

TC Document

I. Basic Information for TC

▪ Country/Region:	REGIONAL
▪ TC Name:	Promote marine renewable energy, and shipping and port services decarbonization in the Caribbean.
▪ TC Number:	RG-T4175
▪ Team Leader/Members:	Aiello, Roberto Gabriel (INE/ENE) Team Leader; Persaud, Christopher (INE/TSP) Alternate Team Leader; Alleng, Gerard P. (CSD/CCS); Anabella Palacios (CSD/CCS); Bonzi Teixeira, Augusto Cesar (INE/ENE); Calatayud, Agustina (INE/TSP); Cassar, Lesley N (CCB/CCB); Echeverria, Carlos Bladimir (INE/ENE); Gischler Blanco, Christiaan (INE/ENE); Gisela Ferrari (CSD/CCS); Irati Jimenez Dorronsoro (INE/ENE); Jorge Luis Malpartida (INE/ENE); Juan Tulande Lopez (INE/ENE); Kamau, Musheer Olatunji (CCB/CJA); Masson, Malaika Ebony Anietia (INE/ENE); Samuels, Rochelle Kaye (CCB/CJA); Sara Vila Saintetienne (LEG/SGO); Umana, Mario Alberto (INT/TIN); Vucina Banjanin, Cateryn (CCB/CCB) Alleng, Gerard P. (CSD/CCS); Anabella Palacios (CSD/CCS); Bonzi Teixeira, Augusto Cesar (INE/ENE); Calatayud, Agustina (INE/TSP); Cassar, Lesley N (CCB/CCB); Echeverria, Carlos Bladimir (INE/ENE); Gischler Blanco, Christiaan (INE/ENE); Gisela Ferrari (CSD/CCS); Irati Jimenez Dorronsoro (INE/ENE); Jorge Luis Malpartida (INE/ENE); Juan Tulande Lopez (INE/ENE); Kamau, Musheer Olatunji (CCB/CJA); Masson, Malaika Ebony Anietia (INE/ENE); Samuels, Rochelle Kaye (CCB/CJA); Sara Vila Saintetienne (LEG/SGO); Umana, Mario Alberto (INT/TIN); Vucina Banjanin, Cateryn (CCB/CCB) Alleng, Gerard P. (CSD/CCS); Anabella Palacios (CSD/CCS); Bonzi Teixeira, Augusto Cesar (INE/ENE); Calatayud, Agustina (INE/TSP); Cassar, Lesley N (CCB/CCB); Echeverria, Carlos Bladimir (INE/ENE); Gischler Blanco, Christiaan (INE/ENE); Gisela Ferrari (CSD/CCS); Irati Jimenez Dorronsoro (INE/ENE); Jorge Luis Malpartida (INE/ENE); Juan Tulande Lopez (INE/ENE); Kamau, Musheer Olatunji (CCB/CJA); Masson, Malaika Ebony Anietia (INE/ENE); Samuels, Rochelle Kaye (CCB/CJA); Sara Vila Saintetienne (LEG/SGO); Umana, Mario Alberto (INT/TIN); Vucina Banjanin, Cateryn (CCB/CCB); Sergio Ballon (INE/ENE).
▪ Taxonomy:	Research and Dissemination
▪ Operation Supported by the TC:	N/A
▪ Date of TC Abstract authorization:	10 Feb 2023.
▪ Beneficiary:	Caribbean Shipping Association (CSA), Caribbean Renewable Energy and Energy Efficiency Centre (CCREEE)
▪ Executing Agency and contact name:	Inter-American Development Bank
▪ Donors providing funding:	OC SDP Window 2 - Infrastructure(W2B)
▪ IDB Funding Requested:	US\$150,000.00
▪ Local counterpart funding, if any:	US\$0
▪ Disbursement period (which includes Execution period):	36 months
▪ Required start date:	1 June 2023
▪ Types of consultants:	Firms and Individuals
▪ Prepared by Unit:	INE/ENE-Energy
▪ Unit of Disbursement Responsibility:	CCB/CJA-Country Office Jamaica
▪ TC included in Country Strategy (y/n):	No
▪ TC included in CPD (y/n):	No

▪ Alignment to the Update to the Institutional Strategy 2020-2023:	Economic integration; Environmental sustainability; Gender equality
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II. Objectives and Justification of the TC

- 2.1 The objective of this Technical Cooperation (TC) is to support Caribbean countries assess the potential for marine renewable energies¹ (MRE) and support the development of alternative low-carbon pathways to decarbonize shipping and port services.
- 2.2 Proposed activities include the development of analytical frameworks together with capacity building and knowledge sharing to inform dialogues among relevant stakeholders in various levels of engagement in the Caribbean. Special consideration will be given to dimensions such as energy security, climate change mitigation and resilience, private sector participation, digitalization and innovation, gender equality and social inclusion, opportunities for regional economic integration, and verification mechanisms to monitor the decarbonization process. The share of women in the maritime sector remains low, and structural, cultural, and practical barriers explain why few women work in the sector. Studies focused on gender include assessments to provide an overview of the status of gender equality in the maritime sector and bring part of the factual basis for the region's forthcoming strategy for equality in the maritime sector.
- 2.3 The analytical work to be undertaken involves issues on MRE and maritime decarbonization that are common across Caribbean countries and are related to available information to inform policy, regulations, and investment gaps. The team will use the planned research to (i) generate new ideas about what works or what accounts for policy-relevant effects in these areas; (ii) accrue ideas about the way mechanisms work for different infrastructures related to MRE as well as fleets and ports in different circumstances in the Caribbean; (iii) improve understanding about why and how one mechanism works and how it works in comparison with other mechanisms; (iv) reveal the indirect mechanisms at work in a policy system; and (v) reinforce a realistic view of "causality" that supports timely action.
- 2.4 The TC is aligned with the Country Strategies for each country in the Caribbean, as it helps to address key challenges facing the region, including climate change and energy security. Maritime decarbonization helps to reduce carbon emissions from the shipping industry and combat climate change by reducing and limiting the amount of greenhouse gases (GHG) that are released into the atmosphere. The IDB has identified climate change as a key challenge facing the Caribbean and is committed to supporting the region's efforts in the development and implementation of

¹ The term 'Marine Renewable Energy' (MRE), also referred to as 'Ocean Energy' or 'Offshore Renewable Energy', describes a suite of related renewable energy technologies which are deployed in the offshore marine environment.

long-term low GHG emission and climate resilience strategies and national adaptation plans, through investments in renewable energy, energy efficiency, and focus on decarbonization and sustainability of key infrastructure, as well as improvements in energy. MRE is also aligned with the Country Strategies of the Bank, as it can help the Caribbean region to reduce the countries' dependence on fossil fuels and transition to a more sustainable energy system. The IDB is committed to supporting the development of renewable energy projects in the Caribbean and the countries' economic transformation drive and enhance their resilience to climate change impacts. These TC will directly support the identification of new opportunities for increasing the deployment of low-carbon infrastructure that is resilient to climate change, and the necessary capacity building to overcome institutional weaknesses in the public sector such as low levels of digitalization in government, archaic systems, undeveloped human capital, opaque policy-making and a lack of data that undermine the equitable and timely delivery of services and evidence-based policies.

2.5 Promoting maritime decarbonization and renewable energy will also contribute to several key indicators in the IDB Group Corporate Results Framework 2020-2023, which aims to support sustainable and inclusive economic growth in Latin America and the Caribbean. The TC is expected to contribute to several key indicators in the framework, including:

- Climate change mitigation: The IDB has set a target to reduce the carbon footprint of its operations by 25% by 2023. Promoting maritime decarbonization and MRE will help to achieve this target by reducing emissions in the transport and energy sectors.
- Sustainable infrastructure: The IDB aims to support the development of sustainable infrastructure in the region, including renewable energy projects and sustainable transport systems. Promoting maritime decarbonization and MRE will contribute to this goal by helping to reduce the carbon footprint of transportation and promoting the development of clean energy infrastructure.
- Private sector development: The IDB aims to support private sector development in the region, including the development of sustainable businesses and industries. The TC will help to create new opportunities for private sector investment in maritime decarbonization and MRE, supporting sustainable economic growth and job creation.
- Knowledge and innovation: The IDB aims to promote knowledge and innovation in the region, including the development of new technologies and best practices for sustainable development. The TC will contribute to this goal by encouraging innovation and promoting the adoption of best practices for sustainable development.

Marine Renewable Energy²

- 2.6 There is a strong interest for the exploration of the potential for MRE technologies in the Caribbean given that: (i) Onshore wind and solar energy deployed at large-scale require a significant amount of space and availability of suitable land is highly limited in most countries; (ii) The sea-space is typically many times that of the land area and is much less constrained; (iii) MRE technologies have the potential to meet the current and projected future electricity demand of the countries of interest many times over; (iv) MRE Technologies enjoy greater predictability and consistency than onshore

² <https://publications.iadb.org/publications/english/document/Ocean-Energy-in-the-Caribbean-Technology-Review-Potential-Resource-and-Project-Location-Guidance.pdf>.

technologies and can complement any onshore development; (v) Leading MRE technologies are fast approaching technical and commercial maturity or have already reached this stage of development; and (vi) There is significant long-term local the job-creation potential associated with the deployment of MRE technologies.

- 2.7 MRE technologies have largely been developed and are being proven in the industrialized nations of the northern hemisphere such as the UK, Germany, China, and the USA, but have global deployment potential. The technologies are also of particular relevance in the Caribbean where they may offer the potential to address critical issues related to security of supply, carbon emissions, and cost of energy.

Shipping

- 2.8 Between 80% and 90% of international trade by volume is enabled through maritime means, i.e. bulk and container carriers, as well as oil and chemical tankers. Together, these types of vessels account for 20% of the global fleet, but they are responsible for 85% of the net Greenhouse Gas (GHG) emissions associated with the shipping sector. The 2018 fuel mix for international shipping comprised 79% heavy fuel oil, 16% marine diesel oil, 4% liquefied natural gas (LNG³), and less than 0.1% methanol⁴.
- 2.9 Shipping and port services are of key importance to Caribbean countries for logistics and trade. Direct and indirect value added and economic integration from maritime transportation places the sector among the most important in terms of trade. In terms of volume and value maritime transport concentrates 90% of freight transport mode⁵. The contribution of maritime transport to economic growth in the region includes imports to satisfy local demands and tourism industries, the development of local industries such as building materials (cement), household goods, groceries, and water; and increasing regional trading and economic integration having leading countries such as Trinidad & Tobago and Jamaica with the capacity to satisfy regional demands for manufactured goods.
- 2.10 The maritime industry is a complex ecosystem composed of various value chains that require efforts by all stakeholders. Three value chains are central to steering the sector's decarbonization actions, as they affect other value chains and determine what is collectively achieved: the marine fuel value chain, the shipbuilding value chain, and the maritime operations value chain.
- 2.11 **The fuel chain.** The marine fuel value chain encompasses exploration; transportation; processing; transportation of fuel to the fueling spots and consumption by the ship operator. These are interdependent components that need to be functional simultaneously to avoid bottlenecks and shortages of equipment or fuels.
- 2.12 Today, maritime operators do not have sufficient price-competitive alternative fuel options to commit to charter agreements that include a premium for next-generation dual-fuel engines. Some shipbuilders and engine manufacturers have responded, building ships with such engines (which can operate on methanol and fuel oil, or on LNG and fuel oil). Currently, due to the lack of alternative and cost-equivalent

³ Green LNG refers to either reducing greenhouse gas (GHG) emissions or offsetting GHG emissions associated with some or all of the LNG value chain – from upstream gas production and pipeline transportation, through to liquefaction, ocean transport, regasification, and downstream use of the natural gas.

⁴ A pathway to decarbonise the shipping sector by 2050. IRENA, 2021.

⁵ Except Guyana and Suriname.

low-carbon / zero-emissions fuels, ships equipped with dual-fuel engines run primarily on conventional fuel oil. A wide range of low-carbon / zero-emission fuels is under development, such as green LNG, green methanol, green ammonia, and green hydrogen, with different timelines of availability on the market.

- 2.13 The shipbuilding chain.** The key shipbuilding value steps are ship design, procurement of construction materials, ship assembly, post-production maintenance, refitting, and end-of-life recycling. All phases need to address decarbonization. Ships should be designed for minimal GHG emissions. These can be limited in a variety of ways, including but not limited to optimized hydrodynamic hull design, wind support when sailing, dual-fuel, and multi-fuel high-efficiency engines, and digital systems to optimize routing and port arrival. Steel should be sourced from suppliers using low-carbon production methods. Circularity principles should be applied to design and construction to maximize reuse when a ship has reached the end of use.
- 2.14 The operations' chain.** The maritime operational value chain covers the steps of ships being operational in their activities of traveling between ports and making port visits. Consequently, steps along the maritime operational value chain are fueling, provisioning, loading, boarding, voyaging, unloading, disembarking, and refueling.
- 2.15** Ship operators have multiple levers to reduce CO₂ emissions, including leveraging the size and speed of ships and fleets, demanding hydrodynamic designs and dual-fuel engines or ships (partially) powered by biodiesel and electricity. Carbon reduction measures apply to ships, but seaports are also a crucial part of the operational chain. Ports need to support and have the possibility to accelerate, decarbonization in shipping through infrastructure for storing and bunkering of alternative fuels and onshore power supplies⁶.
- 2.16** There is global political awareness about the shipping environmental impacts. The International Convention for the Prevention of Pollution from Ships (MARPOL) adopted on 2 November 1973 at the International Maritime Organization (IMO) is the main international convention covering the prevention of pollution of the marine environment by ships from operational or accidental causes. The IMO has mandated a 50% GHG reduction for all vessels by 2050⁷ and encouraged countries to promote the deployment of green ports. Green ports are the result of transforming existing maritime facilities comprising wharves or loading areas, where ships load and discharge cargo and passengers to achieve lower CO₂ emissions from the use of fossil fuels, implement energy efficiency measures, and use of renewable energy (RE): developing sustainable energy sources generated on-site (solar, wind, geothermal, and others). To reach these goals, the Organization's Member States in the Caribbean must implement in coordination with the shipping industry comprehensive net-zero emission programs over the next decade that considers the implementation of energy efficiency measures in fleets, and green ports and corridor initiatives defining trading routes between major port hubs where zero-emission solutions are supported. Green ports and corridors create the enabling conditions for decarbonization, for they would allow policymakers to create an ecosystem with targeted regulatory measures, financial incentives, and safety regulations.

⁶ UNCTAD Transport and Trade Facilitation Newsletter N°94 - Second Quarter 2022.

⁷ Resolution MEPC.304(72) adopted April 13, 2018, Initial IMO strategy on reduction of GHG emissions from ships, International Maritime Organization, imo.org.

- 2.17 **Caribbean sectoral challenges.** Caribbean countries share similar energy challenges to reduce carbon emissions through alternative renewable-based fuels at a competitive price to replace fossil fuels. Most of the countries in the Caribbean rely heavily on imported liquid fossil fuels for power generation and transport (land and marine-based), thus impacting their macroeconomic balances and increasing exposure to oil price volatility. The Caribbean geographic location and market size contribute to higher costs of alternative energy and technology solutions such as off-shore wind and green ports on a country-by-country basis mainly due to challenges related to economies of scale, limited competition, and irregular international traffic volumes⁸. In 2020, the Caribbean the commercial and public sectors paid on average three times as much as South America per kWh⁹. The distance between countries severely constrains options for transporting electricity between islands, thus power systems are characterized by larger installed capacities and poorer load factors than interconnected systems, resulting in high energy costs. Moreover, global technology suppliers and project developers tend to focus on larger, developed markets making knowledge and technology acquisition processes difficult.
- 2.18 Integration of the fragmented island energy markets has been identified as key for obtaining a better bargaining position of the region vis-a-vis technology suppliers and fuel traders. RE project scales can be increased by developing a regional portfolio that is procured and financed under an umbrella approach. Upscaling may be particularly relevant in a global context in which demand greatly outmatches the supply of RE technology, such as wind turbines¹⁰. Furthermore, regional integration would help Caribbean countries to harmonize technical standards on low-carbon technologies¹¹, optimize intra-regional logistics (including maritime transportation and supply of equipment and services), exploit energy trading, and improve energy security.
- 2.19 Private sector involvement is affected by ineffective development frameworks. Demand side challenges preventing the uptake of low carbon technologies include outdated policy frameworks lacking provisions to ensure price transparency and fair infrastructure access to third parties; outdated incentives for power and transport suppliers to increase efficiency and reduce costs; and weak financial position of utilities and public entities for ongoing investment in generation and green infrastructure. The build-up of experience with decarbonization technologies is low, talented professionals seek business elsewhere and a local RE ecosystem hardly develops. On the other hand, there is awareness among policymakers and the public that energy and transport services in the Caribbean need to increase resilience to the impacts of extreme natural events, including frequent hurricanes and flooding - which are exacerbated by climate change.
- 2.20 Caribbean countries have increased the relevance of NDC¹² targets to reduce environmental impacts from power generation and transportation¹³. Decarbonizing the

⁸ When SIDS receive development assistance, the cost of delivering this aid is 4.7 times higher than in other countries due to remoteness and negative effects of scale. IFAD's approach in Small Island Developing States: A global response to island voices for food security. UN International Fund for Agricultural Development 2014.

⁹ Annual electricity rate 2020 Commercial and public service: Caribbean 295.8 US\$/MWh, South America 93.7 US\$/MWh. Hub energia-IDB, 2023.

¹⁰ Global Wind Energy Council, 2022; and Expanding Offshore Wind to Emerging Markets, ESMAP, 2019.

¹¹ Regarding Energy Efficiency, the Caribbean region lags behind on legal and regulatory frameworks, e.g., none of the countries has minimum performance studies, neither EE labeling nor an EE law.

¹² National Determined Contributions. See: <https://www4.unfccc.int/sites/NDCStaging/Pages/All.aspx>.

energy sector and increasing RE capacity is part of the regional priorities to reduce GHG and oil dependence stated in the top priorities ahead of COP27¹⁴. Together the region has set a target to increase 12% of RE contribution to total electricity generation in 2021 to 47% by 2027¹⁵, thus requiring 4 GW of added capacity. Given the land constraints for deploying large-scale energy infrastructure, strong consideration is given to harnessing RE potential using marine technology applications. One promising technology is offshore wind power following a regional approach to increase economies of scale. Off-shore wind is a well-established commercial technology with a good track record on competitive levelized cost of energy achieved¹⁶ in Europe and Asia¹⁷.

- 2.21 This TC will support Caribbean energy and shipping regional entities and stakeholders by providing expected results through research, capacity building, knowledge, and dissemination on areas of decarbonization that are key to the regional development agenda. The direct beneficiaries are regional energy and shipping entities, relevant Ministries, electric utilities, regulators, ports and shipping stakeholders.
- 2.22 **Strategic Alignment.** The TC is aligned with the IDB's Second Update to the Institutional Strategy 2020-2023 (AB-3190-2) through the cross-cutting issues of Climate Change and Environmental Sustainability, as it will develop technical assessments focused on sustainable energy policies and regulations as well as promote resilient infrastructure aligned with climate change adaptation goals. Likewise, this TC is consistent with the Energy Sector Framework (GN-2830-8) by incorporating discussion and assessments on access to energy, sustainability, and energy security. Additionally, the TC is aligned with the Integration and Trade Sector Framework document (GN-2715-11) regarding the lessons learned from the synergy between climate change and trade agendas. The TC is aligned with the Gender and Diversity Sector Framework document (GN-2800-8), as it will support a just transition with the creation of equal opportunities for men and women. It is also aligned with the Ordinary Capital Strategic Development Program for Infrastructure (W2B) (GN-2819-14) by promoting sustainable economic growth in the region by financing low carbon infrastructure projects that can improve productivity, competitiveness, and social inclusion and providing technical assistance to help countries and companies identify, design, and implement infrastructure projects that meet the development needs in the Caribbean region.

III. Description of Activities/Components and Budget

- 3.1 **Component I: Marine Renewable Energy (MRE) (US\$65,000).** This component will finance a framework to assess and promote the development of MRE, including technical, resource potential, financing, policy, institutional, regulatory, environmental, and social dimensions. The scope includes outlining the key building blocks for

¹³ IRENA, 2022. <https://www.irena.org/irenaforcip/Caribbean-Islands#:~:text=The%20Member%20States%20of%20the,to%20comply%20with%20their%20NDCs.>

¹⁴ Ministerial Statement Ahead of COP27.

¹⁵ Hubenergia. IADB, 2023.

¹⁶ In 2015, the levelized cost of energy for offshore wind projects ranged from \$150 to \$200 per MWh, roughly three to four times that of onshore wind. The situation changed dramatically between 2016 and 2017 when a series of competitive tenders in Europe delivered strike prices below \$100/MWh, culminating in projects which bid into the merchant market without any form of subsidy, starting in the Netherlands. " Source: Going Global: Expanding Offshore Wind to Emerging Markets. ESMAP, 2019 (page 2).

¹⁷ IDB, 2021. [Ocean energy in the Caribbean.](#)

deploying MRE technologies considering both public and private sectors, with a focus on offshore wind. It will be implemented in coordination with the Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE), and other relevant development partners such as UK FCDO, the Caribbean Development Bank (CDB), the World Bank, and the Caribbean Climate Smart Accelerator (CCSA).

- 3.2 **Component II: Decarbonization of Shipping and Port Energy Services (US\$65,000).** This component will finance a framework to assess and promote the transition to low-carbon shipping and port services, including technical, financing, policy, institutional, regulatory, environmental, and social dimensions. The framework will consider existing studies as a baseline. The scope includes the outline of key building blocks considering key industry actors from both public and private sectors, including agents, ports, lines, and non-vessel operating common carriers and conduct a gap analysis towards green and resilient port infrastructure. It will be implemented in coordination with the Caribbean Shipping Association (CSA), and other relevant development partners such as CCREEE, CDB, and CCSA.
- 3.3 **Component III: Capacity Building and Knowledge Dissemination (USD\$20,000).** This component will finance knowledge exchange, technical notes, study tours/events, and consultancy services for capacity building to relevant government and regional entities in areas such as: (i) dissemination campaigns, (ii) improving governance, environmental, legal and regulatory functions; (iii) workshops and (iv) information technology applications to monitor MRE and maritime transportation supply chain.
- 3.4 **Budget.** The total estimated cost of the Technical Cooperation is US\$150,000, which will be financed US\$150,000 by the Ordinary Capital Strategic Development Programs Window 2 – Infrastructure (W2B).

Indicative Budget

Activity/Component	Description	IDB/Fund Funding	Total Funding
Component I: Marine Renewable Energy	Database GIS Analytical study	US\$65,000.00	US\$65,000.00
Component II: Decarbonization of Shipping and Port Energy Services	Analytical studies	US\$65,000.00	US\$65,000.00
Component III. Capacity Building and Knowledge Dissemination	Knowledge exchanges, training, communications and workshops.	US\$20,000.00	US\$20,000.00
Total		US\$150,000.00	US\$150,000.00

IV. Executing Agency and Execution Structure

- 4.1 To facilitate implementation, the TC will be executed by the Bank's Division of Infrastructure and Energy Sector (INE/ENE) given the Division's experience with similar programs and the regional scope of the proposed activities. Specifically, INE/ENE will have the technical responsibility and will supervise the execution of this TC. The designated focal point and the Sector Specialist responsible for this TC will be the Team Leader Roberto Aiello (ENE/CJA), with Christopher Persaud from the Transport Division (INE/TSP) as Alternate Team Leader. The project team will work in coordination with the Bank's Country Office in Jamaica (CCB/CJA) as the designated Unit with Disbursement Responsibility for the TC. Project output indicators will be monitored following the Monitoring and Evaluation framework of the Bank.
- 4.2 Based on the role and experience of regional entities, the IDB will coordinate and collaborate with relevant agencies such as CCREEE¹⁸ and CSA. The CCREEE was legally created in 2018 in response to an MoU between SIDS-DOCK¹⁹, the United Nations Industrial Development Organization (UNIDO) and the Government of Austria (2014). It is hosted in Bridgetown by the Government of Barbados and formally endorsed by The Caribbean Community (CARICOM)²⁰ as the implementation hub for sustainable energy activities and projects within the region. One of CARICOM's strategic programs is supported by the Knowledge Management and Capacity Development Unit of CCREEE, which supports regional capacity by providing energy-related training and learning needs of the Caribbean region. The CSA is a professional organization representing interests in the private and public sectors of the shipping industry in the Caribbean²¹. CSA promotes high quality service through training development and works with all agencies, groups and other associations for the benefit and development of the Caribbean region. For over 50 years, the association has provided a platform to advocate, partner, and network with CDB and regional stakeholders involved in cargo and passenger transportation. An institutional alliance between the IDB, CSA, and CCREEE can have a significant impact on increasing maritime decarbonization and renewable energy in the Caribbean region. Renewed MoUs or legal agreements with these institutions might help achieve (i) increased investment in sustainable transport infrastructure by supporting the development of sustainable transport systems, including electrified port infrastructure, renewable energy-powered vessels, and green logistics solutions; (ii) promotion of best practices for sustainable shipping such as training programs for ship operators, guidelines for reducing carbon emissions, and incentives for companies that adopt sustainable shipping practices, (iii) development of renewable energy projects including the deployment of offshore wind farms, solar-powered ports, and other renewable energy solutions for the shipping industry; and (iv) increased awareness of the importance of sustainability by implementing communication strategies and education programs to raise awareness of the urgent need to reduce carbon emissions and combat climate change in the region.
- 4.3 The Bank will have the autonomy to approve documents, such as technical assessments, and act as the Executing Agency of the TC. This dynamic will: (i) facilitate the articulation between various actors within the technical dialogue

¹⁸ Website: [Caribbean Centre for Renewable Energy & Energy Efficiency](#).

¹⁹ SIDS DOCK is an initiative among member countries of the Alliance of Small Island States (AOSIS), to connect ("to dock") island states to global financial, technology and carbon markets. See: <https://sidsdock.org/what-is-sids-dock>

²⁰ CARICOM is a grouping of twenty countries in the Caribbean.

²¹ Website: [Caribbean Shipping Association](#).

framework of this TC; (ii) improve the dialogue in beneficiary countries; and (iii) avoid fiduciary management risks eliminating the need for a financial audit. However, if any activity takes place in any of the beneficiary countries, the Bank will obtain a non-objection letter from the corresponding entity in the country before starting such activity and coordinate closely throughout the execution with the respective IDB Country Office, including any missions that may be required during the implementation of the TC.

4.4 The Bank will execute this TC to: (i) facilitate the regional scope of the various activities; (ii) avoid lengthy procedures that may jeopardize the achievement of its objectives by delaying the start of TC execution and consultant payments; (iii) facilitate coordination among the different parts of the Bank and foster knowledge sharing among the countries of the region; and (iv) promote coordination across multiple stakeholders in the different countries. All knowledge products derived from this Technical Cooperation will be the intellectual property of the Bank. Since the TC resources will be managed by the Bank, these resources will be allocated according to the needs determined by the project team.

4.5 **Procurement Policies:** All activities to be executed under this TC have been included in the Procurement Plan (see Annex IV) and will be contracted in accordance with Bank policies as follows: (i) hiring of individual consultants, as established in the AM-650 standards; (ii) contracting of consulting firms for services of an intellectual nature according to GN-2765-4 and its associated Operational Guidelines (OP-1155-4); and (iii) contracting logistics and other related services, in accordance with policy GN-2303-28.

4.6 The execution and disbursement period for this TC is estimated to be 36 months.

V. Major Issues

VI. The main risk associated with this TC is lack of coordination due to multiple stakeholders and donors that have active presence in the region. This risk, considered to be low, will be mitigated through frequent coordination meetings organized by the Bank together with CSA and CCREEE, and the continued dialogue with IDB country-based specialists. Also, ongoing restrictions related to the COVID-19 pandemic could have a negative impact on some TC activities, including some of the dissemination activities. This risk, considered to be low, will be mitigated by using digital communication tools and adapting the activities to those restrictions.

VII. Environmental and Social Strategy

7.1 This TC will not finance feasibility or pre-feasibility studies of investment projects associated with environmental and social studies; therefore, it falls outside the scope of the Bank's Environmental and Social Policy Framework (ESPF).

Required Annexes:

[Results Matrix - RG-T4175](#)

[Terms of Reference - RG-T4175](#)

[Procurement Plan - RG-T4175](#)