufacturing practices in Trinidad and Tobago through three main components. As part of the policy, the ministry would conduct an energy-efficiency audit of manufacturing companies. The audit will take into account all areas of energy consumption and assist businesses in determining the best way to alter their processes to reduce energy consumption and waste generation. The government also plans to establish the Green Manufacturing Grant. This grant will fund a retooling of production processes through the purchase and installation of equipment and technology to improve energy efficiency and reduce waste. Lastly, the initiative will carry out green upskilling of human resources by providing training to manufacturers interested in adopting green practices.

Table 4. Mitigation measures in BCA-affected sectors

Measures	Description
Energy audits	Quantify, categorize, and analyze the energy usage required for the proper design of mitigation strategies.
Carbon capture and storage	Analyze the potential of Trinidad and Tobago for the implementation of carbon capture and storage technologies to capture CO ₂ emissions.
Improved use of energy and heat in industrial processes	Promote the development of energy-efficiency actions and the reduction of produced waste heat in the industrial sector of Trinidad and Tobago (except in the oil and gas sectors).
Measures complementary to renewable energy sources	Install renewable energy technologies in the industrial sites of Trinidad and Tobago to provide supply for low-energy consuming processes.
Thermal desalination	Improve the energy efficiency in Trinidad and Tobago by creating a desalination plant that would use waste heat from industrial sites to produce desalinated water for industrial purposes.
Reducing venting and flaring	Diminish the consumption of fuels in the oil and natural gas sectors by reducing venting and flaring emissions in these sectors in Trinidad and Tobago.
Efficient technologies in the oil and natural gas sector	Implement more efficient technologies in the oil and natural gas sector in order to reduce fuel consumption in the production process.
Promotion of energy conservation and lower waste generation	Promote best practices to reduce the consumption of resources and waste generation in the industrial sector of Trinidad and Tobago.
Hydrogen economy	Report that initiatives are being pursued with the private sector to create green hydrogen for petrochemical use and for N ₂ O abatement.

Source: Ministry of Planning and Development, 2021.



2.4 Social Impacts

BCAs can have complex social impacts on Trinidad and Tobago, potentially affecting workers, consumers, and entire communities. Job losses can occur in BCA-exposed sectors as production becomes more costly and products become less competitive internationally. In turn, economic hardship could result in affected communities where these companies operate, such as Point Lisas, Pointe-A-Pierre, and Mayaro. These communities tend to have higher unemployment rates, particularly Mayaro. Moreover, these communities and the fence line communities, by extension, tend to rely on BCA sectors to push economic activity through forward and backward linkages. Table 5 shows that the manufacturing and the petroleum and gas sectors account for an average of 10% of the workforce. Additionally, BCAs can increase the prices of essential goods, such as food and construction materials, disproportionately impacting low-income households and other vulnerable groups.

BCAs can also lead to reduced government revenue. This could strain public finances, impacting essential services, social safety nets, and social programs. A study by the Trinidad and Tobago Extractive Industries Transparency Initiative (TTEITI) demonstrates that government social expenditure accounts for 41% of oil and gas revenue. TTEITI developed a model to project extractive revenue and its impacts on social expenditure if oil and gas revenue declined by 20%. The results demonstrate negative impacts on the poor, elderly, disabled, and students, as there would be less revenue to fund critical social programs, such as the Senior Citizens' Pension, the Community-Based Environmental Protection and Enhancement Program, Government Assistance for Tertiary Education, and Public Assistance Grants (Deonanan, 2024).

On the other hand, BCAs can incentivize cleaner production and reduce reliance on fossil fuels in Trinidad and Tobago. This could lead to reduced emissions, which would benefit everyone's health and the environment. Also, the revenue generated from BCAs, if directed toward funding clean energy development, green jobs, and training and development programs in Trinidad and Tobago, could assist workers and communities impacted by the transition to a low-carbon economy.

**Table 5.** Employment across sectors (% of total employment)

Year	Agriculture	Construction	Manufacturing	Not stated	All other sectors	Petroleum & gas	Transport storage & communications
2022	4	13	7	1	68	2	6
2021	5	12	7	1	67	2	6
2020	5	12	6	1	67	2	6
2019	3	14	8	1	66	2	6
2018	4	15	8	1	65	2	6
2017	4	15	8	0	64	2	7
2016	3	16	8	0	62	3	7
2015	3	16	8	0	61	3	7
2014	4	17	8	1	61	3	7

Source: Authors' compilation based on data from Central Bank of Trinidad and Tobago, 2022.



3.0 Stakeholder Responses

3.1 Responses and Actions Taken by Stakeholders

The majority of stakeholders (71%) who attended the first workshop are familiar with the concept of BCAs (Figure 5). Stakeholders generally support the implementation of BCAs (10% strongly support and 55% somewhat support) (Figure 6). However, stakeholders also expressed some concerns about the proposed implementation of BCAs and the CBAM in particular. They nonetheless understand that BCAs are a reality initially adopted by the EU with Canada, with the United Kingdom and the United States soon to follow, and should be viewed as an “opportunity” and a “learning experience” for Trinidad and Tobago. Overall, they see both advantages and disadvantages with its implementation. The benefits of BCAs are primarily their expected positive impacts on the environment through a reduction in GHG emissions by incentivizing the adoption of cleaner technologies in the energy and manufacturing sector and decarbonizing the economy. The negative impact is mainly socio-economic, through a reduction in export competitiveness and potential job losses and risk to social programs. Some stakeholders were even optimistic and viewed BCAs as an opportunity to help Trinidad and Tobago diversify away from the non-renewable, energy-intensive sector into climate-resilient sectors. This can eventually lead to improvements in Trinidad and Tobago’s competitiveness in the global market for energy and manufactured products while increasing climate ambition and resilience.

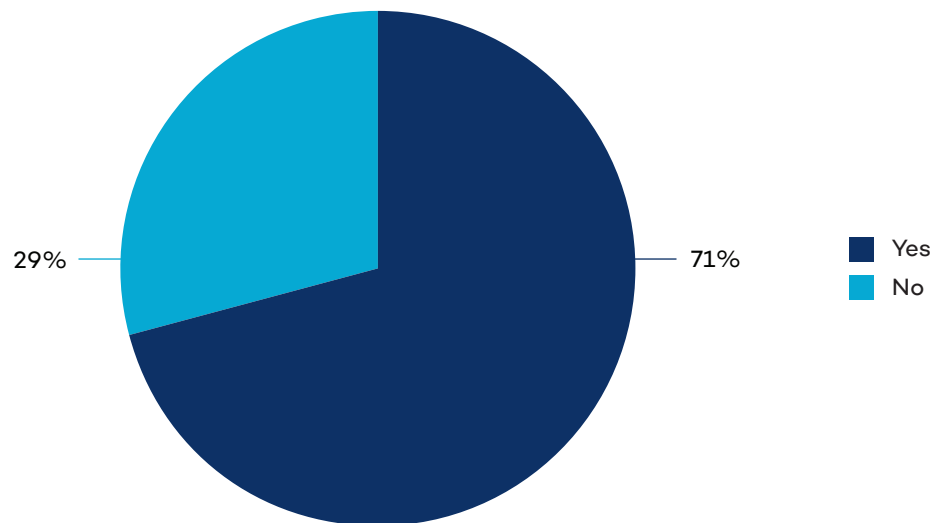
On the other hand, some stakeholders expressed concerns about the potential distortive nature of BCAs, such as CBAM regulations within the World Trade Organization (WTO) and other multilateral forums. They argued that the CBAM may violate the principles of non-discrimination as laid out in the General Agreement on Tariffs and Trade since it introduces differential treatment between EU member states, EU Free Trade Association countries, and countries outside the bloc. These stakeholders argued that BCAs unfairly target developing countries like Trinidad and Tobago, which have historically lower emissions than developed countries, and they could harm the economy. They added that the CBAM has received a lot of criticism because of the way it was designed and its impact on small countries.

An attendee stated that while BCAs are inevitable, they do not support the design and implementation of the EU’s CBAM. The attendee further iterated the need for Trinidad and Tobago to have an influence in global discussions and help shape measures as more countries adopt their own BCA policies. While the EU maintains that CBAM is WTO compliant, some attendees contested this stance. Given this, the majority of respondents have taken the view that since the implementation of the CBAM, BCAs are the new reality and the way forward. In fact, over 90% of respondents stated that they expect that BCAs will become a widespread policy tool in international climate policy (Figure 7). As specified by one participant, “The focus should be on what it is (BCAs) and how we adjust to the new reality of what it is because it is absolutely going to happen.” Given this view, it was suggested that Trinidad and Tobago learn about BCAs and understand how they work in order to develop the best response.



Figure 5. Stakeholder familiarity with BCAs

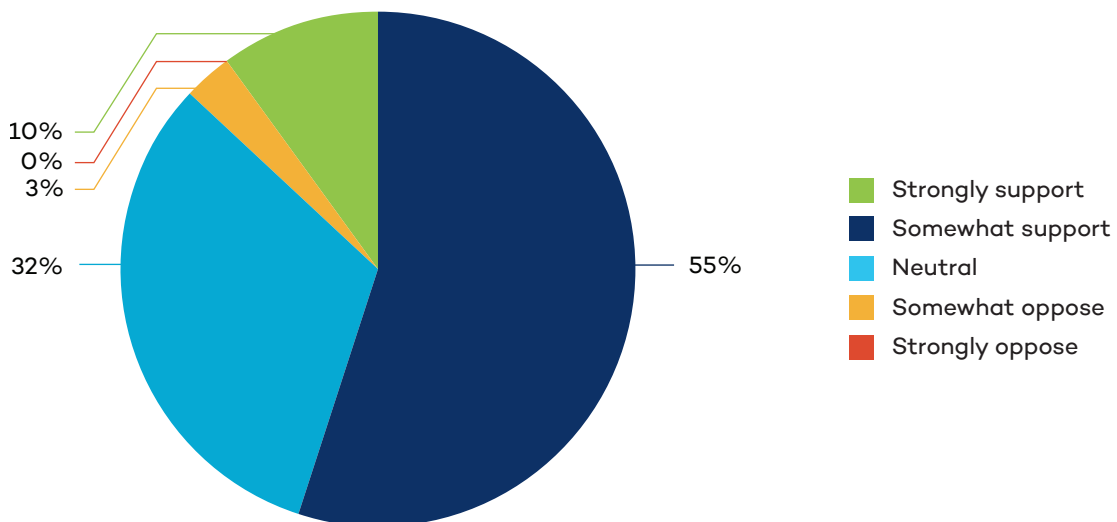
Are you familiar with the concept of BCAs?



Source: Authors' compilation based on questionnaire responses by stakeholders.

Figure 6. Stakeholder support for BCAs

To what extent do you support the implementation of BCAs globally?

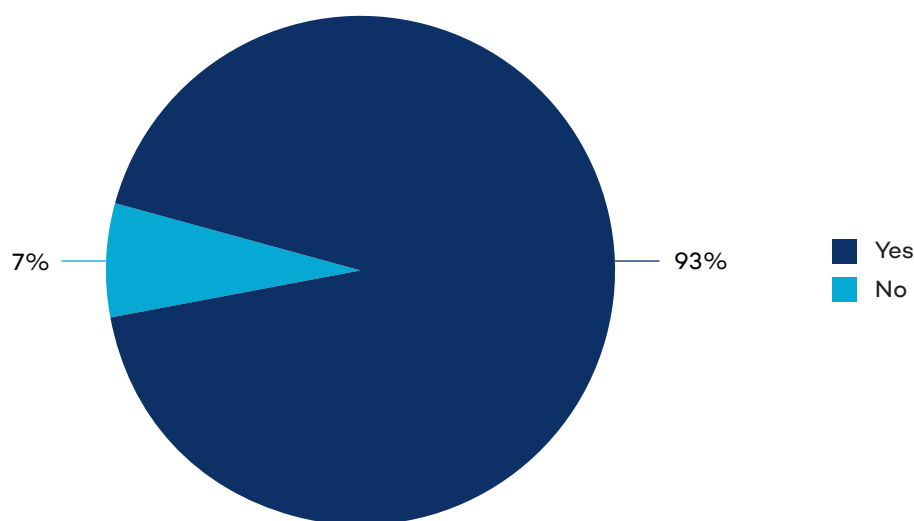


Source: Authors' compilation based on questionnaire responses by stakeholders.



Figure 7. Stakeholder view on whether BCAs will become a widespread policy tool

Do you believe BCAs will become a widespread tool in international climate policy?



Source: Authors' compilation based on questionnaire responses by stakeholders.

3.1.1 Government

Government stakeholders were apprehensive that BCAs could have significant economic, social, and environmental impacts on Trinidad and Tobago. The government advocated for considering the national circumstances and development needs of Trinidad and Tobago in BCA design, supported a multilateral approach to carbon pricing, and emphasized the need for fairness and equity in BCA implementation. As a participant noted, the government has taken action by actively partaking in international climate negotiations and advocating for its interests. In the case of the CBAM, for example, the government publicly expressed concerns while engaging in constructive dialogue with the EU to seek solutions that minimize negative impacts on the economy and ensure a fair transition to a low-carbon future.

The socio-economic impact of the CBAM is at the forefront of government reservations. It was noted that, because the EU is the country's second-largest trade partner, it could significantly impact a large proportion of the country's exports and potentially lead to job losses, reduced government revenue, and foreign exchange earnings. In his 2024 Budget Statement, the Minister of Finance, Colm Imbert, stated that the CBAM is likely to reduce the competitiveness of the country's exports, such as ammonia and fertilizer, with implications for employment (Parliament of the Republic of Trinidad and Tobago, 2024). The minister, however, saw BCAs as providing a significant opportunity for Trinidad and Tobago to invest in cleaner technologies for its energy and manufacturing sector. This would reduce the country's carbon footprint and potentially mitigate the impact on exports, diversify the economy away from its dependence on fossil fuels, and increase investments in renewable energy and other sustainable sectors. He noted that the country is taking steps against BCA measures by developing green hydrogen for use in the downstream petrochemical and manufacturing sector and the creation of sustainable jobs as it pursues a just transition.



BCAs have also encouraged the government to consider a carbon tax and carbon-pricing policies locally. In a newspaper article, the Minister of Planning and Development at a UNFCCC Pre-Conference of the Parties (COP) 27 meeting stated that carbon-pricing policies would be considered in Trinidad and Tobago in light of the implementation of the CBAM (Trinidad and Tobago Newsday, 2022). The government has also called for the EU to design the CBAM in a way that is fair and equitable for all countries and transparent and clear in its design. This is to ensure that BCAs do not unfairly burden developing countries, which have historically contributed less to global emissions compared to developed nations; as such, developed countries should take on a larger share of the responsibility for carbon reduction. The government understands that the issue of BCAs is evolving and continues to monitor the situation closely to adapt its strategy as needed.

3.1.2 The Private Sector

The private sector is greatly disturbed by the higher production costs associated with implementing BCAs. They are expected to pay higher taxes based on the carbon content of their exports and face greater administrative costs for providing information on the carbon content of their exports. This could lead to higher prices for their consumers and reduced international competitiveness and market share. Private sector stakeholders revealed that they have been preparing themselves to deal with BCAs by becoming knowledgeable on the topic, developing their technical capacity for reporting the carbon content of their exports through their own research, and attending seminars, conferences, and other events. Some companies have also procured the services of tax consultants to help determine the exact tax they would face once the CBAM is fully implemented. Companies have also been lobbying the government to advocate on their behalf in international trade negotiations and to allow for participation in discussions on BCA design.

Firms have also expressed a keen interest in capitalizing on the green opportunities presented by BCAs. The NewGen Project was announced at COP 28 and is a subsidiary of Kensesjay Green Limited. The project seeks to establish one of the largest green hydrogen plants in the world in Trinidad and Tobago by 2025. One of their project goals is to ensure that CBAM exports to the EU remain competitive and become less carbon intensive. NewGen also stated that, together with green stakeholders, the company has identified opportunities and recommendations to more efficiently carry out clean energy projects in Trinidad and Tobago, which was shared with the Minister of Planning and Development (Hosein, 2023).

Private sector stakeholders raised concerns about financing decarbonization projects. They stated that access to green finance in Trinidad and Tobago is a challenge. The cost of decarbonization and renewable energy projects is high. For instance, it is estimated that the development of a Caribbean/regional hydrogen economy would cost over USD 50 billion (Hosein, 2023). The private sector stated that it is important that businesses work with multilateral organizations such as the Caribbean Development Bank and the Inter-American Development Bank, as well as multilateral climate funds such as the Green Climate Fund, to access the financing and technical capacity required. The country can also seek to attract FDI in the petrochemical and manufacturing sectors. Additionally, it was suggested that the taxes received from BCAs should be used to help developing countries like Trinidad and Tobago decarbonize their exports.



3.1.3 Civil Society

Civil society views on BCAs vary. Some participants supported BCAs as a tool to address climate change, while others expressed concerns about potential economic and social impact, especially on vulnerable populations, and the need for fair implementation. All groups nonetheless emphasized the importance of public participation in decision-making regarding BCAs and ensuring transparency and accountability. Actions adopted by civil society have been to engage in public discussions, advocacy, and awareness-raising campaigns on BCAs and push for policies that promote environmental sustainability and social equity. Civil society organizations with a focus on saving the environment are hopeful that BCAs can reduce GHG emissions and help Trinidad and Tobago achieve its NDC targets. These groups advocated for ambitious BCAs that effectively address climate change while recognizing the need for a just transition for affected communities. Other groups are concerned that BCAs can lead to high international prices for products such as food and construction materials, which can be a disadvantage for the most vulnerable in society. These groups felt that while businesses are very aware of BCAs and their potential impacts, the general public is not, and these organizations see a role here that they can fill.

The reaction from business chambers, export promotion agencies, and think tanks about BCAs has been one of information gathering and public education. The Energy Chamber of Trinidad and Tobago collaborated with the EU and the Caribbean Export Development Agency to host a webinar to educate its members on the CBAM (The Energy Chamber, n.d.). The Energy Chamber viewed the CBAM as a potential opportunity to encourage decarbonization of the operations and products in Trinidad and Tobago's energy sector and to develop a pricing mechanism for carbon. Other civil society organizations have also been working closely with the government to increase education and build technical capacity. Climate Analytics Caribbean, for instance, assisted the Ministry of Planning and Development in hosting the UNFCCC Pre-COP 27 event, which addressed the issue of carbon markets (Trinidad and Tobago Newsday, 2022).

3.1.4 Trade Unions

Trade unions in Trinidad and Tobago are concerned that BCAs could lead to job losses in the energy and manufacturing sectors, impacting livelihoods and communities. They are seeking assurances for potentially affected workers and communities and therefore support the design of BCAs with measures that protect jobs and ensure a just transition for workers. These unions also recognize the need for climate action and see BCAs as a potential driver for cleaner technology adoption in Trinidad and Tobago. They believe that BCAs could incentivize cleaner production methods and benefit industries relying on natural resources. Trade unions also raised concerns about the potential social impacts of BCAs, particularly on low-income households and communities dependent on the energy and manufacturing sector. They emphasized the need for social safety nets and targeted support measures to mitigate negative economic consequences. Trade unions stand ready to negotiate with companies and the government to ensure workers' rights are protected as BCAs are implemented.



3.1.5 Academics

Academics expressed cautious skepticism toward BCAs. They warned that the CBAM, for instance, could reduce the competitiveness of Trinidad and Tobago's exports, given its limited ability to incorporate carbon-efficient production methods compared to developed country competitors (Barbados Today Traffic, 2021; Shiridath Ramphal Centre, 2021). There is also the potential for increased harm if the industries and products listed under the CBAM, as well as the number of countries that intend to implement similar BCA measures, grow. They have also expressed concerns about the effectiveness, fairness, and compatibility of BCAs with international trade rules, particularly WTO rules that prohibit discriminatory measures and its national treatment obligation, which prohibits countries from favouring domestic producers over foreign producers. Academics also raised the issue of the actual effectiveness of the CBAM in reducing GHG emissions, as its scientific and political aspects have been questioned in international debates, including at the WTO. Questions about the design and implementation of BCAs have also been raised, with fears voiced that they could be opaque and lack input from developing countries, potentially leading to discriminatory practices. Academics advocated that it is paramount that the voice of Trinidad and Tobago be heard in international debates about the design of BCAs.

Academics argued that BCAs could unfairly burden Trinidad and Tobago, which has historically emitted less carbon than developed countries and is highly vulnerable to climate change impacts. They believe that BCAs could disproportionately hurt the economy and its development prospects. They suggested, for example, that revenues collected under CBAM should go to free technology transfer and climate project funding to developing countries like Trinidad and Tobago to reduce the carbon intensity of its production processes. Additionally, academics recommended that the Trinidad and Tobago embassy in Brussels must lobby to ensure that its interests are protected in the ongoing discussions about the CBAM. Academics acknowledged the potential benefits of climate action brought about by BCAs but emphasized the need for carefully designed and implemented mechanisms that address equity concerns, mitigate negative trade impacts, and ensure transparency and participation from Trinidad and Tobago. It is felt that further research and dialogue are crucial to ensuring that BCAs are implemented in a way that is fair, effective, and truly beneficial for Trinidad and Tobago.

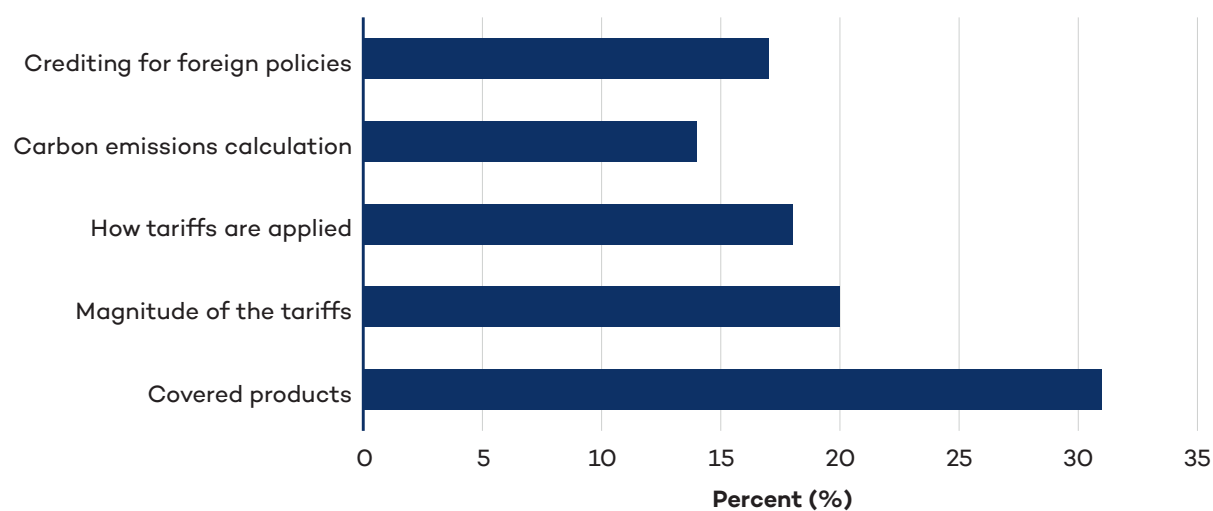


4.0 Key Design Elements of BCAs

The key design elements of BCAs require close attention since their design will influence how exposed sectors are affected—and consequently, their overall economic, environmental and social impacts on Trinidad and Tobago. Figure 8 shows that stakeholders are most concerned about the coverage of products subject to the tax (31%), followed by the magnitude of tax (20%) and how it is calculated (18%), taking into account foreign policies (17%) and the definition of the embodied carbon of products and how carbon emissions are calculated (14%).

Feedback at the stakeholder dialogue workshops also revealed that the use of revenue collected from BCAs and exemptions for countries and products were important. In addition, stakeholders raised the issue that the design of BCAs could lead to potential trade disputes and concerns about WTO compatibility. The EU maintains that the CBAM is WTO compliant. Stakeholders are carefully monitoring the current design and implementation of the CBAM as a guide to what to expect from future BCAs adopted by other countries. Stakeholders intend to keep informed about these key design elements of BCAs and actively engage in relevant discussions and research to have a voice in designing effective and equitable BCAs.

Figure 8. Stakeholder views on the most relevant design elements of BCAs



Source: Authors' compilation based on questionnaire responses by stakeholders.

While BCAs intend to focus on sectors with high GHG emissions with a high risk of carbon leakage, such as steel, cement, aluminum, chemicals, fertilizers, and electricity, the scope of these products is anticipated to expand. The EU started the CBAM with a manageable number of products to ensure smooth implementation and data collection in its transition phase. It is expected to gradually increase to other sectors and products in its regular phase after evaluating its effectiveness and addressing challenges. The EU has indicated that it will add further products to the CBAM, including chemicals, plastics, and semi-finished or finished products, by 2026 with a clear intention to include all goods covered by the ETS by 2030 (European Commission, n.d.). This means that the CBAM would expand to methanol and LNG, which are top exports for Trinidad and Tobago, as well as manufactured products.



Methanol was initially exempt, given that it uses captured CO₂ in its production process. LNG is also exempt, given that it is the cleanest fossil fuel. Stakeholders are especially concerned that the scope and coverage of products covered by CBAM will increase in the future. They want the use of transparent criteria for adding new products subject to BCAs based on pre-defined factors like emission intensity, leakage risk, and data availability. They also believe that going forward, there should be exemptions for specific products based on factors like Trinidad and Tobago being classified as a SIDS and specific trade agreements. Products could also be exempt based on their end use. An example of this given at the workshop was fertilizers. Fertilizers are important for food security in Europe and, as such, should be considered for exemption, given that Europe is not self-sufficient in fertilizer production.

The magnitude of the tax to be paid and how it is calculated is important. A high tax rate can incentivize producers in BCA-implementing countries and producers in Trinidad and Tobago to reduce their carbon footprint. This high tax rate could, however, also significantly impact the competitiveness of Trinidad and Tobago exports. Using the CBAM as an example, the price for CBAM certificates expressed in EUR/tonne of CO₂ will follow the price of ETS allowances and will be applied to the carbon content of Trinidad and Tobago exports. EU importers, in collaboration with Trinidad and Tobago companies, will be responsible for verifying the emissions through an accredited body. Punitive default values will be levied if emissions are not verified. If a country has a carbon pricing scheme, then a rebate can be claimed (3D Carbon Accounting, 2023). Trinidad and Tobago does not have a carbon market, there is no carbon price, and producers do not pay carbon taxes. In the absence of emissions data, exporters would have to pay the default values provided by the EU, which are the highest values that can be paid. Stakeholders are wary of paying these high values. A participant from a multinational corporation shared that the company procured the services of a tax consultant to calculate the expected tax their exports would face and the calculated tax was a significant figure.

Stakeholders felt that non-fiscal efforts to reduce GHG emissions are important foreign policies that should be taken into account when designing BCAs. They highlighted several areas where Trinidad and Tobago has made some strides in decarbonization efforts, investing in solar energy and carbon capture and storage technologies and green manufacturing initiatives. The country is also actively looking to diversify into green hydrogen. As a stakeholder stated, “Trinidad and Tobago has a unique opportunity to be competitively advanced in green hydrogen... we already have the hydrogen infrastructure in Point Lisas” and “the rest of the world is still trying to figure out what to do.” Other mitigation measures the country has committed to in BCA-exposed sectors include energy audits, improving the use of energy and heat in industrial processes, thermal desalination, reducing venting and flaring, and promoting energy conservation and lower waste generation. These measures demonstrate a commitment to addressing climate change and strengthen arguments for favourable treatment. The country could showcase these measures and lobby for differential treatment under BCAs to incentivize continued progress.



There is also concern about the definition of the embodied carbon used by BCAs—that is, the carbon intensity or the GHG intensity of the products. Stakeholders are anxious about how the carbon content of their products would be calculated. They see accuracy and transparency as crucial in this process. Companies expressed that complex methodologies could create administrative burdens and potential disputes. CBAM currently requires reporting on Scope 1 emissions (direct emissions from owned/controlled resources associated with the production of the good) for all CBAM products and Scope 2 emissions (indirect emissions from purchased electricity, steam, heat, and cooling) for fertilizer, cement, and electricity. The EU’s 2025 review of the CBAM will review the carbon content of the full product life cycle, which will add upstream Scope 3 emissions. This addition would require Trinidad and Tobago producers to buy certificates to cover emissions associated with the product’s upstream value chain, including input products. Stakeholders are uneasy about the fact that the emission reporting for BCAs could expand to supply chain emissions (Scope 3). A participant from a state-owned company stated that there needs to be closer collaboration with the government for capacity building and technology transfer to detect and analyze GHG emissions throughout the entire value chain—that is, downstream, midstream, and upstream, as these companies currently do not have the capability to do so. A government stakeholder responded by stating that the government is developing a monitoring and evaluation framework to track GHG emissions produced by businesses. An attendee from a small private company then stated that specialized companies in Trinidad and Tobago can bring the skills and technology to help accurately measure GHG emissions across the value chain, but there must be collaboration and knowledge sharing among all stakeholders. Stakeholders are still unclear and have questions about how GHG emissions would be calculated, such as direct versus embodied emissions, data requirements, and verification methods.

During the workshop discussions, stakeholders advocated for revenue sharing—that is, using revenues from BCAs to fund clean energy transitions and help Trinidad and Tobago reduce emissions and mitigate potential economic burdens from BCAs. They felt that taxes collected by the EU from the CBAM should be used to fund decarbonization projects and transfer technology and skills to developing countries like Trinidad and Tobago. They were disappointed to learn that the tariffs collected by the EU would remain in the EU. Stakeholders felt that the government should be lobbying the EU to send the CBAM revenue back to Trinidad and Tobago. This can be set up through the use of special funds to finance climate mitigation and adaptation activities or loss and damage.

Stakeholders made recommendations about how to design BCAs to be more equitable through the use of exemptions. They expressed overall views that BCA design should avoid disproportionately burdening developing countries like Trinidad and Tobago with limited carbon-pricing capabilities and finance for clean technology and decarbonization. When the CBAM was initially being proposed, there were recommendations that SIDS should be excluded. They noted and were disappointed that the CBAM’s final design did not include any exemptions for SIDS and developing countries. They see that a blanket application of BCAs could disproportionately harm Trinidad and Tobago’s economy, hinder its development efforts, and raise concerns about equity and fairness. At the same, stakeholders made the point



that blanket exemptions could lead to even further disadvantages for Trinidad and Tobago if access to opportunities linked to CBAM implementation, such as technical capacity and technology transfer, are taken away. It was suggested that Trinidad and Tobago could lobby for a phased approach to exemptions, where the country is given exemptions for a certain time period as it prepares itself for the implementation of BCAs.

Stakeholders endorsed a phased approach to implementing BCAs, as was done with the CBAM. The gradual implementation of BCAs would give Trinidad and Tobago time to prepare, adjust, and decarbonize its economy. Stakeholders also articulated that there should be international cooperation on the harmonization of BCA design across different countries wanting to implement such measures to reduce complexity and ensure fairness. This cooperation could involve developing standardized pricing mechanisms and methodologies for measuring and verifying product-level emissions across the various countries wanting to adopt BCAs. This would mean that Trinidad and Tobago would not have to meet the different requirements of each BCA implemented by each country, which could increase the administrative tasks and costs involved.



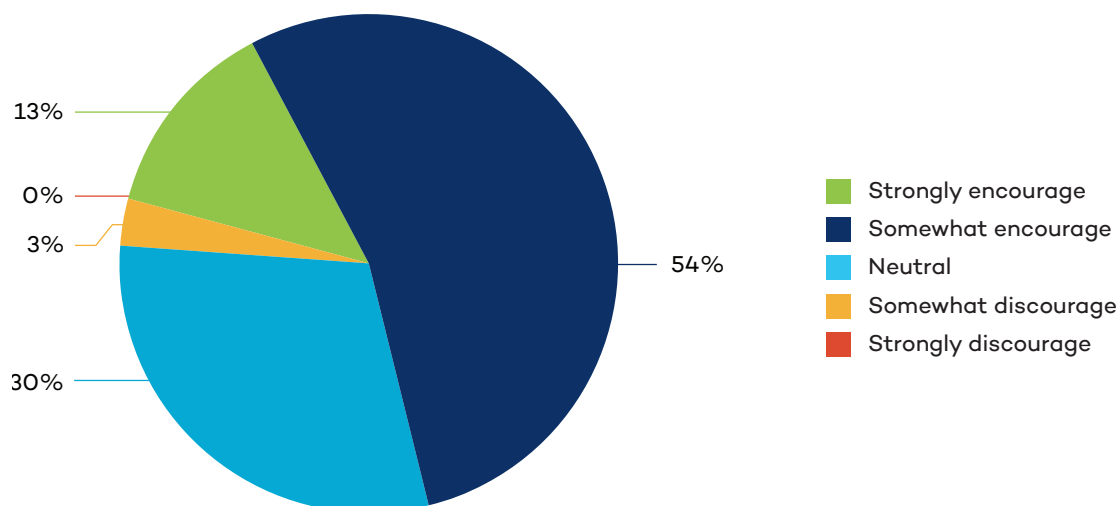
5.0 International Principles and Best Practices

BCAs are a complex and controversial topic, given that they aim to restrict trade based on the carbon content of products to level the playing field between countries with different—or no—carbon-pricing policies. While BCAs aim to address climate change concerns, they also raise questions about fairness, effectiveness, and compatibility with international trade rules and climate change agreements. The majority of respondents believed that BCAs would somewhat encourage global cooperation on climate action (54%) (Figure 9) and moderately reduce global carbon emissions (81%) (Figure 10). Influencing foreign BCAs requires a multi-pronged approach that not only considers economic strategies but also political and diplomatic approaches. Stakeholders felt strongly that Trinidad and Tobago should carefully assess the individual BCAs being considered by different countries. This applies particularly to the EU’s CBAM, as it has already been implemented. It is also important to look at the United States’s interest in BCAs, given that it is Trinidad and Tobago’s largest trade partner. Trinidad and Tobago should seek to have a voice in influencing these measures through international principles and best practices.

There are existing international principles and best practices that are useful in guiding the design and rollout of BCAs. Looking at these principles when guiding BCA design, stakeholders preferred technology transfer and support (19%), followed by harmonization and multilateral cooperation (17%), just transition (15%), common but differentiated responsibilities (15%), and transparency and predictability (14%) (Figure 11). By engaging constructively with the international community through these principles, Trinidad and Tobago can increase its chances of influencing the design and implementation of foreign BCAs in a way that minimizes the negative impacts on its economy and society and amplifies the positive environmental impacts.

Figure 9. Stakeholder views on whether BCAs will encourage global cooperation

Do you believe BCAs will encourage global cooperation on climate action?

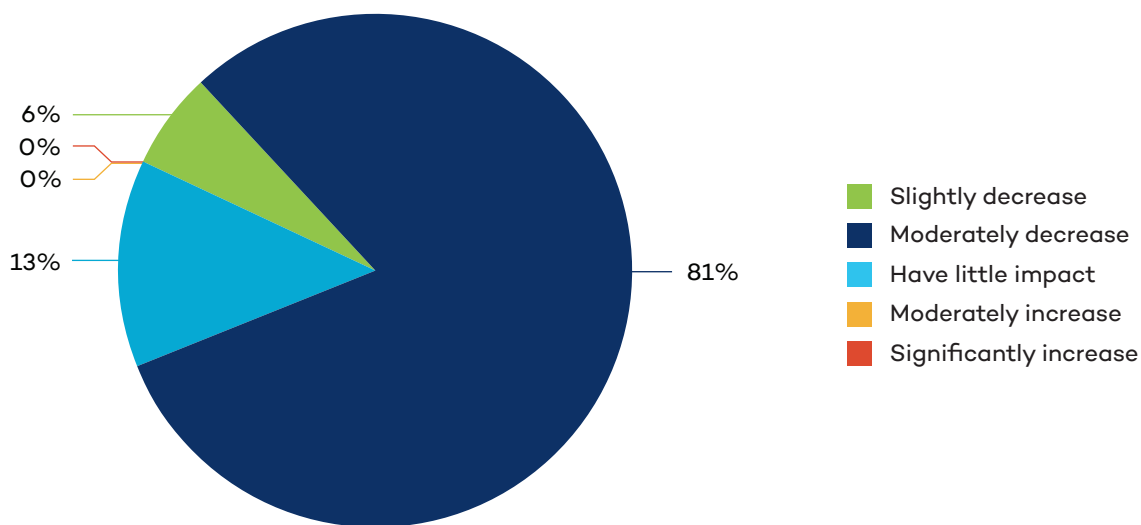


Source: Authors’ compilation based on questionnaire responses by stakeholders.



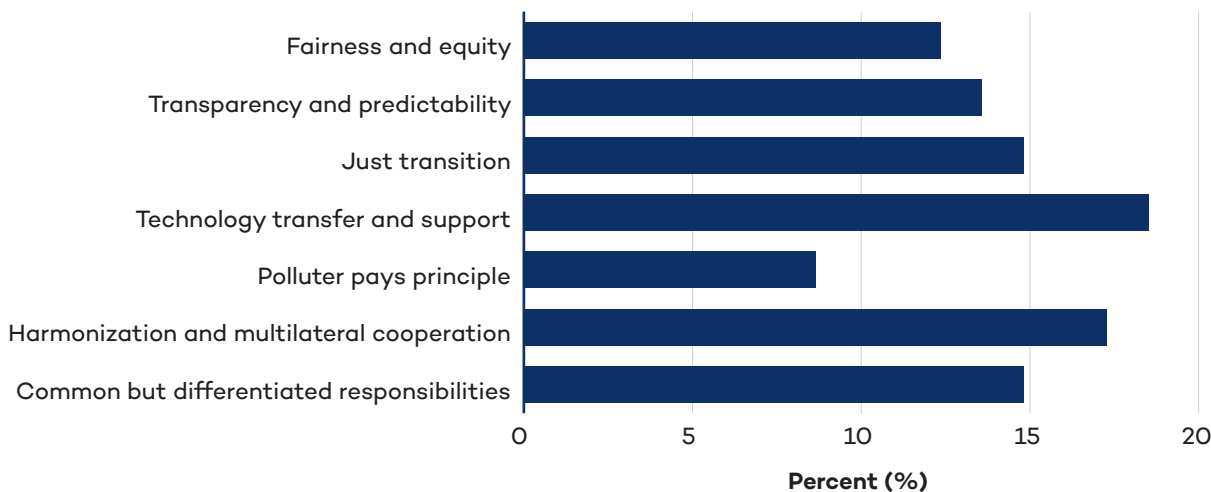
Figure 10. Stakeholder views on how BCAs will impact global carbon emissions

In your opinion, how will BCAs impact global carbon emissions?



Source: Authors' compilation based on questionnaire responses by stakeholders.

Figure 11. Stakeholder views on which principles should be prioritized when guiding BCA design



Source: Authors' compilation based on questionnaire responses by stakeholders.

Stakeholders felt firmly that technology transfer and support were critical to helping Trinidad and Tobago decarbonize its economy, reduce the emissions of BCA-affected products, and enable fairer and more transparent BCA mechanisms. Countries implementing BCAs can also provide technical assistance to Trinidad and Tobago to improve its emissions data collection and monitoring and reporting systems. They can also help build capacity for Trinidad and Tobago to design its own climate policies.



Stakeholders also viewed harmonization and multilateral agreements as central to international collaboration in establishing agreed-upon methodologies, rules, and exemptions for BCAs. Bilateral engagements could be used to engage in direct discussions with countries employing BCAs to highlight Trinidad and Tobago's unique circumstances and ongoing decarbonization efforts. Trinidad and Tobago can also carry out multilateral engagements and actively participate in international forums like the WTO and the UNFCCC to advocate for fair and transparent implementation of BCAs that consider the country's specific challenges. Through the Caribbean Community (CARICOM) and the Alliance of Small Island States (AOSIS), Trinidad and Tobago can more effectively engage the international community. It can also build alliances and form coalitions with other similarly affected countries, such as Brazil, Vietnam, and India, to present a united front and leverage collective bargaining power. It must, however, be considered that these other affected countries are large developing countries while Trinidad and Tobago is a SIDS. In addition, the country can explore opportunities to negotiate trade agreements with major trading partners that recognize Trinidad and Tobago's efforts to decarbonize and ensure fair treatment under any BCA scheme.

Since BCAs are likely to have negative impacts on some workers, it is important that a just transition be considered. Government stakeholders were proud to state that Trinidad and Tobago was among the first countries to develop a just transition framework to ensure that the shift to a low-carbon economy is fair and equitable for all workers and communities. The framework recognizes that the transition will have both positive and negative impacts, and it seeks to mitigate the negative impacts while maximizing the positive ones. Additionally, stakeholders suggested that the government could carry out a detailed just transition assessment to identify the potential impacts of BCAs on workers, including the self-employed. This step is critical to identifying and estimating the number of affected industries, workers, and entrepreneurs. Also, it is important to understand which industries and specific groups (skilled versus unskilled and formal versus informal) will be most affected by potential job loss, business closures, wage reductions, or skill changes. Once these persons have been identified, the government can develop and fund programs to equip them with the necessary skills. The government can also implement temporary income support, unemployment benefits, and social safety nets during the transition period. Established mechanisms for worker participation in decision-making processes related to BCA design and implementation were also recommended, such as through labour unions or industry-specific committees. In addition, it is important to invest in communities reliant on the fossil fuel industry to diversify their economies and create sustainable livelihoods. Stakeholders proposed that the revenue from BCAs can be used to fund these just transition initiatives.

Some stakeholders proposed that "common but differentiated responsibilities," as enshrined in the UNFCCC and the Paris Agreement, is a key international principle in guiding the design of BCAs. They hold the view that while all countries share responsibility for addressing climate change, their contributions should be differentiated based on historical responsibility and capability. Developed countries, which are the main drivers of BCAs with higher historical emissions, should take on greater responsibility and provide support to developing countries for decarbonization efforts. Stakeholders viewed BCAs as likely to disadvantage Trinidad and Tobago, with its lower historical emissions relative to developed countries and less technical capacity and finances for reducing GHG emissions. Other stakeholders, however, explained



that arguments that link climate action to historical emissions are outdated at the international level and that it would be irresponsible of the country to set a precedent for designing BCAs based on historical responsibility for climate change. The design of BCAs should thus consider Trinidad and Tobago's development needs and capacity to reduce emissions.

Stakeholders discussed best practices to minimize the potential fallout from BCAs. Stakeholders stated that the country could take proactive mitigation measures. Trinidad and Tobago could accelerate its transition to a low-carbon economy by investing in renewable energy sources like solar and wind and expanding projects such as the Piarco solar park. Also, the country can implement carbon capture, utilization, and storage technologies in existing industries and improve energy efficiency across all sectors. The country can also undergo economic diversification to reduce its dependence on hydrocarbons by promoting non-energy sectors like tourism and agriculture. Trade diversification can also be used for countries that are unlikely to implement BCAs.

Trinidad and Tobago could promote carbon neutrality by increasing climate ambitions in its updated NDC and implementation plan. The country could also update its Nationally Appropriate Mitigation Action, which was designed in 2016. This action can enhance Trinidad and Tobago's international reputation as a responsible actor and potentially influence the design of foreign BCAs to consider carbon neutrality efforts. Additionally, it is also important that the country invest in research and development into innovative technologies that can reduce emissions from the hydrocarbon and manufacturing sector, such as carbon capture, utilization, and storage. The country must also raise awareness by educating the public and policy-makers about the potential negative impacts of BCAs on Trinidad and Tobago's economy and society and ways to minimize these impacts.

Private sector and financial sector attendees expressed that the government must move quicker to develop a carbon-pricing mechanism through the implementation of domestic carbon-pricing schemes, such as carbon taxes or ETSs. This would demonstrate commitment to carbon mitigation and potentially gain exemptions from foreign BCAs. The country could use carbon credits or offsets to comply with BCAs, incentivizing investments in renewable energy and carbon reduction projects. It is also important that the country attracts financing and develops the technical capacity to produce green hydrogen.



6.0 The Role of the Financial Sector

6.1 Financial Sector Support for Decarbonization

Finance is vital if Trinidad and Tobago is going to successfully navigate the implementation of foreign BCAs. As one stakeholder puts it, “These discussions mean nothing if we cannot answer: how are we going to finance the transition to adhere to the principles of CBAM and other BCAs?” This is a particularly important question for small and medium-sized companies with limited access to finance, as well as large companies that require large capital for investment in green technology. The majority of participants did not view the local financial sector as the primary funder of measures required in light of BCAs, as well as for decarbonization projects in Trinidad and Tobago. Actually, most stakeholders (52%) view the financial sector as playing a neutral role in supporting decarbonization in Trinidad and Tobago (Figure 12). Respondents also identified obstacles to providing green finance in the country. These included, in order of importance, regulatory uncertainty and lack of clear policy frameworks (28%), higher perceived risk of green projects (16%), high transaction costs and administrative burdens associated with green finance (13%), limited availability of green assets and investment opportunities (13%), and a lack of standardized metrics for measuring environmental impact (11%) (Figure 13).

Stakeholders listed several reasons why the local financial sector in Trinidad and Tobago may not be able to serve as the primary funder of measures to deal with foreign BCAs. The local financial sector may simply not have enough capital available to meet the significant investment needs of decarbonization and the adoption of clean technology. Also, financial institutions in Trinidad and Tobago are risk averse and may be hesitant to invest in smaller green projects due to perceived risks, given that green technologies are new and complex and come with long-term uncertainty. In addition, the local financial sector lacks the necessary expertise to effectively evaluate and finance green projects due to a lack of familiarity with the technologies involved, an absence of standardized methodologies for assessing risks and opportunities, and a limited pool of experienced professionals in the field.

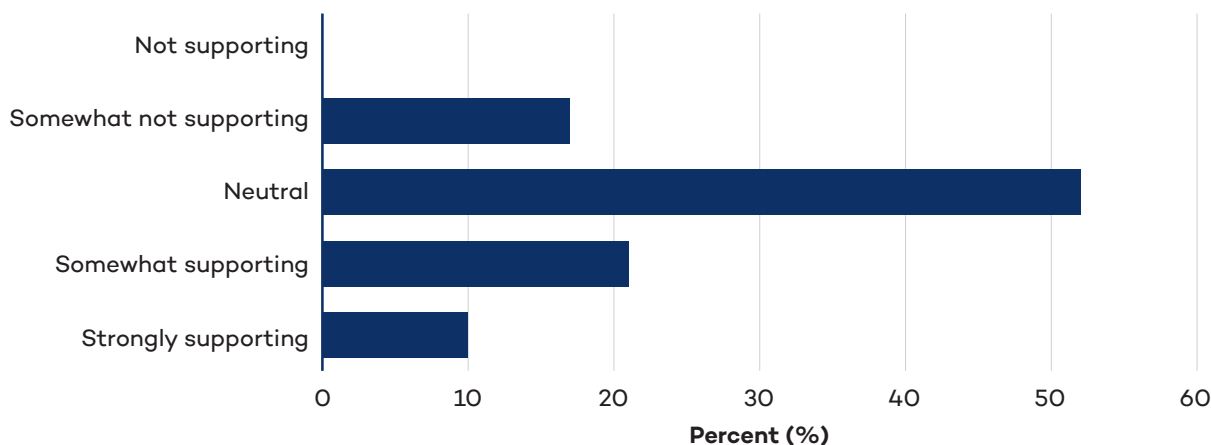
Given the large sums involved, restricted fiscal space and inadequate public and private domestic finance, stakeholders felt that access to international development finance and climate finance from donor agencies, multilateral development banks, bilateral partners, and FDI could act as key sources of finance. It is also important that these sources of finance be debt-free and could include debt swaps. International finance can support Trinidad and Tobago in adopting cleaner technologies and infrastructure, such as renewable energy sources, energy-efficiency measures, sustainable production processes and diversification into climate-resilient sectors, reducing carbon footprint, and becoming more competitive in the face of foreign BCAs. It can also fund programs to provide Trinidad and Tobago with the necessary expertise and knowledge to implement low-carbon development strategies, such as training on cleaner production methods, carbon accounting, and trade policy analysis. Similarly, FDI can bring in new technologies and know-how for cleaner production processes, energy efficiency, and renewable energy adoption and support the modernization of industries,



leading to more efficient and less carbon-intensive production methods. This support can help companies reduce their carbon footprint and comply with stricter BCA regulations. Further, foreign investors can provide much-needed capital for investments in clean technologies, infrastructure, and research and development. Foreign companies can also bring expertise and training opportunities, which can help upskill the local workforce in areas like green technologies and sustainable practices, creating a more adaptable workforce prepared for the demands of a carbon-constrained world. The disadvantages of FDI must also be considered. Foreign companies may bring in their own skilled workers, influence control over the country’s energy resources, and choose to repatriate profits rather than reinvest.

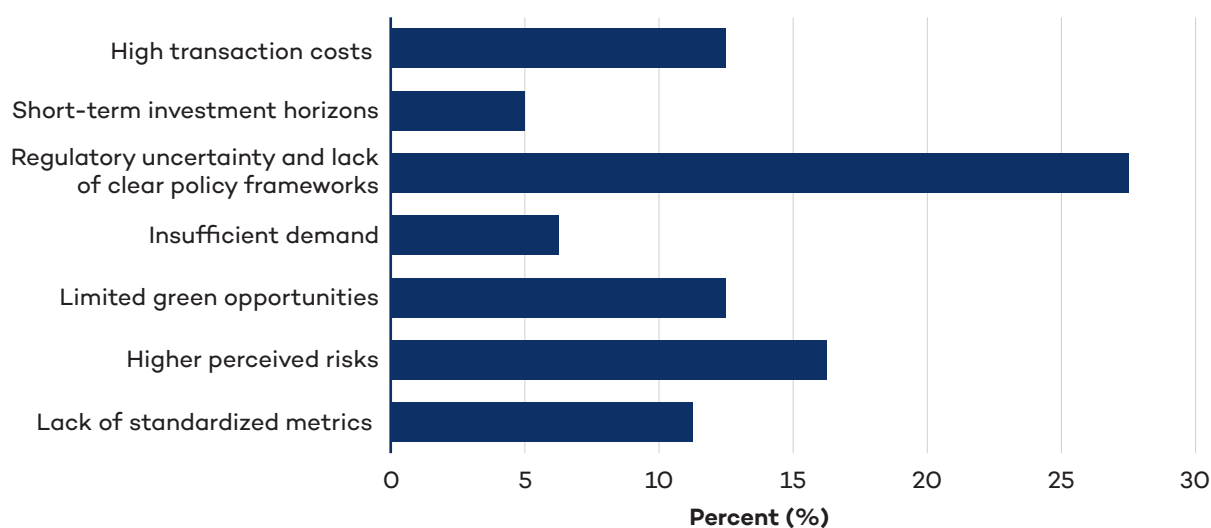
Figure 12. Stakeholder views on whether the financial sector is supporting decarbonization

What role is the financial sector playing in supporting decarbonization of BCA-exposed sectors?



Source: Authors’ compilation based on questionnaire responses by stakeholders.

Figure 13. Stakeholder views on obstacles to providing green finance



Source: Authors’ compilation based on questionnaire responses by stakeholders.



Stakeholders noted that Trinidad and Tobago’s high-income status puts it at a disadvantage in accessing international finance. Studies nevertheless show that the country suffers a climate finance gap in terms of the international and domestic supply of finances to meet climate mitigation and adaptation goals (Mohan, 2022, 2023). The country could, however, be more successful at accessing international funds if it develops the right expertise to produce high-quality climate projects and comprehensive implementation strategies. Trinidad and Tobago could also play a role in raising awareness of the financial challenges of foreign BCAs, advocating for the need to make international climate finance accessible. At the same time, stakeholders have also expressed that “there are millions and millions of dollars out there available to finance the green transition, but we have a dearth of projects.” Further, “investors have capital and want to invest, but Trinidad and Tobago does not have bankable projects” in renewable energy and carbon capture technologies and programs for retraining and upgrading of skills. Workshop attendees lamented that “we have concepts and ideas but we need to build technical capacity in order to create bankable projects.” Stakeholders did point out that the green hydrogen project has a well-defined project plan with a detailed feasibility study, demonstrating the project’s technical and economic viability and that the Roadmap for a Green Hydrogen Economy identifies potential financing mechanisms. This can serve as a benchmark for Trinidad and Tobago to develop other decarbonization projects. As stated by a stakeholder, “Trinidad and Tobago is a mecca for green hydrogen...we need to take advantage of what we have and create a business model to make us economically competitive.”

Stakeholders made suggestions on how the local financial sector can help the country navigate the challenges and opportunities presented by foreign BCAs and support a successful transition to a low-carbon economy. The financial sector can aid in mobilizing capital for carbon-neutral projects, even if the projects are not large. The banking sector remains liquid, and bank lending has recovered since the COVID-19 pandemic (Central Bank of Trinidad and Tobago, 2022). The banking sector can support smaller projects—for example, in renewable energy and energy efficiency and training for determining the carbon content of products. This effort can support small and medium-sized enterprises and even multinational companies in transitioning to cleaner production processes, ensuring their long-term competitiveness. Investing in small-scale and decentralized projects for transformational action can also create new opportunities, help draw attention to social issues, and develop new local industries. Financial interventions should be designed to facilitate and scale up private sector engagement, including those of micro, small, and medium-sized enterprises; informal economies; and local businesses.

The government could provide financial incentives such as grants, tax breaks, or loan guarantees to de-risk green projects. Financial institutions can also collaborate with the government to develop public–private partnerships for financing large-scale decarbonization projects. This can help share risks and attract private sector investment. Some commercial banks present at the workshop stated that they have integrated environmental, social, and governance factors into their investment decisions and lending practices, given that their younger customers have an interest in this. These banks have an interest in prioritizing companies with strong decarbonization commitments and providing them with green finance. They can also promote and facilitate impact investing, where investments can be made with the intention of generating positive social and environmental impacts alongside financial returns.



The financial sector can assist in assessing and managing risks associated with foreign BCAs. Financial institutions can assess the potential financial risks BCAs pose to their lending portfolios, particularly those invested in energy and manufacturing companies and carbon-intensive industries. This requires scenario planning and stress testing to understand potential impacts on asset values, creditworthiness, and overall financial stability. Financial institutions can also develop risk-management strategies, such as adjusting lending criteria, diversifying portfolios, and investing in climate-resilient sectors, based on the identified risks. Further, the financial sector can develop innovative insurance products and other risk-management tools to protect companies from the financial risks associated with decarbonization investments. The financial sector can also manage carbon risks by offering hedging and insurance solutions to businesses exposed to carbon price fluctuations. A study by the Central Bank of Trinidad and Tobago found that international approaches to climate risk assessment are still in the nascent stages, and to date, there has been no standard regulatory climate risk stress test applied to financial systems (Duke & Persad, 2021). Moreover, climate risk awareness in the domestic financial sector is building, but further work and collaboration with stakeholders in the financial and scientific fields are necessary to expand technical capacity for the assessment of climate-related risk (Duke & Persad, 2021). The Central Bank of Trinidad and Tobago is actively trying to integrate climate change considerations into financial sector supervision and risk assessment in order to increase green capital (Ramlogan & Nelson, 2023).

Given concerns among stakeholders about calculating the carbon content of exports, financial institutions can aid in developing standardized methodologies and tools for calculating the carbon footprint of exports. This can ensure transparency and consistency across various companies. Banks can then integrate carbon footprint data into their investment analysis and portfolio disclosure, which can inform investors about the potential risks and opportunities associated with BCAs, influencing investment decisions toward decarbonization. Stakeholders also suggested that financial institutions can help Trinidad and Tobago develop its carbon markets by developing carbon-pricing instruments such as carbon certificates, carbon offsets, and carbon futures. A study on climate change and the banking sector in Trinidad and Tobago also suggests that instruments such as an ETS, a carbon tax, and public guarantees can help reduce the country's GHG emissions (Ramlogan & Nelson, 2023).

A government stakeholder made the point that even if finance is available without the appropriate legislative and regulatory framework, projects cannot be implemented. The financial sector can collaborate with policy-makers to develop effective climate-related policies and regulations that can encourage a smooth transition toward a low-carbon economy. This work includes advocating for carbon-pricing mechanisms, green taxonomies, and supportive regulatory frameworks for sustainable finance. The Central Bank of Trinidad and Tobago has adopted the Network for Greening the Financial System framework for climate risk assessment linked to existing data sources and tools (Network for Greening the Financial System, 2022). Financial institutions can promote transparency and disclosure by encouraging consistent and transparent climate-related disclosures from companies. This can facilitate better risk management and resource allocation, as well as inform investment decisions. Financial institutions can provide transparency and data by facilitating efficient carbon footprint verification and reporting for companies involved in international trade.



The financial sector in Trinidad and Tobago must prepare itself for the economic, social, and environmental impacts of BCAs. The attendance of persons from banks and other financial institutions at the workshop indicated that they have a desire to learn about BCAs and to collaborate with people to understand their impacts and develop effective strategies for managing risks. A representative from the financial sector stated that the fact that he was at the workshop showed that “banks care” about the impact of BCAs on the environment and society.

Banks should also be concerned about the impact of BCAs on their own operations. BCAs could lead to a decline in BCA-exposed exports, impacting the revenue of these companies and the banks heavily invested in them. This could lead to loan defaults, reduced profitability, and potential financial instability. There can also be a decline in investment. Investors might become wary of investing in high-carbon-emitting industries, leading to decreased funding for oil and gas, petrochemical, and manufacturing projects. This could hinder the sector’s ability to invest in cleaner technologies and transition away from fossil fuels. Also, companies in BCA-exposed sectors may face increased costs to comply with BCAs, impacting their profitability and potentially affecting their creditworthiness.

6.2 Design of BCAs for the Financial Sector to Play a Role

The financial sector has an important role to play in implementing and facilitating BCAs. As such, BCA design should consider the role of the financial sector. To facilitate financial sector participation, BCA designs should be transparent and predictable. There must be a clear scope with defined sectors and products covered by the BCA, as well as the methodology for calculating embedded carbon emissions. This provides certainty for businesses and investors. While the CBAM, in its transitional phase, clearly outlined the products to be included along with the calculation of Scope 1 and Scope 2 emissions, in its regular phase, there is some uncertainty as the products covered are expected to be expanded along with a consideration for Scope 3 emissions. Additionally, a phased implementation of BCAs, similar to that of the CBAM, would allow financial institutions time to adapt and develop the necessary services, along with consistent data standards with established standardized data requirements for emission verification and reporting to ensure transparency and prevent fraud. BCAs must also be designed for market efficiency and accessibility. Financial institutions can develop products such as carbon certificates and carbon credits for open and transparent auctions to facilitate price discovery and market liquidity. Secondary market development can enable carbon certificate trading, which can enhance price efficiency and risk management. There should be simplified compliance procedures for companies involved in international trade to reduce their administrative burden and costs, thereby reducing their risk of closure and loan default. Finally, it is important to harmonize the different BCA schemes. Trinidad and Tobago must collaborate with other countries implementing BCAs to lobby to harmonize methodologies and standards, which would reduce complexity for financial institutions.



7.0 Conclusion and Recommendations

The impact of BCAs, including that of the EU's CBAM, on Trinidad and Tobago hinges on several factors, including the specific design of the schemes, local industry adaptation, government policies, and international negotiations with potential disadvantages and opportunities.

- Potential disadvantages:
 - increased production costs and decreased competitiveness of exports
 - a decline in demand for exports and international market share
 - reduced foreign exchange earnings, potential job losses, and decline in economic growth
 - higher prices, impacting vulnerable groups
 - threats to social investment programs and social safety nets
- Potential opportunities:
 - incentive to diversify the economy toward climate-resilient sectors and a green hydrogen economy
 - the creation of green jobs and economic opportunities in green sectors
 - incentives for trade diversification, spreading export risk
 - a transition to renewable energy sources
 - reduction in GHG emissions and improved environmental sustainability
 - scaled-up carbon capture and sequestering projects
 - assessment and enhancement of domestic climate policies
 - development of green financing products by the banking sector
 - research and development into cleaner production technologies and carbon capture solutions
 - bilateral discussions with BCA implementers to ensure that BCAs are developed in compliance with WTO rules, international climate change conventions, and other bilateral agreements
 - advocacy for the repatriation of BCA taxes to developing countries to fund their carbon emissions reduction initiatives

Moving forward, Trinidad and Tobago needs a comprehensive strategy to address both challenges and opportunities. To do so, the report makes the following short- (0–2 years), medium- (2–5 years), and long-term (5+ years) policy recommendations.



- Short term
 - Increase transparency and communication on BCAs by clearly explaining what they are and their potential impacts on workers, citizens, businesses, industry, and other stakeholders.
 - Carry out data collection and analysis on the carbon footprint of BCA-impacted products/industries.
 - Conduct detailed studies on the impacts of BCAs in each sector and project future impacts under different BCA scenarios.
 - Support research into and development of clean technologies within the Trinidad and Tobago context to reduce carbon emissions across all sectors.
 - Share knowledge, best practices, and experiences in decarbonization efforts and policy design, particularly with CARICOM and AOSIS, to build trust and foster international cooperation.
 - Identify opportunities to reduce GHG emissions by seeking out and supporting existing low-carbon production processes within BCA-affected industries.
 - Identify opportunities to improve energy efficiency across sectors to reduce carbon emissions and production costs.
 - Explore the feasibility and implementation of carbon capture and storage technology to capture and store emissions from existing industries.
 - Actively engage in international negotiations and forums to advocate for the fair, equitable, and WTO-compliant implementation of BCAs considering the specific circumstances of Trinidad and Tobago as a high-income, hydrocarbon-based SIDS, ensuring transparency and avoiding discriminatory practices.
 - Establish open communication channels with BCA-implementing countries to understand their specific requirements.
 - Collaborate with other BCA-affected countries to advocate for and explore alternative approaches to carbon leakage, such as carbon-pricing partnerships or technology transfer initiatives.
 - Seek international financial and technical assistance from developed countries to facilitate the transition to a low-carbon economy, especially those countries seeking to introduce BCAs.
 - Offer temporary financial assistance to impacted businesses and workers to help them adjust to the new regulations.



- Medium term
 - Invest in policies and programs to improve energy efficiency within affected industries to reduce carbon emissions per unit of production.
 - Design and implement programs to help businesses transition to low-carbon technologies and production methods.
 - Invest in education and training programs to create a skilled workforce for the emerging green economy.
 - Work with other countries to establish a global carbon-pricing framework that is fair and effective.
 - Develop robust carbon accounting systems for measuring and reporting emissions to ensure accurate assessment of carbon footprints and facilitate fair application of BCAs.
 - Transition to become a green hydrogen producer.
 - Implement domestic carbon pricing through a carbon tax or ETS.
 - Participate in international carbon markets to trade carbon credits earned through emission-reduction efforts.
 - Support trade diversification by reducing the reliance on countries implementing BCAs and explore opportunities with other top trade partners, such as Morocco, Guyana, Mexico, and Brazil, with less stringent regulations.
- Long term
 - Diversify the economy away from carbon-intensive exports toward low-carbon products.
 - Invest in clean technologies and infrastructure like green hydrogen; renewable energy, in particular solar and wind; and carbon capture, utilization, and storage, which can reduce emissions and improve competitiveness.
 - Embed sustainability principles into long-term economic planning and development strategies.

Implementing these solutions effectively requires a comprehensive and long-term strategy that involves collaboration between government, industry, financial institutions, trade unions, civil society, and academics. By proactively addressing the challenges posed by foreign BCAs, Trinidad and Tobago can safeguard its economic interests while contributing to global climate action and protecting the most vulnerable in society.



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Appendix A. The Economic Impact of Border Carbon Adjustments

Table A1. Trinidad and Tobago's top exports to the European Union in 2021

Harmonized System (HS) classification	Exports (USD million)	% of total
Inorganic chemicals; organic and inorganic compounds of precious metals, rare earth metals, radioactive elements, and isotopes	721.9	28.1
Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes	687.4	26.8
Organic chemicals	499.5	19.5
Fertilizers	411.8	16.0

Source: Author's compilation based on UN Comtrade Database, 2023.

Table A2. Trinidad and Tobago's top exports to the United States in 2021

HS classification	Exports (USD million)	% of total
Mineral fuels, mineral oils, and products of their distillation	948	26
Iron and steel	788	22
Inorganic chemicals	542	15
Organic chemicals	389	11
Fertilizers	303	8.40
Ships, boats, and floating structures	43	1
Aircraft and spacecraft	30	0.83
Machinery, mechanical appliances, and parts	24	0.67

Source: Author's compilation based on UN Comtrade Database, 2023.

**Table A3.** Trinidad and Tobago's top exports to the United Kingdom in 2021

HS classification	Exports (USD million)	% of total
Organic chemicals	38	95
Copper articles	1.22	3
Cocoa and cocoa preparations	0.23	0.57
Beverages, spirits, and vinegar	0.22	0.55
Mineral fuels, mineral oils, and products of their distillation	0.12	0.29
Musical instruments	0.55	0.14
Iron or steel articles	0.47	0.12
Aluminum articles	0.40	0.10
Machinery, mechanical appliances, and parts	0.36	0.09
Electrical machinery and electronics	0.30	0.07

Source: Author's compilation based on UN Comtrade Database, 2023.

Table A4. Trinidad and Tobago's top exports to Canada in 2021

HS classification	Exports (USD million)	% of total
Mineral fuels, mineral oils, and products of their distillation	141	59
Organic chemicals	58	24
Fertilizers	18	7
Aircraft and spacecraft	4	2
Precious stones, metals, and pearls	2.10	0.90
Organic chemicals	2.06	0.86
Ships, boats, and floating structures	1.86	0.77
Beverages, spirits, and vinegar	1.37	0.57
Miscellaneous edible preparations	1.30	0.54
Iron and steel	1.05	0.43

Source: Author's compilation based on UN Comtrade Database, 2023.

**Table A5.** Trinidad and Tobago's top exports to Japan in 2021

HS classification	Exports (USD million)	% of total
Organic chemicals	38	95
Copper articles	1.22	3
Cocoa and cocoa preparations	0.23	0.57
Beverages, spirits, and vinegar	0.22	0.55
Mineral fuels, mineral oils, and products of their distillation	0.12	0.29
Musical instruments	0.55	0.14
Iron or steel articles	0.47	0.12
Aluminum articles	0.40	0.10
Machinery, mechanical appliances, and parts	0.36	0.09
Electrical machinery and electronics	0.30	0.07

Source: Author's compilation based on UN Comtrade Database, 2023.

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