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BR State of Ceará Sustainable DPF (P180497)

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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
PROGRAM DOCUMENT FOR A
PROPOSED LOAN
IN THE AMOUNT OF JPY 80,114,895,584 (US\$ 541,884,375 EQUIVALENT) TO
THE STATE OF CEARÁ
WITH A GUARANTEE OF THE FEDERATIVE REPUBLIC OF BRAZIL
FOR THE
BR STATE OF CEARÁ SUSTAINABLE DPF
February 29, 2024

Macroeconomics, Trade And Investment Global Practice
Latin America And Caribbean Region

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State of Ceará
GOVERNMENT FISCAL YEAR
January 1 – December 31

CURRENCY EQUIVALENTS
 (Exchange Rate Effective as of February 23, 2024)

Currency Unit
 US\$ 1.00: R\$ 4.98

ABBREVIATIONS AND ACRONYMS

BCB	<i>Banco Central do Brasil</i> (Brazilian Central Bank)	IMF	International Monetary Fund
CAPAG	<i>Capacidade de pagamento</i> (credit worthiness scoring system)	INEP	<i>Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira</i> (Anísio Teixeira National Institute for Educational Research and Studies)
CARF	<i>Conselho Administrativo de Recursos Fiscais</i> (Tax Appeals Administration Council)	IPSAS	International Public Sector Accounting Standards
CBA	Cost-Benefit Analysis	LDO	<i>Lei de Diretrizes Orçamentárias</i> (Budget Guidelines Law)
CBAM	Carbon Based Adjustment Mechanism	LDP	Letter of Development Policy
CearaPar	<i>Companhia de Participação e Gestão de Ativos do Ceará</i> (Ceará Participation and Asset Management Company)	MAPP	Monitoring of Priority Actions and Projects
CGE	<i>Controladoria Geral do Estado</i> (State General Comptroller)	NCR	Net Current Revenues
CIPP	<i>Complexo Industrial e Portuário do Pecém</i> (Industrial Complex of Pecém)	NPV	Net Present Value
COEMA	<i>Conselho Estadual de Meio Ambiente</i> (State’s Environmental Council)	PDO	Project Development Objective
COSO	Committee of Sponsoring Organizations	PER	Brazil Public Expenditure Review
CPF	Country Partnership Framework	PFM	Public Financial Management
CPI	Consumer Price Index	PGE	<i>Procuradoria Geral do Estado</i> (State Attorney General’s Office)
CPIA	Country Policy and Institutional Assessments	PIM	Public Investment Management
DG	Distributed Generation	PNADC	<i>Pesquisa Nacional por Amostra de Domicílios Contínua</i> (Continuous National Household Sample Survey)
DPF	Development Policy Financing	PPA	<i>Plano Plurianual</i> (Multiannual Plan)
CPIA	Country Policy and Institutional Assessments	PPP	Purchasing Power Parity
DPF	Development Policy Financing	RE	Renewable Energy
EC	<i>Emenda Constitucional</i> (Constitutional Amendment)	RPPS	<i>Regime Próprio de Previdência Social</i> (Civil Servant Pension Regime)
EI/EIR	Environmental Impact Study and Environmental Impact Report	SDR	Special Drawing Rights
FDI	Foreign Direct Investment	SEDUC	<i>Secretaria de Educação</i> (State Secretariat of Education)
FPE	<i>Fundo de Participação dos Estado</i> (State Participation Fund)	SEFAZ	<i>Secretaria da Fazenda</i> (Secretariat of Finance)
FPM	<i>Fundo de Participação dos Municípios</i> (Municipal Participation Fund)	SEINFRA	<i>Secretaria Estadual de Infraestrutura</i> (State Secretariat of Infrastructure)
FRL	Fiscal Responsibility Law	SEMA	<i>Secretaria do Meio Ambiente e Mudança do Clima</i> (State Secretariat for the Environment and Climate Change)
FSAP	Financial Sector Assessment Program	SEMACE	<i>Superintendência Estadual do Meio Ambiente</i> (State Superintendence of the Environment)
GoC	<i>Governo do Ceará</i> (Government of Ceará)	SEPLAG	<i>Secretaria do Planejamento e Gestão</i> (Secretariat for Planning and Management)
GDP	Gross Domestic Product	SER	Simplified Environmental Report



GHG	Greenhouse Gas	SIAFE-CE	<i>Sistema Integrado de Planejamento e Administração Financeira do Estado do Ceará</i> (Integrated Planning and Financial Administration System of the State of Ceará)
GNFS	Goods and Non-factor Services	STEM	Science, Technology, Engineering and Math
GRID	Green, Resilient and Inclusive Development	STN	<i>Secretaria do Tesouro Nacional</i> (National Treasury Secretariat)
GTI	Investments Technical Group	TCE	<i>Tribunal de Contas do Estados do Ceará</i> (State Audit Court)
HCI	Human Capital Index	TCU	<i>Tribunal de Contas da União</i> (Federal Court of Accounts)
IA-CM	Internal Audit Capability Model	TFP	Total Factor Productivity
IBGE	<i>Instituto Brasileiro de Geografia e Estatística</i> (Brazilian Institute of Geography and Statistics)	TVET	Technical and Vocational Education and Training
IBRD	International Bank for Reconstruction and Development	VAT	Value-Added Tax
ICMS	<i>Imposto sobre Circulação de Mercadorias e Serviços</i> (Tax on the Circulation of Goods and Services)	WASH	Water, Sanitation, and Hygiene
IDEB	<i>Índice de Desenvolvimento da Educação Básica</i> (Basic Education Development Index)	WB	World Bank
IFC	International Finance Corporation	WBG	World Bank Group
IFI	<i>Instituição Fiscal Independente</i> (Independent Fiscal Institute)		

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FEDERATIVE REPUBLIC OF BRAZIL

BR State of Ceará Sustainable DPF

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This Sustainable DPF for the Brazilian State of Ceará (P180497) was prepared by an IBRD team led by Fabiano Silvio Colbano, Senior Economist and TTL (ELCMU) and Megan Meyer, Senior Energy Specialist and co-TTL (IEEES), and comprised of (in alphabetical order): Alberto Coelho Gomes Costa, Senior Social Development Specialist (SLCSO); Ana Carolina Rodrigues Velloso Cordeiro, Consultant (SLCUR); Carlos Antonio Costa, Senior Energy Economist (ILCE1); Carolina Luisa Vaira, Senior Governance Specialist (ELCG2); Daniela Gayraud, Operations Analyst (SLCEN); Daria Yurlova, ET Consultant (IPGPP); Eric Shayer, Senior Environmental Specialist (SLCEN); Fátima Alves, Consultant (HLCED); Flavia Nahmias da Silva Gomes, Program Assistant (LCC5C); Gabriel Lara Ibarra, Senior Economist (ELCPV); Guido Couto Penido Guimarães, Consultant (SLCEN); Gustavo Covolan Bozzetti, ET Consultant (ELCG2); Heron Marcos Teixeira Rios, ET Consultant (ELCMU); João Guilherme Morais de Queiroz, Senior Procurement Specialist (ELCRU); Julio Velasco, Senior Economist, (ELCMU); Leandro Costa, Senior Economist (HLCED); Luigi Butron Calderon, Economist (ELCMU); Luis Alberto Andrés, Sector Leader (ILCDR); Maja Murisic, Senior Environmental Specialist (SLCEN); Michael Peter Wilson, Young Professional (ILCE1); Paola Buitrago Hernandez, Economist (ELCPV); Pierre Audinet, Lead Energy Specialist (IEEGK); Priscilla Nunes Cardoso de Sá, Program Assistant (LCC5C); Raphael Pinto Fernandes, Consultant (ELCMU); Sadia Afobali, Governance Specialist (ELCG2); Shyamala Shukla, Senior Public Private Partnerships Specialist (IPGPP); Shireen Mahdi, Lead Country Economist (ELCRD); and Susana Amaral, Senior Financial Management Specialist (ELCG1).

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SUMMARY OF PROPOSED FINANCING AND PROGRAM

BASIC INFORMATION

Operation ID	Programmatic	
P180497	No	

Proposed Development Objective(s)

The proposed DPF supports reforms of the state of Cear  to: (i) improve public financial management; and (ii) strengthen the enabling environment to scale up clean energy production.

Organizations

Borrower: State of Cear 
 Implementing Agency: State Secretariat of Civil House, State Secretariat of Finance

PROJECT FINANCING DATA (US\$, Millions)

Maximizing Finance for Development

Is this an MFD-Enabling Project (MFD-EP)? Yes
 Is this project Private Capital Enabling (PCE)? No

SUMMARY

Total Financing	541.88
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DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	541.88
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PRACTICE AREA(S)



Practice Area (Lead)

Macroeconomics, Trade and Investment

Contributing Practice Areas

Education; Governance; Infrastructure, PPP's & Guarantees

CLIMATE

Climate Change and Disaster Screening

Yes, it has been screened and the results are discussed in the Concept Document

OVERALL RISK RATING

Overall Risk

● Moderate

RESULTS		
Indicator Name	Baseline	Target
Pillar I – Improving public financial management		
RI1. Number of public investment projects screened, appraised, and prioritized according to the methodology criteria set forth on the new legal framework	2022 = 0	2025 = 5
RI2. Real estate assets vacancy rate	2022 = 18.5 percent	2025 = 8 percent
RI3. Increased deployment of the Integrity Program in five units of the State's key sectoral budgets secretariats to assess its internal control structure according to the methodology criteria set forth on the "Integrity Diagnostics Framework"	2022 = 54 percent	2025 = 75 percent
Pillar II – Strengthening the enabling environment to scale up clean energy production		
RI4. Publication of targets for greenhouse gas emission reduction for the CIPP, utilizing the emissions inventory and energy balance	2022 = no emission reduction targets published for the CIPP	2025 = emission reduction targets published for the CIPP for 2030, 2040 and 2050
RI5. Funds transferred to the FIEE Fund to Support the Renda do Sol Program, utilizing energy cost savings from the State's public building renewable energy program	2022 = R\$ 0m	2025 = R\$ 19m
RI6. Locational environmental licensing assessments completed	2022 = 0	2025 = 4
RI7. Number of TVET courses on clean energy	2022 = 1	2025 = 8
RI8. Number of girls (aged 14 to 19) participating on STEM career orientation program	2022 = 0	2025 = 20,000
RI9. Number of full-time schools' facilities rehabilitated or constructed following the criteria laid out in the regulations.	2022 = 257	2025 = 400



IBRD PROGRAM DOCUMENT FOR A PROPOSED LOAN IN THE AMOUNT OF JPY 80,114,895,584 (US\$ 541,884,375 EQUIVALENT) TO THE STATE OF CEARÁ FOR THE BR STATE OF CEARÁ SUSTAINABLE DPF

1. INTRODUCTION

1. **This proposed DPF supports reforms of the State of Ceará to: (i) improve public financial management; and (ii) strengthen the enabling environment to scale up clean energy production.** The proposed JPY 80,114,895,584.34 (US\$ 541,884,375 equivalent) International Bank for Reconstruction and Development (IBRD) loan supports critical reforms in areas related to two key pillars. The first pillar seeks to strengthen public finance systems through improved in public investment management, public assets management and internal control. The second pillar supports policies and regulations that promote a just and clean energy transition and better labor skills. This operation is part of a broader package of support by the World Bank (WB) to improve fiscal and environmental sustainability and resilience at the sub-national level in Brazil and is fully aligned with the Green, Resilient and Inclusive Development (GRID) approach.

2. **The Northeastern State of Ceará faces important development challenges.** Ceará is the State with the fourth lowest income in Brazil (GDP per capita of BRL 3,522). More than half of Ceará's work force is informal, compared to 39.0 percent for Brazil, and its poverty rate is high at 44.2 percent (US\$6.85/day; PPP 2017). While the State has been known for its educational achievements, holding the second-best position in the national Basic Education Development Index (IDEB) ranking, the share of literate children aged 7 and 8 fell from 82.7 percent in 2019 to 69.4 percent in 2021 (PNADC). Ceará is also vulnerable to the effects of climate change, specifically the threat of drought and desertification, with implications for its water systems and agriculture. But the State has significant potential to generate renewable energy, which could be leveraged as a source of investment and growth.

3. **Supported by this DPF, the Government of Ceará (GoC) is enhancing public financial management by strengthening public investment, public asset management and internal audits (Pillar 1).** Despite the presence of large-scale projects such as the Green Hydrogen Hub that is being developed within State's Port and Industrial Complex of Pecém (*Complexo Industrial e Portuário do Pecém*, CIPP), there remain important public investment gaps in healthcare, education, and transport. The new public investment management system will improve the quality and efficiency of public investment spending. The reform of the real estate asset management system will promote a more efficient management of public assets, generating additional revenue, optimizing the return of the assets, and facilitating their use by the private sector. The internal audit system will contribute to strengthening the effectiveness of internal auditing in the Executive Branch, promoting accountability, better use of public resources and reducing fraud.

4. **The GoC also seeks to accelerate a just and clean energy transition, as set out in the *Ceará Verde Plan* (Pillar 2).** Ceará has an estimated renewable energy potential of 854 GW, nearly five times greater than the current size of the existing national power system. Approximately 5.2 GW of renewable energy have been developed in the State as of 2022. Scaling-up clean energy in Brazil can be part of a least cost power expansion plan that supports economic growth as well as climate change mitigation and adaptation.¹ Nonetheless, fossil fuel-based energy supply is responsible for 42 percent of the State's greenhouse gas (GHG) emissions (above the national average of 18 percent)², the majority of which are generated by power generation and industrial production in the CIPP. Ceará's high electricity tariffs, which have increased by 117 percent in the last 6 years, hamper economic competitiveness. This DPF supports the implementation of the *Ceará Verde Plan*, establishing limits to the expansion of fossil fuels in the CIPP. The new *Renda do Sol* (*Sun Income*) program will

¹ Brazil Country Climate and Development Report (CCDR) <https://openknowledge.worldbank.org/server/api/core/bitstreams/fd36997e-3890-456b-b6f0-d0cee5fc191e/content>

² Anuário Estatístico de Energia Elétrica 2022: <https://www.epe.gov.br/pt/publicacoes-dados-abertos/publicacoes/anuario-estatistico-de-energia-eletrica>.



enable vulnerable communities access renewable energy. Improving the regulatory framework for the licensing of green hydrogen projects will facilitate private investment and increase the supply of green energy.

5. **More skilled workers will help scale up clean energy.** The GoC has recently implemented full-time schooling in public schools, which will strengthen the State's overall educational outcomes. Educational programs that offer specialized knowledge and skills related to clean energy, particularly for offshore wind and green hydrogen production³, offer an opportunity to expand and diversify Ceará's workforce, create jobs and improve innovation and competitiveness, critical for sustainable and inclusive growth.

6. **The reforms under this DPF are expected to contribute to a more efficient public administration and support a just energy transition in Ceará.** Enhancing public financial management is expected to improve the quality and efficiency of public investment spending (PA1), promote a more agile business environment to facilitate the use of public assets, generate additional revenue and optimize the returns from the assets (PA2), and to strengthen the effectiveness of internal auditing, promoting accountability, better use of public resources and reducing fraud (PA3). Actions to support the energy transition in CIPP will help the GoC to reach its objective of statewide net zero emission by 2050, including limiting the expansion of fossil fuels and establishing GHG emission reductions targets (PA4). They will also allow vulnerable communities to access income from the State's abundant renewable energy potential (PA5), reduce barriers for private investments in green hydrogen projects (PA6), increase the availability of skilled workers for the just energy transition through focused education opportunities (PA7), and support education learning recovery following the COVID-19 pandemic (PA8).

2. MACROECONOMIC POLICY FRAMEWORK

2.1. RECENT ECONOMIC DEVELOPMENTS

7. **Brazil's economy grew 3.7 percent in the first semester of 2023, as inflation moderated, and the financial sector remains sound.** Growth was driven by the agriculture sector's strong performance and a fiscal stimulus and social income transfers-boosted consumption. CPI-inflation moderated to 5.2 percent in September 2023 from 12.1 percent in April 2022, above the Central Bank's inflation target interval. Food, fuels, and energy prices declined, but annual core and services inflation remained persistent at 5.0 percent and 5.5 percent respectively. Brazil's Central Bank (BCB) lowered the policy interest rate to 12.75 percent in September 2023 (down from the 13.75 percent peak up to July). The financial sector in Brazil remained stable and liquid, with strong buffers, as the capital-asset ratio reached 15.8 percent in June 2023, comfortably exceeding the regulatory minimum (8 percent international and 10.5 percent in Brazil).

8. **Brazil's external position strengthened further.** The 12-month current account deficit fell to 2.2 percent of GDP in August 2023 (US\$ 45.3 billion) and 12-month net FDI inflows reached 2.2 percent of GDP (US\$ 45.2 billion). International reserves increased to 16.6 percent of GDP (US\$ 341.8 billion) in August 2023. The Central Bank's net FX position was partially offset by currency swap operations of US\$ 98.4 billion, resulting in a net FX long position of US\$ 243.4 billion (111.8 percent of GDP) in August. External financing needs in 2022 were moderate at 10.6 percent of GDP, 3.4 percentage points below their 2020 peak. The exchange rate appreciated from R\$/US\$ 5.6 in December 2021 to R\$/US\$ 5.0 in the end of September 2023 supported by high domestic interest rate and strong export performance.

9. **Fiscal balances deteriorated in 2023 as one-off revenues vanished, and social transfers increased.** Higher economic growth, persistent inflation, and elevated commodities prices boosted primary surplus in 2022 to 1.3 percent of GDP. However, from January to August 2023, Central Government net revenues shrank by 5.8 percent due to lower commodity prices whilst spending grew by 4.5 percent in real terms, largely due to an increase in social transfers and the

³ Green hydrogen is produced by using renewable energy sources to split water into hydrogen and oxygen. It is considered a promising technology for decarbonizing the energy sector.



effect of a higher minimum wage on pensions payments. Nominal interest payments reached 6.6 percent of GDP in July 2023, up from 6.0 percent in 2022. As a result, the overall fiscal deficit grew to 7.3 percent of GDP in August 2023 (from 4.6 percent in 2022) and General Government's Gross Debt increased to 74.4 in August 2023, following the reduction to 72.9 percent in 2022.

2.2. MACROECONOMIC OUTLOOK AND DEBT SUSTAINABILITY

10. **GDP is expected to grow by 2.6 percent in 2023, 1.3 percent in 2024, and 2.2 percent in 2025.** Growth in 2023 is expected to be supported by agriculture and on the demand side, by exports and private consumption, due to a strong labor market and income transfers from *Bolsa Família program* (Brazil's flagship social safety net program). Inflation is on a downward trend towards 4.5 percent in 2023 and 3.5 percent by 2025, slightly above the Central Bank's target of 3 percent, and allowing for a gradual easing of monetary policy. The current account is projected to remain below 2.6 percent of GDP over the medium term as external conditions adjust and growth returns to its pre-pandemic trend, fully financed by FDI. Baseline growth beyond 2025 is assumed to stay at around 2.0 percent due to structurally low total factor productivity (TFP) growth, lower national savings that limit the investment rate, and decreasing population growth. Progress in implementing growth-enhancing structural reforms, including those related to trade openness, market competition, and the business environment will be critical to boost potential growth.

11. **Poverty is projected to decline.** Labor market gains combined with larger payments from the *Bolsa Família* transfers program are expected to reduce the poverty rate (US\$ 6.85 per day) to 22.1 percent in 2023. The poverty rate is projected to decrease further in 2024 and 2025 to 21.5 percent and 20.8 percent, respectively.

12. **Fiscal projections assume the implementation of the new fiscal framework.** The new framework was approved on August 30, 2023, and combines a spending rule with a primary balance rule. The spending rule will limit federal real primary spending growth to 70 percent of the real primary recurrent revenue growth (i.e., excluding one-off revenues). Real growth of expenditures should be within 0.6 and 2.5 percent. The primary balance targets will be defined for four years in the annual budget guidelines law, with a 0.25 tolerance interval. The annual budget guidelines law will also include a medium-term fiscal framework, with emphasis on the expected effect of the fiscal targets on the public debt trajectory. With the new fiscal framework, Brazil's Federal Government foresees zeroing the federal primary deficit in 2024, obtaining primary surpluses of 0.5 and 1.0 percent of GDP in 2025 and 2026, respectively, while stabilizing the debt/GDP ratio by 2026. An important feature of the framework is the need for 0.7 – 1.0 percent of GDP in additional revenues between 2023 and 2026. According to the Independent Fiscal Institute (IFI) of Brazil estimates, the package of revenue measures announced by the Federal Government of Brazil is sufficient to meet this gap (see Annex 6 for a summary of the announced measures).⁴

13. **The primary deficit is expected to turn into a surplus over the medium term.** The projected primary deficit of 0.9 percent of GDP in 2023 for the General Government reflects the effects of higher social transfers for the year and the reduction of revenues due to lower one-off revenues and lower inflation. The primary balance is expected to gradually increase until it achieves a surplus of 1.1 percent of GDP by 2026. The overall fiscal deficit is projected to increase to 7.3 percent in 2023 (from 4.6 percent in 2022) before gradually declining to 3.3 percent of GDP by 2026, in line with lower interest payments and financing needs. The deficit will largely be financed through domestic debt issuances, in line with the National Treasury Annual Borrowing Plan (87.5 percent of federal debt is domestic and over 90 percent is in local currency).

14. **Public debt is projected to peak at 76.3 percent of GDP by 2024 before trending downward to 69.4 percent by 2030.** The main macroeconomic shocks that pose risks to debt sustainability (see Annex 7) include lower than projected

⁴ According to estimates from the Independent Fiscal Institute (IFI) of Brazil, primary revenues would need to grow by at least 0.8 percent of GDP for the government to be able to comply with the primary balance target in 2024.



primary balances, lower GDP growth and real interest rates increase. A combined shock would have the largest impact on public debt. Public gross financing needs are expected to decrease from 25.8 percent of GDP in 2024 to 20.6 percent in 2025 and 13.4 percent in 2026, on the back of lower interest payments and improving primary balances. Brazil's Federal Government debt exposure to exchange rate risks is low and rollover risks are mitigated by sizeable federal cash balances (16.2 percent of GDP in June 2023) and a deep domestic public bond market.

15. **Key macroeconomic risks are mainly driven by concerns with the pace of fiscal consolidation, low productivity growth, and deteriorated external conditions.** Public debt sustainability is vulnerable to the pace of the fiscal adjustment (that depends on the Federal Government to comply with the new federal fiscal framework) as well as growth and real interest rate shocks. On the external side, persistent inflationary pressures in advanced economies can keep high global interest rates and reduce global economic activity, triggering higher investor risk aversion and reducing capital inflows, weakening the Brazilian currency, putting additional pressures on domestic inflation, as well as limiting investments and exports growth.

16. **Brazil's macroeconomic policy framework is deemed adequate for this proposed operation.** Brazil has a high Federal Government cash balance position, low public debt exposure to exchange rate fluctuations, strong external accounts, strong financial sector regulations that support a solid financial system, a consolidated inflation target system and an independent Central Bank and a flexible exchange rate regime that can anchor inflation expectations. Brazil's external position is buffered by the low share of foreign currency-denominated public debt and high gross reserves. The new fiscal framework reduces uncertainty around fiscal policy, provides predictability for the fiscal accounts, and aims to stabilize debt over the medium-term. The VAT tax reform is expected to improve the business environment through tax simplification and boost productivity. The recently approved financial sector reforms helped to boost competition in the financial markets, financial inclusion, and market access. The labor market reform enacted in 2017 and recent reforms approved in 2020 and 2021 have supported market entry and private sector participation in key infrastructure sectors (water and sanitation, telecom, and energy). This scenario of reforms and the reduction of political uncertainty after the general elections in 2022 have reflected in the country's risk performance and upgraded ratings, that has been reduced to 206 basis points in September 2023 (the lowest level since January 2020).



Table 1: Key Macroeconomic Indicators

	2020	2021	2022	2023e	2024f	2025f	2026f
Real economy				Annual percentage change, unless otherwise indicated			
GDP (nominal - R\$ billion)	7,610	8,899	9,915	10,621	11,321	12,150	12,919
Real GDP	-3.3	5.0	2.9	2.6	1.3	2.2	2.0
Per Capita GDP (In real US\$)	8,228	8,593	8,802	8,984	9,053	9,203	9,337
Contributions (supply side):							
Agriculture	0.3	0.0	-0.1	0.9	0.2	0.1	0.1
Industry	-0.5	0.9	0.3	0.1	0.2	0.3	0.3
Services	-2.3	3.2	2.5	1.3	0.7	1.5	1.6
Indirect taxes	-0.7	0.9	0.2	0.4	0.2	0.3	0.0
Contributions (demand side):							
Consumption	-3.8	3.1	3.1	1.9	1.1	1.7	1.5
Investment	-0.3	3.0	0.2	0.0	0.3	0.4	0.4
Net exports	1.0	-0.8	0.7	0.7	0.0	0.0	0.0
Statistical discrepancy and change in inventories	-0.2	-0.4	-1.1	0.0	0.0	0.0	0.0
Imports, GNFS	-9.5	12.0	0.8	0.0	2.0	2.0	2.0
Exports, GNFS	-2.3	5.9	5.5	5.0	2.0	2.0	2.0
Unemployment rate (ILO definition)	13.1	12.5	8.4	7.8	8.4	8.8	8.7
CPI (end of period)	4.5	10.1	5.8	4.8	3.8	3.5	3.5
CPI (average period)	3.8	8.3	9.3	4.7	4.0	3.8	3.5
Fiscal Accounts				Percent of GDP, unless otherwise indicated			
Expenditures	45.7	40.1	40.8	41.5	40.2	38.8	38.1
Revenues	33.8	35.3	37.1	34.8	34.8	34.8	34.9
Overall Balance	-13.3	-4.3	-4.6	-7.3	-5.2	-3.9	-3.3
Primary Balance	-9.3	0.7	1.3	-0.9	0.2	0.7	1.1
General Government Gross Debt (Authorities' definition) ^{1/}	86.9	78.3	72.9	75.6	76.3	75.3	74.2
Selected Monetary Accounts				Annual percentage change, unless otherwise indicated			
Base Money	36.3	-5.2	2.6	-	-	-	-
Credit to non-government	15.6	17.8	14.5	-	-	-	-
Interest rate - Selic (period average)	2.8	4.8	12.6	-	-	-	-
Balance of Payments				Percent of GDP, unless otherwise indicated			
Current Account Deficit	1.9	2.8	2.9	2.0	2.2	2.6	2.6
Imports, GNFS	15.6	18.6	19.4	17.7	16.9	16.3	15.6
Exports, GNFS	16.1	19.1	19.6	18.7	17.9	17.2	16.5
Net Foreign Direct Investment	2.8	1.8	3.1	3.0	3.0	3.0	3.0
Gross Reserves (in US\$, eop)	355.6	362.2	324.7	327.8	343.6	353.0	363.0
In months of next year's imports	15.8	18.9	12.7	10.5	10.8	10.6	10.6
As % of short-term external debt ^{2/, 3/}	179.2	208.4	193.7	194.0	197.9	199.2	200.6
External Debt (in US\$, eop) ^{3/}	639.3	670.3	681.1	686.2	705.5	719.9	735.0
External Debt ^{3/}	43.3	40.6	35.2	31.7	29.7	28.5	27.6
Terms of Trade (% change)	0.6	7.1	-5.5	-0.3	-0.3	-0.1	0.0
Exchange Rate (average)	5.2	5.4	5.1	-	-	-	-

1/ Brazilian Central Bank definition (2008 methodology), that excludes the Federal securities in the BCB portfolio and includes the stock of BCB repo operations.

2/ It includes the long-term debt repayments due in the next 12 months as short-term debt.

3/ It includes securities issued in Brazil held by foreign residents and intercompany loans.

**Table 2: Balance of Payments (percent of GDP)**

	2020	2021	2022	2023e	2024f	2025f	2026f
Financing Requirements	1.4	3.1	3.0	2.0	2.2	2.6	2.6
Current Account Deficit	1.9	2.8	2.9	2.0	2.2	2.6	2.6
Trade Balance (GNFS) 1/ 2/	-0.5	-0.6	-0.2	-1.0	-0.9	-0.9	-0.9
Primary and Secondary Incomes	2.4	3.4	3.2	3.0	3.2	3.5	3.5
Net Errors and Omissions	-0.5	0.2	0.1	0.0	0.0	0.0	0.0
Financing Sources	1.4	3.1	3.0	2.0	2.2	2.6	2.6
Capital Account Balance	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Net Foreign Direct Investment	2.8	1.8	3.1	3.0	3.0	3.0	3.0
Net Portfolio Investment	-0.9	0.5	-0.2	-0.3	0.2	0.3	0.3
Net All Other Flows	-1.8	1.6	-0.3	-0.6	-0.3	-0.3	-0.3
Change in reserve assets	1.0	-0.8	0.4	-0.1	-0.7	-0.4	-0.4
External Financing Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nominal GDP (USD billion)	1,475.5	1,649.5	1,935.2	2,167.6	2,373.4	2,526.0	2,666.9

1/ GNFS: Goods and Non-factor Services.

2/ A negative sign in Financial Requirements means a reduction of Financing needs, i.e., a surplus in the account, and vice versa.

Table 3: General Government Fiscal Indicators (percent of GDP)

	2020	2021	2022	2023e	2024f	2025f	2026f
<i>General Government Overall Balance</i>	(13.3)	(4.3)	(4.6)	(7.3)	(5.2)	(3.9)	(3.3)
<i>General Government Primary balance</i>	(9.3)	0.7	1.3	(0.9)	0.2	0.7	1.1
<i>of which: Central Government</i>	(9.8)	(0.4)	0.6	(0.9)	0.1	0.7	1.1
<i>Total Revenues (and grants)</i>	33.8	35.3	37.1	34.8	34.8	34.8	34.9
<i>Total Primary Revenues (and grants)</i>	33.8	35.3	37.1	34.8	34.8	34.8	34.9
<i>Tax revenues</i>	32.7	32.7	32.7	32.7	32.7	32.8	32.8
Taxes on goods and services	14.3	14.3	14.3	14.3	14.3	14.3	14.3
Direct Taxes	8.5	8.5	8.5	8.5	8.5	8.5	8.5
Social insurance contributions	7.3	7.3	7.3	7.3	7.3	7.3	7.3
Taxes on international trade	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Non-tax revenues	1.1	2.6	4.4	2.1	2.0	2.0	2.1
<i>Total Expenditures</i>	45.7	40.1	40.8	41.5	40.2	38.8	38.1
<i>Total Primary Expenditures</i>	41.7	35.1	34.9	35.0	34.8	34.2	33.7
<i>Current expenditures</i>	44.4	38.8	39.5	40.0	38.8	37.4	36.7
Wages and compensation	12.9	11.6	11.3	11.3	11.3	11.0	10.8
Goods and services	5.1	5.0	5.1	4.9	4.9	4.8	4.7
Interest payments	4.0	5.0	5.9	6.4	5.4	4.6	4.4
Current Transfers	22.3	17.3	17.2	17.4	17.2	17.0	16.8
Pensions to the private sector workers	8.1	7.3	7.4	7.5	7.5	7.4	7.3
Pensions to the public servants	5.3	4.6	4.5	4.5	4.4	4.3	4.3
Social Assistance	7.2	3.3	3.4	3.7	3.7	3.5	3.5
Other Current Transfers	1.8	2.1	2.0	1.8	1.7	1.7	1.8
Investments (net)	1.4	1.3	1.3	1.5	1.4	1.4	1.3
General Government Gross Debt (Authorities' definition) 1/	86.9	78.3	72.9	75.6	76.3	75.3	74.2
Domestic Debt	76.1	67.4	63.7	66.1	66.8	65.8	64.9
External Debt	10.8	10.9	9.1	9.5	9.6	9.4	9.3

1/ Brazilian Central Bank definition (2008 methodology), that excludes the Federal securities in the BCB portfolio and includes the stock of BCB repo operations.



2.3. RECENT ECONOMIC DEVELOPMENTS AND FISCAL SUSTAINABILITY IN THE STATE OF CEARÁ

17. **Ceará's economy grew by 5.5 percent and 1.0 percent in 2021 and 2022, respectively.** Deceleration in 2022 was largely driven by a sharp downturn in manufacturing (-6.4 percent) and utilities (-19.2 percent). However, despite the lower economic growth in 2022, unemployment fell to 7.8 percent in December 2022 (the lowest rate since 2015). The share of extremely poor people living under US\$2.15/day (PPP 2017) was 11.0 percent (World Bank calculations using PNADC 2021).

18. **The GoC's fiscal performance has been sound.** Rapidly rising civil servant expenditure pushed the GoC into approving a State spending cap rule in 2016, a pension reform in 2019 and a salary freeze in 2020 and 2021. As a result, the wage bill remained below the limit set under the Fiscal Responsibility Law, growing by a moderate 2.0 percent per year, on average, in real terms, whilst pensions spending rose by 2.2 percent per year between 2014 and 2020. Spending growth remained below Net Current Revenues (NCR) growth in real terms. This created space for the State to increase investments by 4.7 percent in real terms per year between 2016 and 2022, on average. It also enabled the GoC to effectively respond to the COVID-19 pandemic. The GoC achieved recurrent primary surpluses over the last ten years and maintained its debt repayment capacity rating (Capacity of Payment - CAPAG) of B (Brazil's Federal Government generally requires Subnational Governments to have a CAPAG rating of A or B before supporting credit operations) between 2018 to 2022. Net debt declined from 62 percent of the NCR in 2015 to 33.9 percent in 2022. However, debt service (7.6 percent of the NCR) and the share of the debt in foreign currency (53.6 percent of the total debt) are relatively high.

19. **National macroeconomic decisions are the key source of risks for the State.** Fiscal decisions at the federal level (such as the increase of the national minimum wage, increases in national civil service salary ceilings, changes in tax rates that impact the sharing of federal tax collections with the States, or judicial decisions that can increase expenses or reduce State revenues) pose fiscal risks to the State. The State's foreign-currency denominated debt is high (53.6 percent of the total debt), making it vulnerable to exchange rate shocks. Consequently, an adverse scenario with lower revenue, higher expenditures and an exchange rate depreciation could increase gross financing needs, threatening the budget allocations required to implement the reforms supported by this DPF. Given the high share of mandatory expenditures (mainly, wage bill, pensions, interests, and the minimum constitutional spending limits for health and education), public investments are the first line of expenditures to be reduced in case of a fiscal distress. Yet, Ceará is subject to drought and desertification. The GoC has taken steps to mitigate these climate risks, like to pilot the ABC+ Program⁵ and to develop an adaptation plan (*Plano de Adaptação*) for the capital city of Fortaleza (See Annex 8 for intergovernmental fiscal arrangements in Brazil).

20. **The GoC's fiscal framework is adequate for the proposed operation.** Ceará's economic activity is expected to grow 1.9 percent, 1.5 percent, and 2.7 percent in 2023, 2024 and 2025, respectively. The State has established a strong record of prudent fiscal management, which is expected to continue, supporting sizeable public investments (Table 4). A small primary deficit is expected for 2023, aligned to a higher fiscal space that will allow for increased investments. Own revenues are expected to increase by 1.2 percent per year on average in the forecast period compared to 1.8 percent average growth of current expenditures per year. Interest payments are projected to increase sharply in 2023 by 67.1 percent y/y, before declining. Public investment will increase to US\$ 840 million (2023-2026 average), up from US\$ 561 million (2020-2022). A debt reprofiling is expected to take place in 2024 raising amortizations in that year and maintaining them at 2022 level thereafter. State debt is expected to decrease from 43.5 percent of total revenues in 2023 to 35.4 percent in 2026.

⁵ Low carbon emission Agriculture (*Agricultura de Baixa Emissão de Carbono*)

**Table 4: Government of Ceará Projected Fiscal Balances (Constant 2022 US\$ Million)***Estimates Includes IBRD's Debt Restructure Loan*

	2020	2021	2022	2023f	2024f	2025f	2026f
I. Revenues	6.094	6.373	7.159	7.185	7.252	7.335	7.474
Own Revenues	3.717	4.041	4.352	4.415	4.446	4.484	4.564
of which: interests	52	93	239	241	200	156	151
Transfers	2.378	2.331	2.807	2.770	2.806	2.850	2.911
II. Total Expenditures	5.583	5.766	6.690	7.242	7.153	7.171	7.283
% of revenues	91,6%	90,5%	93,4%	100,8%	98,6%	97,8%	97,4%
Current Expenditures	5.123	5.247	5.988	6.282	6.353	6.417	6.436
Active Personnel Spending	1.851	1.774	2.072	2.193	2.236	2.279	2.324
Pensions	840	781	868	925	949	974	999
Interests	98	106	166	278	264	239	186
Other Current Expenditures	2.334	2.586	2.882	2.886	2.904	2.926	2.927
Investment	460	519	702	961	799	754	847
III. Primary Balance (I-II- Interests, net)	558	620	396	-21	164	246	226
% of revenues	9,1%	9,7%	5,5%	-0,3%	2,3%	3,4%	3,0%
IV. Overall Balance (I-II)	511	607	469	-58	99	164	191
% of revenues	8,4%	9,5%	6,6%	-0,8%	1,4%	2,2%	2,6%
V. Net Financing	97	50	-163	58	-99	-164	-191
Loans	331	289	115	276	709	100	75
of which: World Bank Operation					542		
Amortizations, net	-234	-248	-279	-220	-808	-265	-268
Asset Sales	0	10	0	2	2	2	2
VI. Gross Financing Needs (IV + Amortizations, net + pension fund)	-277	-358	-191	778	169	102	77
% of revenues	-4,5%	-5,6%	-2,7%	12,0%	2,3%	1,4%	1,0%
VII. Financing Surplus/Gap (IV+V)	608	657	306	0	0	0	0
% of revenues	10,0%	10,3%	4,3%	0,0%	0,0%	0,0%	0,0%
VIII. Stock of Arrears	0	0	0	0	0	0	0
% of revenues	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
IX. Net Cash Balance	1.218	1.577	931	592	570	553	537
% of revenues	20,0%	24,7%	13,0%	8,2%	7,9%	7,5%	7,2%
X. Stock of Debt (Gross)	3.836	3.719	3.202	3.129	3.002	2.836	2.644
% of revenues	62,9%	58,4%	44,7%	43,5%	41,4%	38,7%	35,4%

Source: Ceará State Secretary of Finance and World Bank calculations.

Notes: Revenues are net of the FUNDEB deductions.

2.3. IMF RELATIONS

21. **Federal authorities maintain an ongoing dialogue with the International Monetary Fund (IMF) on Brazil's macroeconomic policy.** On July 31, 2023, the Executive Board of the IMF concluded the Article IV consultation with Brazil. The Bank and the IMF have collaborated closely with Brazil's Federal Government in the last years, including on public financial management, public investment management, and a Financial Sector Assessment Program. The IMF has also provided technical assistance to Brazilian authorities in other areas, such as fiscal transparency and fiscal frameworks for Subnational Governments.

3. GOVERNMENT PROGRAM

22. **Ceará's 2050 Plan (Ceará 2050) guides the State's sustainable and inclusive development.** It seeks to meet society's expectations regarding the provision of essential services such as health, education, water, public security, and jobs. It is the result of broad-based consultations and structured around three key areas: (i) productive industries, (ii)



human capital development and (iii) public service delivery, with a focus on the green economy and innovation. The Plan's implementation will be supported through the 2020–23 Multiannual Plan (*PPA—Plano Plurianual*) which - after public consultations - seeks to improve public services, especially in Education, Health, Public Safety, Work and Entrepreneurship, Infrastructure and Mobility, Water Resources and Environment. Ceará's State Plan for the Just Energy Transition (*Plano Estadual de Transição Energética Justa do Ceará*), also called *Ceará Verde* Plan, is focused on scaling up renewable energy, biofuels and green hydrogen production in the State. This is aligned with the State's Climate Change Policy (2016)⁶ and Brazil's Federal Government's National Hydrogen Program (PNH2), which sets out the strategic vision for the development of the Brazilian hydrogen industry and market with the objective of decarbonizing the economy, promoting national technological development, and developing a globally competitive hydrogen market. The GoC program also includes commitments to adherence to the UN Sustainable Development Goals. The proposed DPF is aligned with the State's PPA, Ceará 2050 Plan and *Ceará Verde* Plan and promotes policy actions that support their implementation.

4. PROPOSED OPERATION

23. **The Development Objective of this DPF is to support reforms of the State of Ceará to: (i) improve public financial management; and (ii) strengthen the enabling environment to scale up clean energy production.** The proposed DPF is articulated around two pillars:

- Pillar 1 of the DPF supports reforms that improve public financial management through the adoption of: (i) an improved Public Assets Management System; (ii) a new Public Investment Management framework; and (iii) an Internal Control System of the Executive Branch.
- Pillar 2 of the DPF promotes inclusive and sustainable development through a package of reforms to: (i) stop the expansion of coal-based energy generation and establish an emissions inventory within the CIPP; (ii) advance the implementation defining the parameters of the *Renda do Sol* program to advance its implementation; (iii) improve the enabling environment for private investment in the just energy transition through implementation of environmental regulations for green hydrogen as well as training programs in the clean energy sector; (iv) adopt Technical and Vocational Education Training (TVET) focused on clean energy; and (v) expansion of full-time education in public schools.

24. **This DPF also seeks to help the State improve its debt service profile.** The GoC plans to use the proceeds of this IBRD loan to restructure approximately JPY 80,114,895,584 (US\$ 541,884,375) in domestic debt with high financing costs, thus lowering its debt service and debt costs. The State is expected to achieve significant savings in debt services payments in the first years because of the lengthening of debt maturities.

25. **This operation is aligned with the goals of the Paris Agreement.** First, based on the initial screening on complexity and assessment of risks, the DPF PDO is consistent with the country's climate commitments (Nationally Determined Contributions – NDC –and National Adaptation Plan - NAP), the goals of the Paris Agreement, Brazil's CCDD and the State Climate Change Policy (2016). Second, on mitigation goals, PA4, PA5 and PA6 are universally aligned and are expected to reduce greenhouse gas lifecycle emissions by limiting expansion of coal, increasing renewable energy, and promoting the development of green hydrogen, which can be used to decarbonize hard-to-abate sectors. Reforms included in PA1 and PA8 may lead to some GHG emission increase (stemming from increase in public investments and construction of new schools, respectively), but these will likely be negligible and do not pose a risk of locking the country into carbon-intense technology pathway or creating barriers to future decarbonization efforts. The remaining prior actions (PA2, PA3 and PA7)

⁶<https://www.sema.ce.gov.br/wp-content/uploads/sites/36/2021/09/Lei-Estadual-no-16.146-de-14-de-dezembro-de-2016-Instituiu-a-Politica-Estadual-de-Mudancas-Climaticas.pdf>



are not likely to have an impact on GHG emissions or create persistent barriers to transition to low-GHG emissions. Therefore, all PAs of the proposed DPF program are expected to be aligned with the mitigation goals of the Paris Agreement. Third, on adaptation and resilience goals, PA5 and PA8 may face some climate risks in terms of their implementation and contribution to achieving the PDO – mainly in terms of observed and anticipated climate change impacts on infrastructure investments or buildings management. However, all PAs will include specific resilience measures that reduce identified risks, including through measures for the response to extreme weather events to minimize service disruptions and protect the safety of beneficiaries (PA2), climate risks considerations during the project appraisal and implementation (PA1) and standards for public facilities with requirements for climate resilience (PA5 and PA8). Climate hazards are not likely to have an adverse effect on PA1, PA2, PA3, PA4, PA6 and PA7 contribution to the PDO. Therefore, all prior actions of the proposed DPF program are expected to be aligned with the adaptation and resilience goals of the Paris Agreement (A detailed review is presented in Annex 5).

26. **This project is compliant with the Maximizing Finance for Development (MFD) approach.** To promote efficient use of public resources and develop the State’s comparative advantages on clean energy production, the GoC is seeking to actively crowd in private sector investments into public investments, public real estate, and green energy. By implementing a new Public Investment Management framework, which incorporates Public-Private Partnership (PPP) projects into the overall PIM process, the GoC created a level playing field for private investors, instilling confidence, and reducing perceived risks for parties in both public and private sector, leading to more funding opportunities and better-quality PPPs (PA1). By improving the regulatory framework for public real estate asset management, including requirements for a comprehensive inventory of public properties and procedures for real estate asset valuation, among others, the GoC has reduced uncertainty and built a solid foundation for future private sector investment in public real estate, including through asset sales. This framework also authorizes the sale of public real estate assets and the establishment of a Real Estate Investment Fund (REIF), whose shares are expected to trade on capital market in imminent the future (PA2). Finally, to facilitate private sector investment in green hydrogen production, GoC is strengthening the regulatory framework through the issuance of specific green hydrogen environmental licensing regulations, thereby improving the transparency and predictability for investors (PA6).

4.1. LINK TO GOVERNMENT PROGRAM AND OPERATION DESCRIPTION

27. **The two pillars of the proposed DPF are closely aligned with the guiding themes of Ceará 2050 Plan and Multiannual Plan (*Plano Plurianual – PPA*).** Pillar 1 is linked to the *Inova Governo* (Innovate Government) Program part of the Ceará 2050 Plan and the planning and management modernization section of the PPA. Pillar 2 supports implementation of both the *Ceará Verde* Plan and *Ceará 2050* Plan, specifically the Energy and Business and Transforming Education Programs. Pillar 2 also links to other PPA areas, including: sustainable energy, environment, industry, knowledge, education, and public service delivery.

4.2. PRIOR ACTIONS AND RESULTS

Pillar 1: Improving public financial management

28. **Pillar 1 of this DPF supports Ceará to consolidate fiscal sustainability gains by advancing its public management reform agenda.** The State is seeking to implement reforms that build on the important progress made in consolidating its public finances by focusing on efficiency and transparency in public spending. This Pillar promotes these objectives by strengthening public investment management asset management, and internal control systems.



Prior Action #1: To improve the governance of its public investment projects, the Borrower adopted a new framework for public investment management that (i) redefines the roles and responsibilities of the agencies in charge of the project cycle, (ii) provides for the improved management of capital expenditures by mandating project risk assessment and prioritization based on a cost-benefit analysis, as well as a robust capital and operating costs estimation, and (iii) integrates climate change considerations through the fast-track of emergency projects.

29. **Rationale.** The GoC invested R\$ 2,301 million (equivalent to US\$ 449 million, 7.4 percent of the State's total expenditure) in infrastructure in 2021. Yet, like many other States in Brazil, Ceará lacks an integrated Public Investment Management (PIM) framework that aligns project selection with the GoC's PPA. Without a structured portfolio of projects, the annual budget assigned to projects is driven by the availability of funds, with little attention to prioritization criteria and inadequate preparation time. In 2017, Ceará issued PIM guidelines establishing an Investment Technical Group (GTI), a Committee for Results and Fiscal Management (COGERF), and a web-based tool for strategic planning (*Monitoramento de Ações e Projetos Prioritários*, MAPP) as a single-entry point for the State's public investment portfolio. However, these guidelines did not provide the necessary framework and governance structure for a well-performing PIM system. Misaligned incentives, capacity constraints, and weaknesses in planning, selection, and (economic, social, and climate-related) appraisal procedures contribute to delays in design and completion of projects, significant risks in procurement, cost overruns, incomplete projects, poor-quality infrastructure, and inefficient operation and maintenance of assets. These inefficiencies negatively impact the economic and social returns of the public investments. In addition, the current procedure does not consider the impact of climate change in public investments. Ceará is vulnerable to the effects of climate change (drought and desertification), as it receives little rainfall during the dry period. Consequently, 11.5 percent of the area of the State (*Iraucuba, Inhamuns and Médio Iguaribe*) is already suffering from desertification, whilst the entire State is considered vulnerable to desertification. There are concerns that rising temperatures will reduce biodiversity and vegetation (in particular, in the *Caatinga Biome*⁷), which helps protect the soil from bad weather. Public infrastructure investment should play a crucial role in enhancing resilience to climate change.

30. **Prior Action.** Decree 35.504/2023 introduced a new PIM framework that provides a comprehensive methodology for managing the entire project cycle, from planning to implementation and evaluation. Article 8 of the Decree makes it mandatory for all new public investments proposals in Ceará to comply with the new PIM methodology and adhere to the guidelines set forth in the PIM Manual. The framework introduces: (i) an improved governance structure that redefines the roles and responsibilities of the GTI, COGERF, and sector agencies during project preparation and appraisal; (ii) provisions for project risk assessment and prioritization based on cost-benefit analysis (CBA); (iii) a comprehensive and robust approach to project demand forecasting, capital and operating cost estimation; (iv) feasibility studies to be conducted with varying degrees of robustness, based on the features and risk profile of the investment project; (v) the establishment of a "bank of projects" to serve as a pipeline for major and strategic projects; (vi) fast-track provisions to evaluate and approve investments addressing State emergency needs, including responses to climate disasters; (vii) introduction of new requirements for environmental and climate change risk assessments; and (viii) the disclosure of major project appraisal results to the public, accessible in real-time by citizens. The implementation of the framework will count with dedicated technical and capacity-building assistance throughout the Ceará Water Security and Governance Project (P165055) and a dedicated WB's trust fund on 'Strengthening Public Investment Systems to Advance Climate Smart Infrastructure in Brazil', that will support the Committee of State Secretaries of Planning (CONSEPLAN).

31. **Expected Results.** Five public projects will be screened, appraised, and prioritized according to the new PIM framework by 2025. The new PIM Manual, which will be applicable also to Public-Private Partnership (PPP) projects, will ensure proper integration into the overall PIM system, enforcing rigorous checks and procedures for prioritization and selection. This creates a level playing field for private investors, instilling confidence, and reducing perceived risks, leading

⁷ A xeric shrubland and thorn forest found in semi-arid regions.



to more financing opportunities, and accelerating economic growth in Ceará. The new requirement for environmental and climate change risk assessments will improve infrastructure resilience and support the State's climate change adaptation and mitigation efforts.

32. **Climate Change.** Aligned with the Brazilian NAP, the new PIM framework introduces provisions for assessing the climate and environmental risks of projects and incorporates adaptation and mitigation measures throughout all stages of the project cycle. It also allows the GoC to "fast track" investment projects in response to climate-related disasters, strengthening the State's Disaster Risk Management capacity.

Prior Action #2: *To improve the management of its real estate assets, the Borrower adopted a new framework for public real estate asset management that (i) provides for a comprehensive inventory of public properties within its territory, (ii) establishes procedures for public real estate asset valuation to maximize returns on sales, and (iii) allows for the consolidation of the ownership and management of its public real estate under a single agency (CearáPar).*

33. **Rationale.** The GoC lacks an adequate management system for more than 5,000 publicly owned buildings. At least half of them are not properly documented and do not have an accurate valuation. Some may be used for different purposes than those authorized or have been abandoned. From 2017 to 2021, the State spent an average of R\$ 49.5 million (US\$ 9.6 million) acquiring new properties but earned only R\$ 11.3 million (US\$ 2.2 million) annually from property sales. Data on State rent expenditures and property maintenance is incomplete: property revenues (mainly rental income) in 2022 amounted to R\$ 13.4 million (US\$ 2.6 million), lagging other States such as São Paulo (R\$ 265.6 million, US\$ 51.5 million), Rio Grande do Sul (R\$ 103.5 million, US\$ 20.1 million) and Bahia (R\$ 77.4 million, US\$ 15 million). Using a conservative valuation of State real estate assets of R\$ 23.9 billion (US\$ 4.7 billion) in 2022, the rate of return on assets was just 0.056 percent.

34. **Prior Action.** Complementary Law 296, of December 16, 2022, and the Decree 35.505, of June 15, 2023. The Law provided a framework for real estate asset management policy, encompassing: (i) requirements for a comprehensive inventory of public properties; (ii) provisions allowing for the consolidation of the ownership and management of public real estate under a single agency (*CearáPar*); (iii) procedures for real estate asset valuation to maximize returns on sales, (iv) incentives for the Municipalities to participate in the rationalization of the usage of the real estate assets owned by the State through revenue sharing arrangements; (v) provisions promoting the social use of public properties through donations and non-onerous concessions, (vi) procedures to facilitate the conversion of non-onerous concessions of real estate assets into increased assets revenues; and (vii) provisions allowing for the establishment of a Real Estate Investment Fund (FII) to be managed by *CearáPar*. The Decree 35,505 introduced a provision that allows for the onerous concession of public real estate in Ceará, specifically for the purpose of promoting the development of renewable energy projects. This initiative will not only create new opportunities for private sector investment and innovation but will also contribute to the growth of sustainable energy sources in the region. Additionally, Resolution No. 2, of May 25, 2023, of the State Committee on Asset Management (CONAG) authorized the transaction of real estate assets from an initial list of public properties for sale or for the establishment of a Real Estate Investment Fund (REIF). This reform empowered the GoC to trade shares of the future REIF in the capital market, provided that the GoC maintains its majority shareholder status. Lastly, the reform fosters incentives for the donation or concession of public real estate assets to support housing programs and land regularization initiatives targeting vulnerable populations.

35. **Expected Results.** Revenue from the exploitation of real estate assets in the State will increase from R\$ 13.4 million (US\$ 2.6 million) in 2022 to at least R\$ 118 million (US\$ 23 million) annually, representing 0.5 percent of the total value of Ceará's real estate assets. The reform will generate additional revenue, improve asset returns, and facilitate the private sector's use of public assets without a social function. The reform will increase the number of real estate assets registered in Ceará's Unified Registry Database and reduce the vacancy rate of State properties from 18.5 to 8 percent by 2025, increasing the proportion of assets sold or concessioned. The reform will allow the GoC to access the private capital market



of FII shares, supporting a dynamic local real estate market capable of attracting financial investors and those interested in acquiring State assets.

36. **Climate Change.** The real estate asset framework assists the State in introducing climate-smart considerations. Specially, it introduced significant reforms to incentivize the use of real estate properties by third parties for the purpose of fostering the production of renewable energies. It allows the State to issue market notices which will provide a transparent and competitive process for interested parties to bid on projects related to the generation of energy from renewable sources. The new legal framework will involve the issuance of future guidelines to be applied to the inventory and regularization process of Ceará's real estate assets, which will foresee the identification critical resilient infrastructure and climate-change related risks in the updated registry.

Prior Action #3: *To improve its fiscal accountability and increase the transparency, effectiveness, and efficiency of its policies and programs, the Borrower adopted the 3-Lines of Defense Model developed by the Institute of Internal Audit (IIA) as a means to strengthen the internal control system of its government.*

37. **Rationale.** Brazil has a lower level of compliance on internal controls than other middle-income economies. Nearly 90 percent of Brazilian institutions did not have sustainable internal audit capability in 2020 according to the Internal Audit-Capability Model (IA-CM) report.⁸ In Ceará, the State Constitution Amendment no. 75, of December 20, 2012, established the internal control activities as an essential government activity and assured that internal control activities would be carried out by agencies of permanent nature and exercised by civil servants organized in specific careers. Ceará achieved level 2 of the IA-CM in July 2023. To attain level 3 of IA-CM (evidence of performance in accordance with international standards), it was necessary to set internal controls in each line secretariats and to structure an adequate function of the 2nd line of defense, the Sectorial Units of Internal Control.

38. **Prior Action.** Ceará's Complementary Law No. 309 implements the internal audit 3-Lines of Defense Model developed by the Global Institute of Internal Auditors (IIA) across the State's administration.⁹ The changes introduced by the Complementary Law included the establishment of the 2nd line functions of the Sectorial Units of Internal Control, including supervision, monitoring, stablishing regularity, and advice on aspects related to risk management. The Units act as facilitators of the implementation of effective practices of the risk management implemented by the 1st line of defense. A challenge is the structuring of the 2nd line of defense with the necessary resources (including human resources and dedicated budget).

39. **Expected results.** To strengthen the effectiveness of internal auditing in the State's administration, including the State Secretariat of Environment and Climate Change (SEMA) and the State Superintendence of the Environment (SEMACE), promote accountability, better use of public resources, and reduce fraud. Its successful implementation will allow the State to increase the implementation of the Integrity Program¹⁰ in five units of the State's key sectoral budgets secretariats¹¹ to assess its internal control structure according to the methodology criteria set forth on the "Integrity Diagnostics Framework from 54 percent in 2022 to 75 percent in 2025. Achievement of this target will contribute to increase Ceará's IA-CM score (third line of COSO) from level 2 in 2022 to level 3 in the future.

⁸ <https://documentsinternal.worldbank.org/search/33253600>

⁹ The first-line roles (executed by the line secretariats) are aligned with delivering products and/or services to the organization's customers, including support functions. Individuals in the first line own and manage risk directly. Second-tier roles (executed by Sectorial Units of Internal Control of the line secretariat) oversee the 1st line, setting policies, defining risk tolerances, and ensuring they are met. And the 3rd line (executed by the Central Agency of the Internal Control System of the Executive Branch - CGE) constitutes the government's internal audit, that provides independent and objective assessment and advice on the adequacy and effectiveness of governance and risk management for the first two lines. The Bank is supporting (Ceará Water Security and Governance - P165055 - and Fortaleza Sustainable Urban Development Project - P153012) the implementation of the above model in some sectoral units.

¹⁰ Integrity programs are the structured set of actions, carried out at public, social or private organizations, directed at the prevention, detection, punishment and remediation of fraud and corruption.

¹¹ Secretariat of Education (SEDUC); SEFAZ; SEMA; SEMACE; and Secretariat of Water Resources (SRH).



Pillar 2: Strengthening the enabling environment to scale up clean energy production

40. **The energy sector in Ceará contributes 42 percent of the State's GHG emissions, compared to the national average (18 percent)**¹². These sector emissions are driven by transport (41 percent), power generation (40 percent), and industry (9 percent)¹³. Fossil fuel-based power plants account for 2.1 GW, more than 50 percent of total installed capacity in the State, and approximately half of them is coal-fired powered plants. All coal-fired power plants are located within the CIPP, where most emissions from industry are generated (large emitters include cement, steel and iron, and power generation).¹⁴ As of 2022, the Institute of Research and Economic Strategy of Ceará (IPECE) estimates 50 percent of the State GDP was related to activities located in CIPP.

41. **Ceará has an opportunity to utilize its abundance of renewable energy potential to drive sustainable development, including its most vulnerable citizens.** In addition to the recent scale-up of utility-scale renewables in the State, favorable solar resources and regulations have created an opportunity for low-voltage consumers to reduce their cost of electricity through Distributed Generation (DG) of solar PV. DG is thriving in Brazil, accounting for over 19 GW of installed capacity since its development began in 2015¹⁵. This growth has been driven by private sector investment because of favorable regulations to incentive DG in the residential and commercial sectors. Recently, Brazil's Federal Government issued regulations calling on the public sector (at federal, State, and Municipal levels) to reduce public building costs¹⁶, which can be supported through DG and energy efficiency. States in the Northeast region of Brazil have seen relatively slower growth in DG when compared to the wealthier Southeast region, despite having better solar resources¹⁷. SEINFRA is mandated to promote efficient use of energy in the State's public buildings¹⁸, and Ceará has recently implemented new regulations so that all existing public buildings obtain the National Label for Energy Conservation by 2025¹⁹. In the private sector, over 500 MW of DG capacity have been installed across 100 Municipalities²⁰. The GoC is seeking to develop models that will allow vulnerable populations to have access to solar resources.

42. **Capitalizing on its abundant renewable resources and international port, Ceará is developing a Green Hydrogen Hub in CIPP.** Green hydrogen is considered critical to global decarbonization efforts due to its potential application in hard-to-abate sectors such as heavy industry, transportation, and heating. Demand for green hydrogen is expected to grow by 25 times between 2030 and 2050²¹. Consequently, green hydrogen and its derivatives (e.g., green ammonia and green methanol) are attracting significant interest from countries that are seeking to import green hydrogen to support their emission reduction commitments. Given Brazil's abundant renewable energy resources, the country has the potential to be globally competitive in the production and export of green hydrogen and its derivatives²². Aligning with Brazil's Federal Government's National Hydrogen Program (PNH2), Ceará is positioning itself to become a world-leading green hydrogen and energy hub, taking advantage of its strategic location and deep-water port with links to Europe, favorable tax laws, and proximity to renewable resources. To date, CIPP has signed over 30 memorandums of understanding and 4 pre-contracts with large multinational firms who are pursuing opportunities for the production and

¹² SEEG database. Available at <https://plataforma.seeg.eco.br/territories/ceara/card?year=2021&cities=false>

¹³ *Ibid*, 2021 figures.

¹⁴ Currently there is no energy balance nor emissions inventory for the CIPP. An energy balance and emissions inventory will be prepared as part of PA4 of this DPF.

¹⁵ Source: *Agência Nacional de Energia Elétrica (ANEEL)*

¹⁶ Decree 11.719 of September 28, 2023.

¹⁷ Approximately 20 percent of Brazil's micro (up to 75kW) and mini generation (75kW to 3 MW) are in the Northeast (source: ANEEL), whereas this region makes up 25 percent of the country's total population.

¹⁸ Decree 33.264 of September 9, 2019.

¹⁹ *Instrução Normativa N°001* published on October 31, 2023.

²⁰ As of November 2022. Associação Brasileira de Geração Distribuída (ABGD). <https://diariodonordeste.verdesmares.com.br/opiniao/colunistas/egidio-serpa/ceara-passa-de-500-mw-de-potencia-instalada-em-geracao-distribuida-1.3298314>

²¹ <https://www.mckinsey.com/capabilities/sustainability/our-insights/five-charts-on-hydrogens-role-in-a-net-zero-future>

²² Brazil CCDR: Brazil - Country Climate and Development Report (English). Washington, D.C.: World Bank Group.



exportation of green hydrogen (estimated at over US\$ 8 billion in private capital investment)²³. The WB and CIPP have initiated the preparation of an IPF (Ceará Green Hydrogen Hub, P181511) to support the financing of critical shared infrastructure and green hydrogen innovation, including co-financing from the Climate Investment Fund (CIF-REI). IFC is also actively collaborating with CIPP through a technical assistance program funded by the Dutch Government to support studies on the bankability of green hydrogen projects in the CIPP. In addition to these efforts, Ceará must strengthen the enabling environment for private investment, including elements such as environmental licensing processing for green hydrogen, developing incentives for green hydrogen off-take, developing certification schemes, among others.

43. **The success of Ceará's ambitious plans for developing clean energy sources will also require skilled labor.** To this end, Ceará has enacted a program to develop key skills in green energy and sustainable development through TVET. It has also expanded full-time schooling in public schools, which will strengthen the overall educational outcomes. These programs are aligned with the GoC's goal to mitigate the impact of COVID-19 on Human Capital accumulation and build a more sustainable, resilient, and inclusive education system.²⁴ The GoC is willing to integrate a focus on the environment into the education sector's policies and reforms. Investments in resilient infrastructure are also highly cost-effective: US\$1 invested in resilient assets generates US\$4 in benefits since they are less costly to maintain.²⁵

Prior Action #4: To limit further greenhouse gas emissions, the Borrower (i) prohibited new ventures in the CIPP that involve the burning of coal in any step of their production process, and (ii) committed to develop an emissions inventory regarding socioeconomic activities developed in its territory, which shall comprise the CIPP's energy balance, within 24 months from June 15, 2023.

44. **Rationale:** CIPP, the largest industrial complex in Ceará, is positioning itself as a globally recognized clean energy hub, with the potential to attract massive private sector investment and become a catalyst for energy transition. However, in recent years, there has been large scale-up of thermal power generation in CIPP, including two coal-powered thermal units with a combined installed capacity of 1,085 MW, with a further 1.6 GW gas-fired power plant currently under construction and scheduled to reach operation in 2026. Coal is the primary fuel for the industries located in CIPP, with an average annual consumption of 3.56 million tons (2020-2022)²⁶ for steel production and power generation. To meet the GoC's goal of carbon neutrality by 2050, it will be critical to limit further expansion of fossil fuels and to establish specific GHG emissions reductions targets for CIPP. The first step to accomplish this will be preparation of an energy balance²⁷ and GHG emissions inventory to set realistic emission reductions targets. Such tools will also be of commercial importance to exporters, as international commodity buyers seek to reduce carbon emissions within their supply chain. This is particularly pertinent in Europe, which recently began implementing the Carbon Border Adjustment Mechanism (CBAM) for imported goods²⁸.

45. **Prior Action.** Through the implementation of State Decree No. 35.503, the GoC has committed to limit further greenhouse gas emissions by prohibiting any new venture in CIPP from burning coal in its productive processes. Hence, all

²³ Based on estimates provided by the CIPP.

²⁴ In 2019, the Human Capital Index (HCI) for CE was 0.61 and ranked 10 out of 27 states in Brazil, representing an exception among the Northeast states. These outcomes result from the Government of Ceará's strong commitment to enhancing educational outcomes over the last decade. However, Ceará had a setback in HCI levels because of COVID-19, and the learning losses due to the school closure are mainly associated with 60 percent of the estimated HCI decline.

²⁵ Hallegatte, Stephane, Jun Rentschler, and Julie Rozenberg. 2019. Lifelines: The Resilient Infrastructure Opportunity. Sustainable Infrastructure. Washington, DC: World Bank.

²⁶ Data provided by CIPP.

²⁷ An energy balance presents all data in a common energy unit allowing users to see the total amount of energy used and the relative contribution of each different source. In addition, an energy balance allows users to compute the various energy transformation efficiencies; to develop several aggregated indicators and estimate CO2 emissions from fuel combustion. Implementation of an energy balance identifies the core sources of greenhouse gas emissions, which can be used to inform and create targeted policy that helps to accelerate the reduction in emissions.

²⁸ The CBAM will place import duties linked to the carbon emitted to produce the product, intended to incentivize cleaner industrial production in non-EU countries. The EU CBAM regulation entered into force on May 17, 2023, and its application began on October 1, 2023. https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en



future energy expansion through new ventures will need to be produced from less carbon-intensive sources. The Decree mandates that CIPP develops an energy balance and emissions inventory within 24 months of the publication of the decree, which will enable the publication of specific emission reductions targets. Responsibility for the development of the emissions inventory is under the coordination of the SEMA, which will also be responsible for periodically reporting on the progress against these targets.

46. **Expected results.** The expected outcome from the Decree is the publication by the GoC of emissions reductions targets for CIPP to ensure it is on track to meet its target of carbon neutrality by 2050, based on the development of an energy balance and GHG emissions inventory, and considering its commitment to ban further expansion of coal use in CIPP.

47. **Climate Change.** This prior action is fully aligned with the mitigation of climate change through the prevention of an expansion in installed coal-based electricity and industrial production in CIPP, and through the establishment of data-driven GHG emission targets to be developed and monitored to support policies that reduce greenhouse gas emissions, in line with the objectives of *Ceará Verde Plan* to reach net zero emissions by 2050.

Prior Action #5: *To stimulate the expansion of distributed solar generation within its territory, in particular within low income and vulnerable communities, the Borrower approved the “Renda do Sol” program, which establishes the institutional arrangements and mechanisms by which (i) funding sources will be secured to provide financial support for the roll-out of distributed solar generation to the target beneficiaries, and (ii) local capacity will be created for systems operation and maintenance.*

48. **Rationale.** In Ceará, low-income and vulnerable communities have struggled to access the benefits of the State’s abundant renewable energy, due to: (i) inability to obtain financing (e.g., lack of creditworthiness); (ii) limited awareness and technical capacity; and (iii) a lack of adequate building infrastructure to support rooftop solar installation. *Ceará 2050* Plan sets out the development of *Renda do Sol* program, which seeks to expand the State’s abundant renewable energy resources through the deployment of DG, while also addressing critical issues facing these groups, including energy poverty and desertification²⁹. The State will implement its nascent renewable energy program for public buildings – including a solar rooftop program for schools³⁰ and a program to purchase renewable energy from the ‘free market’ for medium-voltage buildings³¹ and channel the associated savings to fund renewable energy projects that benefit the State’s vulnerable populations.

49. **Prior Action:** Through the enactment of the Complementary Law No. 314, the GoC has established the *Renda do Sol* program, which will be implemented by the State’s Secretariat of Infrastructure (*SEINFRA*) – through a new Project Management Unit – and governed by a new *Renda do Sol* Intersectoral Governance Committee. The law establishes that the State may channel the financial savings from its public building renewable energy program into the State’s *Energy Efficiency Incentive Fund*³² (FIEE). These savings will be combined with other resources³³ to fund the *Renda do Sol* program,

²⁹ As of 2018, at least 11 percent of the area of the State was in the process of desertification (Funceme: <http://www.funceme.br/?p=5113>).

³⁰ As of July 2023, the State of Ceará had installed rooftop solar DG on 32 public schools, and the State plans to expand it over time.

³¹ In Brazil, medium and high voltage consumers (Group A) can negotiate power purchase agreements in the Free Market. Ceará has awarded a contract to purchase renewable energy from the Free Market for 144 of its medium-voltage buildings (~ 107 GWh/year); the contract is expected to enter into force in January 2024.

³² The FIEE was created in 2016 (Complementary Law 170, December 28, 2016) with the objective of encouraging the development and financing of energy efficiency and micro and mini renewable DG in the State Government of Ceará. It has been capitalized to date by the State’s Industrial Development Fund and had a balance of US\$ 2.7 million (R\$ 13 million) as of August 2023. The FIEE has been used to fund the State’s program to install solar DG on 32 public schools (cost to date of US\$1.8 million, or R\$8.8 million).

³³ The Law lists several other existing public financial instruments within the State that can be used to fund the *Renda do Sol* program, which alongside the FIEE, can provide complementary credit and/or make direct investments in DG systems and associated infrastructure. Details of how these financial instruments will work together will be included in secondary legislation.



which will provide financial assistance and capacity building to vulnerable communities in rural areas³⁴ to increase their access to the benefits of solar DG. Given the public buildings program is well underway, it is expected that this new funding source will begin to flow into the FIEE by mid-2024³⁵. The law lists several possible modalities to channel these benefits to the targeted beneficiaries; the final business model(s) will be determined via secondary legislation (expected to be complete by late 2024), which will incorporate the findings of planned economic and financial analysis of the business models under consideration, in addition to consultations with stakeholders in the sector and the targeted beneficiaries.

50. **Expected Results.** The expected impact of this prior action will be the capitalization of the FIEE with savings, generated from renewable energy generation, to fund the implementation of the *Renda do Sol* program. The public buildings renewable energy program will generate savings of R\$ 19 million by 2025 (from 188 GWh of renewable energy generated by 2025), which will be transferred to the FIEE³⁶ and then used to finance the *Renda do Sol* program. The expected medium-term impact of the program will be to improve the livelihoods of the targeted program beneficiaries by increasing their access to the benefits of DG.

51. **Climate Change.** This prior action is fully aligned with the mitigation and adaptation of climate change through the adoption of low-cost renewable energy to promote economic growth, with a focus on supporting communities experiencing the impacts of climate change.

Prior Action #6: *To promote investment in green hydrogen within its territory, the Borrower set up a process of environmental licensing for green hydrogen production projects, which provides for (i) the procedures, criteria and parameters applicable to the environmental licensing and authorization for the production of green hydrogen, and (ii) enhanced protections for vulnerable communities during the licensing process.*

52. **Rationale.** Attracting private sector investment will be critical to achieving the GoC's green hydrogen ambitions. This will require a strong legal and regulatory framework to reduce perceived risks from the private sector, including clear environmental licensing processes. Since 2016 the WB has been supporting several initiatives for improving the environmental licensing process in Ceará, including regulatory and institutional reforms. Bank's assistance included the internal process mapping and development of Key Performance Indicators for SEMACE³⁷, an operational pilot program to reduce inefficiency and uncertainty of environmental licensing processes,³⁸ advice to conduct annual surveys and establish monthly data analytics report through capacity building,³⁹ and the preparation of a report with recommendations to improve the environmental licensing and inspection processes. In April 2019, the Environment State Council of Ceará (COEMA) issued Resolution No. 2/2019, establishing the procedures for environmental licensing in the State, introducing a risk-based approach to streamline the process for activities of relatively low environmental impact, and extending the validity of the environmental licenses to the length allowed by federal legislation. However, until 2022, there were no environmental licensing procedures specific for green hydrogen projects in Ceará or anywhere else in Brazil, which was a barrier for making investment decisions. Developing the regulatory framework to support private investment will be critical for Ceará to develop its Green Hydrogen Hub in CIPP.

³⁴ The precise beneficiary eligibility criteria will be defined by the *Renda do Sol* Intersectoral Governance Committee.

³⁵ The public buildings program is expected to generate savings of approximately R\$10.8 million (US\$ 2.2 million) per year, starting in Q2 2024.

³⁶ The savings from the State's purchase of renewable energy from the Free Market is expected to save approximately R\$10.5 million / year beginning in 2024 Q2. The savings from the State's DG program in public schools is expected to save approximately R\$210,000 / year as of 2023.

³⁷ Strengthening Service Delivery for Growth, Poverty Reduction and Environmental Sustainability in the State of Ceará Program-for-Results (P127463).

³⁸ Beneficiary Feedback and Data Analytics for Business Licensing in Ceará Program, supported by the Good Regulatory Practices Program: Closing the Implementation Gap and Uncertainty of G2B Services.

³⁹ Improving Business Environment for Prosperity (IBEP) Program, supported by the UK Prosperity Fund (IFC project # 602136).



53. **Prior Action.** Ceará has defined the process⁴⁰ for environmental licensing for green hydrogen production within the State through COEMA Resolution No. 03/2022, which was legally reinforced by Decree 35,506, of June 15, 2023. Such instruments set the first environmental licensing for green hydrogen projects in Brazil, which will help to attract private sector investment by reducing risks around procedures, criteria, and parameters to be used in the licensing process. Through this license, SEMACE analyzes the environmental feasibility of locating, installing, expanding, and operating green hydrogen production projects, in line with the principles of sustainable development. This led to the first environmental license being approved in the State for the company EDP (*Energias de Portugal*), which produced its first green hydrogen molecule in Ceará in December 2022. To date, four private investors have signed pre-investment agreements.

54. **Expected Results.** The definition of the environmental licensing process is a key step to develop a clear regulatory framework for green hydrogen production. In the short-term, this prior action is expected to result in processing of at least four additional environmental licenses for green hydrogen projects by 2025. In the medium-term, it will support the State's goal of installing six GW of electrolyzer capacity by 2030. To support achievement of these medium-term outcomes, the WB is providing technical assistance⁴¹ to CIPP and Brazil's Federal Government and has initiated preparation of an IPF (Ceará Green Hydrogen Hub, P181511) to support financing of critical shared infrastructure and green hydrogen innovation.

55. **Climate Change.** This prior action is fully aligned with the mitigation of climate change through supporting the development of green hydrogen and its derivatives to support decarbonization of hard-to-abate sectors in Brazil and worldwide.

Prior Action #7: *To promote the development of skills linked to the low-carbon economy, the Borrower mandated the adoption of technical and vocational education and training curricula in secondary (Ensino Médio) and professional (Ensino Profissional) schools focusing on clean energy that supports inclusive and sustainable job creation.*

56. **Rationale.** Despite substantial progress in education policies, the school curriculum in Ceará is not adequate to support a clean energy transition and a low carbon economy. Low learning results in Mathematics and high school dropout rates do not prepare students for employment. To ensure a quality and diverse expansion of technical and vocational secondary education aligned with low carbon development, investments in the development of multiple and varied curricula to acquire skills on renewable energy are critical. Examples include the fundamentals of electrical engineering and designing and for installing equipment for clean energy production, as well as knowledge of PPP. In addition, there is opportunity to promote Science, Technology, Engineering and Math (STEM) oriented programs and encourage girls' participation in such programs.

57. **Prior Action.** The State enacted legislation that mandates the update of the technical and vocational education and training (TVET) program to foster the development of skills on clean energy transition and low carbon economy through: (i) the design of a set of TVET courses on clean energy; (ii) the fostering of PPP in the education sector, that expand TVET offer of courses focused on renewable energy; (iii) the structuring of curricular contents with theoretical and practical knowledge about technologies, legislation, socio-environmental impacts and sustainable practices related to the generation, distribution and consumption of renewable energies; (iv) encouraging partnerships with companies in the renewable energy sector, that offer internships, technical visits, to facilitate the insertion of students in the job market; (v) the promotion of teacher training in the field of renewable energy; (vi) the promotion of diversity and social inclusion;

⁴⁰ The environmental licensing procedures will take place through three-phase environmental licensing, namely: (i) locational or preliminary license; (ii) installation license; and (iii) operating license. The requirements to complete the environmental license application varies according to the size of the enterprise.

⁴¹ Under the PASA Accelerating Clean Energy Transition and Strengthening Water Security in Brazil (P179030), the Bank is providing TA to support to the CIPP on the development of port masterplans, governance of shared infrastructure, and an assessment of the hydrogen value chain and of the competitiveness of the CIPP in the global export markets, as well as forecasting demand across the potential end-users. The PASA is also supporting the Chamber of Power Trade to develop its voluntary green hydrogen certification standards.



and (vii) gender parity in science and technology. Efforts to promote a diverse skilled workforce are expected to benefit female students through eased STEM career orientation programs, mainly on TVET courses in clean energy.

58. **Expected results.** The number of TVET courses on clean energy would increase from 1 in 2022 and reach 8 by 2025. The reform will help promote STEM fields among young girls which will ultimately foster a diverse local workforce on clean energy. SEDUC is designing a STEM career orientation program for boys and girls that will raise awareness on the importance of girls' participation. And, in the lower secondary schools close to the TVET schools, school managers will disseminate the TVET courses among the ninth-year students, with an emphasis on girls. The GoC expects 20,000 girls (aged 14 to 19) to participate in the STEM orientation programs by 2025.

59. **Climate Change.** The increase of TVET courses on clean energy will not lead to GHG emissions. It will contribute to the adaptation of climate change by developing high-skilled local labor and increase the awareness of the importance of clean energy through teachers training and pedagogical materials to support the clean energy transition.

Prior Action #8: To support learning recovery following the COVID-19 pandemic, the Borrower approved a plan to expand secondary (*Ensino Médio*) and professional (*Ensino Profissional*) full-time education in public schools within its territory.

60. **Rationale.** Expansion of full-time education in Ceará is constrained by the lack of school infrastructure. Limited number of facilities and inappropriate learning environments negatively impact education access, retention and learning outcomes, especially for vulnerable students in rural areas. Evidence indicates that the learning environment is critical for developing critical thinking, socioemotional and digital skills, and that well-designed facilities (e.g., encouraging group work and efficient use of Information and Communications Technology solutions) have the potential to increase both attendance and quality of education. Physical learning environments can contribute to improve education outcomes when they provide certain characteristics, such as addressing the needs of male and female students, offering sufficient WASH (water, sanitation, and hygiene) facilities, offering accessibility for students and teachers with disabilities, being child centered (nature based, individualized, providing appropriate stimulation), and providing indoor environment qualities to promote learning. In Ceará, most public schools were built several decades ago, and some facilities were not designed for full-time educational activities. Old devices and outdated power transformers contribute to high electricity usage in schools, and the use of alternative energy sources and efficient equipment is scarce.

61. **Prior Action.** The State Law No. 17,995 and the Decree No. 35,499 enacted a Universalization of Full-time School Plan for Ceará. This plan is aligned with the goals of the National Education Plan (PNE) and is associated with Brazil's Federal Government's Full-time School Program (*Escolas de Ensino Médio em Tempo Integral*, instituted by Federal Law No. 14,640/2023), which will provide technical and financial support to the States. The plan supports the development of schools' quality standards through (i) expansion and improvement of school infrastructure; (ii) promotion of PPP for the development of programs and projects that strengthen full-time education; (iii) in-service training of teachers; (iv) updating schools' pedagogical guidelines and principles of full-time education; (v) learning strategies linked to the labor market; (vi) recovery and acceleration learning strategies; (vii) monitoring and evaluation of the process of implementation of full-time education; (viii) development of incentives to promote students' permanence and success; (ix) implementation of low-cost renewable energy solutions in schools. The pedagogical proposals of the full-time schools will meet the following criteria: (i) offer diversified training itineraries, articulated with the development of socio-emotional skills; (ii) implementation of learning methods based on cooperation; (iii) greater involvement of the community and the students' families in school activities; and (iv) development of an environmental conscience for sustainability. The schools' infrastructure will observe rules to ensure mobility for people with disabilities. It will also promote sustainability and energy efficiency, with the adoption of clean and renewable technologies and systems for the selective collection and reuse of rainwater. The GoC allocated resources to support the plan implementation from the State Treasury and from the Fund for Maintenance and Development of Basic Education and Valorization of Education Professionals (Fundeb), for the years 2022 to 2026.



62. **Expected results.** The implementation of the universalization of the Full-time School Program is expected to promote a quality expansion of full-time school aligned with resilient, inclusive, and sustainable principles. A total of 400 full-time school facilities rehabilitated or constructed will adopt a design following the criteria laid out in the regulations by 2025 (from 257 in 2022).

63. **Climate Change.** The rehabilitation of school infrastructure to promote a safer, inclusive, greener, and more climate-resilient may increase GHG emissions. However, these risks will be reduced by including energy and environmental efficiency requirements for the schools, including following green building codes to reduce energy consumption for project facilities that are already connected to a grid that is mostly supplied by renewable sources. Mitigation measures will also include: i) reduction of the thermal transmittance of roofs and walls of schools, hence reducing the need for air conditioning; ii) improvement of schools' waste management systems, and iii) purchase of energy-efficient equipment. On the adaptation side, the schools' physical infrastructure can be affected by extreme heat, droughts, and flooding (rural and urban), in addition to landslides and wildfires, as such, adaptation measures to increase resilience will be included in the school quality standards.

4.3. LINK TO CPF, OTHER BANK OPERATIONS AND THE WBG STRATEGY

64. **The proposed DPF is fully aligned with Brazil's Country Partnership Framework (CPF) FY2024–28.**⁴² The CPF is built on three High Level Outcomes: (i) greater productivity and employment; (ii) greater inclusion of the poor and underserved populations; and (iii) a greener economy with reduced vulnerability to climate shocks. This operation is fully aligned with Objectives 1.1 (Strengthen fiscal management) and 1.3 (Improve labor market preparedness among the current and future workforce) under Pillar 1, which supports fiscal consolidation and government effectiveness. The operation is also aligned with Objectives 3.1 (Improve management of natural resources), 3.2 (Expand the clean energy matrix) and 3.3 (Promote green and resilient cities and communities) under Pillar 3, which supports inclusive and sustainable development. Pillar 3 is also consistent with the WBG Climate Change Action Plan 2021-2025⁴³ and 2050 targets to step up climate action to support countries in delivering and exceeding their Paris commitments.

4.4. CONSULTATIONS AND COLLABORATION WITH DEVELOPMENT PARTNERS

65. **Public consultations on the proposed reforms took place both during the design of the policies, and during discussions at the State Legislative Assembly.** In the case of State laws, these consultations follow the procedures laid out in the Federal's and State's Constitutions and other rules governing legislative procedures. The consultation process increases the legitimacy of policies, while allowing authorities to benefit from advice and technical knowledge. The State confirmed that the program supported by this DPF operation is based on a broad consultation process with a variety of stakeholders, including civil society and business chambers.

5. OTHER DESIGN AND APPRAISAL ISSUES

5.1. POVERTY AND SOCIAL IMPACT

66. **This operation will have positive equity and social impacts. Policy changes and prior actions under Pillar 1 improving the State's Public Management systems and are expected to have a medium-term impact on poverty.** Ceará's new PIM guidelines (PA1) require that a) socioeconomic impacts and benefits for citizens are assessed at two stages (the ex-ante assessment of project proposals and the in-depth ex-post evaluation of all strategic projects)⁴⁴ and b) the major

⁴² The new CPF FY24-28 will be discussed at the Board on April 9, 2024.

⁴³ <https://openknowledge.worldbank.org/handle/10986/35799>

⁴⁴ These assessments aim to compare the ex-ante and ex-post impacts of the investment, by verifying the installed capacity, the level of use, the benefits to the assisted population and the contribution to socioeconomic indicators.



project appraisal results are disclosed to the public and made accessible in real-time to citizens. These guidelines may promote equity depending on how the grade point system of the new PIM guidelines weights socioeconomic criteria. Impacts on poverty are expected to come from PA2 due to the possibility of donations of real estate that is used on low-income housing and social interest land regularization programs.⁴⁵ PA3 is expected to foster accountability, promote better use of public resources, and reduce fraud. Ultimately, these policy changes may open space for broader and better provision of basic public services, benefiting social groups in the bottom of the socioeconomic scale.⁴⁶

67. **Prior actions under Pillar 2 are expected to have positive impacts on poverty both directly and indirectly through different transmission channels.** PA4, PA5, PA6 and PA7 are instrumental for the GoC's Policy for Climate Change (State Law 16,146/2016). They are expected to lead to income and job generation, reduce the expenditures of poor urban families and family farmers, and green the State's energy matrix. Clean energy is known for having a much higher labor intensity than brown energy.⁴⁷ PA4 is expected to have significant social impacts, as it can increase the creation of quality jobs, reducing unemployment and expanding labor income in the State. PA5⁴⁸ will indirectly yield benefits for low-income households in at least two dimensions: (i) it will contribute to expand the access of low-income households to more reliable energy; (ii) it will increase the welfare of low-income families in urban and rural areas through both a reduction in their energy expenditures⁴⁹ and the generation of credits for excess energy produced from micro/mini solar generation that can be used to offset energy bills during periods where the generation is below consumption.⁵⁰ PA6 requires for the full assessment of environmental and social impacts on traditional communities and their livelihoods as well as for meaningful consultation with them as required under ILO 169 Convention.⁵¹ It is expected to minimize and mitigate the adverse impacts associated with the clean-up of the energy matrix on the fragile coastal ecosystems and the livelihood and distinct sociocultural organization of traditional communities (particularly the artisanal fishery communities) distributed across the State's coastline.⁵² PA7 can help meet the demand for technical and job skill qualifications in the local communities impacted by green hydrogen production projects and it is expected to increase the incomes of beneficiaries who obtain their certificate, especially among the youth.⁵³ In turn, these reforms will contribute to avert

⁴⁵ This prior action is not expected to harm the interest of anyone that may be occupying or using the public properties to be auctioned because the current assignee of real or personal right, or the lessee, or the renter have preference for the acquisition of auctioned public properties over the winner of the auction.

⁴⁶ In Ceará, about 94.6 percent of the children aged 4 to 14 in poor households (US\$6.85 2017 PPP per day poverty line) attend public schools, compared to 56.7 percent among the non-poor (PNAD 2021). Meanwhile, 9 out of 10 households in the bottom 40 percent of the distribution use the public health system when they get sick, in comparison to only 6 out of 10 in the top 60 (PNS 2019).

⁴⁷ Estimates suggest that for every \$1 million spending shifted from brown to green energy, 5 net jobs would be created. See: Garrett-Peltier, 2021, Green versus brown: Comparing the employment impacts of energy efficiency, renewable energy, and fossil fuels using an input-output model, Economic Modelling.

⁴⁸ The DPF will not be financing the procurement of solar panels but supporting the development of the business model that would enable a large-scale roll out of low-cost renewable energy to low-income consumers, to be funded by other public and private sources.

⁴⁹ On average, households in the bottom fifth population commit to electricity 9.1 percent of their monetary income, while households in the top 5th population commit only 1.6 percent of theirs. IBGE, *Síntese de Indicadores Sociais* 2021.

⁵⁰ Brook, Penelope J.; Smith, Suzanne [editors], *Energy and development report 2000: energy services for the world's poor (English)*. Washington, D.C. : World Bank Group, available at <http://documents.worldbank.org/curated/en/443371468764055824/Energy-and-development-report-2000-energy-services-for-the-worlds-poor>.

⁵¹ This potential will be fully potentialized as far as the new environmental licensing process abides to the Standard Term of Reference for the environmental impact assessment of offshore wind farms recently issued by IBAMA (Termo de Referência DENE 8432181 SEI 02007.003499/2019-91, available at https://www.ibama.gov.br/phocadownload/licenciamento/publicacoes/2020-11-TR_CEM.pdf). This ToR properly covers aspects related with (a) the mapping of all traditional communities and social groups that use coastal and marine areas and may be affected by the wind farms in their livelihoods, culture, land/marine uses, (b) the consultation of these communities and relevant federal and state agencies, and (c) propose measures to avoid, minimize and/or mitigate the adverse impacts (following this mitigation hierarchy) and compensatory measures for the remaining adverse impacts.

⁵² There are 294 self-declared traditional communities present in the coastal region of Ceará. The livelihoods of most of these communities combines artisanal fishery (which accounts for 60 percent of the state's entire marine fisheries production) with subsistence agriculture. These communities have included the presence of onshore wind farms and the installation of offshore wind farms among the main conflicts and threats they face, which also involve violence related to organized crime, irregular real estate speculation in mangroves, dunes and beaches, and predatory fishing. [Adryane Gorayeb et al., *Cartografia social e a produção de dados participativos para o zoneamento ecológico-econômico costeiro do Ceará*, available at https://www.researchgate.net/publication/356942761_Cartografia_Social_e_a_Producao_de_Dados_Participativos_para_o_Zoneamento_Ecologico-Economico_Costeiro_do_Ceara?enrichId=rgreq-f1e8f00f17dd9b510aee7ffa1dc7116d-XXX&enrichSource=Y292ZXJQYWdlOzM1Njk0Mjc2MTtBUzoxMDk5NTU1MjU2OTY3MjY4QDE2MzIxNjU4MTAwNjk%3D&el=1_x_3&esc=publicationCoverPdf

⁵³ Vocational education is estimated to have a 9.7 percent wage premium when compared to students with only high school (Almeida et al. 2015).



medium- and long-term adverse social effects from climate change (such as droughts, floods and landslides) on irregular settlements and traditional communities. PA8 on education is expected to have positive impacts on poverty and equity in the medium- and long-term due to improvements in human capital.

5.2. ENVIRONMENTAL, FORESTS, AND OTHER NATURAL RESOURCE ASPECTS

68. **Actions supported by Pillar 1 are unlikely to have a negative impact on the environment, forests, or other natural resources.** The public investment management (PA1) system will integrate climate considerations in the project cycle (PA1), enabling the adoption of effective climate adaptation and mitigation measures. The new legal framework for public real estate assets management (PA2) will promote a more rigorous inventory of assets, including georeferencing, assessment of degree of occupancy and assessment of environmental and climate risks, which are essential information for effective and satisfactory environmental management in the State. Finally, the strengthening of State Internal Control System (PA3) will not have environmental impacts, but its implementation in SEMA and SEMACE could bring benefits to the consistent planning and implementation of environmental public policies.

69. **The policy actions under Pillar 2 have the potential to generate positive effects in advancing the State's sustainable development.** Limiting any further expansion of coal for power generation and industrial production in the CIPP (PA4) implies, at very least, a stagnation of current GHG emissions. In addition, preparing CIPP's energy balance and the emissions inventory are particularly important for creating baselines and increasing local scientific knowledge. Environmental impact from solar energy microgeneration systems for low-income families participating in the *Renda do Sol* Program (PA5) are expected to be of low magnitude, punctual and temporary. Instead, the positive environmental impacts over GHG emissions arising from the transition to solar energy systems are substantial and will have lasting impact. The implementation of the environmental licensing process for green hydrogen production projects (PA6) will have positive environmental impacts since projects only will be licensed and authorized in accordance with the principles of sustainable development. No environmental impact is expected from the development of skills for the renewable energy sector (PA7). Finally, with the regulation of full-time education, low-magnitude environmental impacts are expected from the construction, renovation, and rehabilitation of school infrastructure (PA8).

5.3. PFM, DISBURSEMENT AND AUDITING ASPECTS

70. **The overall integrated fiduciary risk of this operation arising from public financial management (PFM), public procurement system, and FOREX control environment is moderate.** The GoC is committed to implementing important PFM reforms to improve the quality and relevance of financial information available for decision-making and to enhance transparency, accountability, and efficiency in PFM, including: (i) implementing the International Public Sector Accounting Standards (IPSAS). Following the adoption of IPSAS, the State should request that State Court of Accounts (TCE) presents to Parliament, a financial audit report of its 2024 annual financial statements, confirming compliance with the Standards, and (ii) enhancing internal audit standards. Improvements are noted in many areas, including implementing the new integrated Planning and Financial Administration System of the State of Ceará (SIAFE-CE), which is considered adequate. A well-developed legal framework—including the Federal Constitution, the Fiscal Responsibility Law (LRF), and other laws and regulations—underpins the GoC PFM. Institutional PFM arrangements are established at the State Secretariat of Finance's departments. Budget preparation and monitoring processes are considered appropriate and are available for public access on an external website⁵⁴. There are continued improvements in the external oversight mechanisms, including participation of key stakeholders and sector agencies and following Brazil's federal rules consistent with international standards. The GoC's PFM environment features strong internal rules and commitment controls. The use of the single treasury account (STA) model of cash management and a clear allocation of responsibility for managing facilitates the

⁵⁴ https://www.seplag.ce.gov.br/wp-content/uploads/sites/14/2023/01/LOA-2023_Lei-n.-18.275-de-22_12_22.pdf



performance of bank reconciliations on a regular and timely basis. The State's Financial Statements are of reasonable quality; timely prepared and audited by the State's Supreme Audit Institution. Based on the above review, no additional fiduciary arrangements will be implemented for the operation.

71. **Procurement.** Procurement processes in Ceará are competitive and transparent and have been improving over time. Secretariat for Planning and Management (SEPLAG) has a section on its website that gathers information on Public Procurement, offering federal and State legislation, instructional material, and more information on implementing the new Federal Procurement and Contract Law⁵⁵. SEPLAG provides access to procurement notices and results of the contracts to public officials, managers, suppliers, and society, through the *Licitaweb* (online) system. Furthermore, access to standard terms of reference and notices are made available, as well as information on the progress and minutes of bidding processes under the responsibility of the Centralized Bidding Agency, an agency linked to the State Attorney General's Office (PGE), who is responsible for centrally processing the external phase of bids. The procurements carried out by the GoC, resulting in contracts to micro and small businesses throughout 2021, reached R\$ 3.5 billion, demonstrating the importance of this segment to the State's economy and the potential growth of their participation in future government contracts. In view of the end of the validity period of Laws No. 8,666/1993, No. 10,520/2002, and part of Law No. 12,462/2011, the procurement systems, as of March 2023, were appropriated to implement bidding processes, according to the new Federal Procurement and Contract Law No. 14,133 of 2021 and other specific State regulations. As set forth by this new Law, SEPLAG is developing a digital procurement system, to render procedures more standardized and increase agility and provide a permanent point of guidance for all hiring units.

72. **The Loan proceeds will be disbursed against satisfactory implementation of the DPF program and will not be tied to any specific purchases.** Once the loan is effective, the borrower will request the WB the disbursement of the loan proceeds in local currency, the equivalent amount of the loan proceeds into a local currency denominated-bank account opened by the State Government at the *Caixa Econômica Federal (CEF)* branch in Ceará, Brazil. The *CEF* is a commercial bank, financially sound, audited regularly, that performs a wide range of banking services, provides detailed bank statements and is part of a satisfactory banking network, and charges reasonable bank fees. Within 30 days after receipt of loan proceeds, the GoC will confirm to the WB that (i) the loan proceeds were received in the local currency-denominated account, and (ii) an equivalent amount was credited to the account that finances GoC's commitments. If loan proceeds are used to finance excluded expenditures as defined in the Loan Agreement, the WB will require the GoC to refund the amount. Based on the analysis of the adequacy of the State's PFM environment, no additional fiduciary arrangements will be put in place.

5.4. MONITORING, EVALUATION AND ACCOUNTABILITY

73. **The Ceará State Secretariat of Finance (SEFAZ) is responsible for collecting and monitoring information related to program implementation and progress toward the achievement of the results.** SEFAZ is responsible for coordinating all necessary actions among the agencies involved in the reform program supported by this DPF. SEFAZ will be directly responsible for Pillar 1 in coordination with other State agencies (SEPLAG, CGE and CearáPar). The State Secretariat for the Environment (SEMA), SEINFRA and SEDUC oversee policies and coordinates different institutions under the second pillar of the program. The WB team has worked closely with the above agencies as well as Brazil's Federal Government to define results indicators that are clearly spelled out and measurable, giving preference to those that are already collected by the GoC on a regular basis to avoid duplication.

⁵⁵ <https://www.seplag.ce.gov.br/gestao/portal-compras/>



74. **Grievance Redress.** Communities and individuals who believe that they are adversely affected by specific country policies supported as Prior Actions or tranche release conditions under a WB Development Policy Financing may submit complaints to the responsible country authorities, appropriate local/national grievance mechanisms, or the Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed to address pertinent concerns. Project affected communities and individuals may submit their complaint to the WB's independent Accountability Mechanism (AM). The AM houses the Inspection Panel, which determines whether harm occurred, or could occur, because of WB non-compliance with its policies and procedures, and the Dispute Resolution Service, which provides communities and borrowers with the opportunity to address complaints through dispute resolution. Complaints may be submitted at any time after concerns have been brought directly to the WB's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the WB's corporate Grievance Redress Service (GRS), please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the Bank's Accountability Mechanism, please visit <https://accountability.worldbank.org>.

75. **Brazil has a robust legislation on access to information and grievance redressing.**⁵⁶ The 1988 Federal Constitution (Art. 103 and Art. 130) and Constitutional Amendment 45/2004 also provide for the creation of Ombudsmen at all levels of government and major advances have been made in this area. Hundreds of Ombudsman offices in the federal, State and Municipal bodies and agencies operate in the country and are integrated into two systems: the governmental ombudsman system (e-Ouve) and the governmental system of access to information (e-Sic), which have been recently integrated in the Fala.BR web system developed for the National Ombudsman Network. This platform allows citizens to make requests for public information and manifestations to the ombudsman. To use Fala.BR, it is not necessary to register. The system works 24 hours a day, allows to follow up the progress of a registered event and has the option to report anonymously <https://www.gov.br/cgu/pt-br/assuntos/ouvidoria>. Finally, data on the performance of the network of Ombudsman Offices is publicly available at the website "Painel Resolveu?" (<http://paineis.cgu.gov.br/resolveu/index.htm>). The **State General Ombudsman Office of Ceará** can be accessed by a Call Center (Telephone 155), in presence, phone, e-mail (ouvidoria.geral@cge.ce.gov.br), internet (<https://cearatransparente.ce.gov.br/portal-da-transparencia/ouvidoria?locale=pt-BR>). *Ceará Transparente* was set up to facilitate communication between citizens and government institutions. The system makes it possible to post suggestions, compliments and complaints, that can be tracked through service channels, such as Telephone 155, (Social Networks: Facebook: [/cgeceara](https://www.facebook.com/cgeceara) and Instagram: [@cgeceara](https://www.instagram.com/cgeceara)), and the website https://cearatransparente.ce.gov.br/ticket/sign_in?locale=pt-BR. Complaints can also be registered anonymously. Citizens have access to reports on the ombudsman performance through the digital platform <https://cearatransparente.ce.gov.br/portal-da-transparencia/paginas/relatorios-de-gestao-de-ouvidoria?> = .

6. SUMMARY OF RISKS AND MITIGATION

76. **The overall risk of this operation is assessed as moderate.** The main risks to the objectives of this operation include institutional capacity constraints, the environment, and stakeholders.

77. **Risks related to institutional capacity in some policy areas are assessed as substantial.** The GoC has technically sound, tenured public officials in key management positions. However, there are capacity gaps at lower ranks. The PIM framework and guidelines (PA1) requires the engagement of multiple agencies and public officials in project preparation and evaluation. The State is mitigating this risk with the ongoing development of a PIM system with a backlog of user stories and complete documentation for testing, standardization, and production of the IT solution. It will also conduct capacity-building activities for at least 300 participants on the revamped PIM methodology, guidelines, and system usage.

⁵⁶ Including: Constitutional Amendment 19/1988, Federal Law 12,527/2011, Federal Law 13,460/2017, Federal Decree 9,492/2018, and Normative Instruction Ministry of Transparency and Federal Comptroller General (CGE)/Union General Ombudsman Office (OGU) 5/2018.



The new legal framework to strengthen the management of the State's real estate assets (PA2) requires building a reliable database for properties, and the harmonization of the legislation to attract non-local investors, which entails a task force to guarantee the reform implementation. The State will mitigate this risk by mapping and updating the registry of all its real estate assets, including the hiring of specialized firms and georeferencing property areas, and providing training at all management levels at CearaPar. The internal control system reform (PA3) will require the implementation of Sector Units of Internal Control in the line secretariats. These units will require trained professionals to operate and dedicated budget resources to support them. Mitigation measures include the GoC's shown commitment to implement the internal control system. It will also have about four years to complete the reform. Ceará's sound fiscal condition guarantees that sufficient budget resources can be allocated to the program. Institutional capacity is considered limited and reliant on key individuals within the GoC to prepare the energy balance and GHG emissions inventory for the CIPP, as well as to develop secondary legislation required to ensure there is no expansion of coal production in CIPP (PA4). The business model for the implementation of the *Renda do Sol* program (PA5) is not defined yet, and passing regulations will be required for its roll-out. The State has requested technical support from the WB for the implementation of PA4 and PA5, which can help mitigate these institutional capacity risks. The implementation of TVET courses on clean energy (PA7) and the full-time secondary education (PA8) will require trained teachers and dedicated budget resources. Mitigation measures include the GoC's strong ownership to implement the programs.

78. **Risks related to environment are assessed as substantial.**⁵⁷ The energy transition to renewable energy sources and clean fuels will require substantial new investments to build infrastructure. Green hydrogen production is at the technological frontier. This makes it harder to assess the risks linked with investment, and the State may face gaps in capacity to properly assess the potential environmental and social impacts of new projects, which could lead to inadequate mitigation measures and increased risks to the environment and local communities. The new environmental licensing regulations for green hydrogen provides enhanced protections for vulnerable communities during the licensing process. Since 2016 the WB has been supporting several initiatives⁵⁸ for improving the environmental licensing process in Ceará, including regulatory and institutional reforms and capacity building which have resulted in the Green Hydrogen licensing model. In addition, the WB is currently providing technical assistance to Brazil's Federal Government to develop the low-carbon hydrogen market through an ASA (Accelerating Clean Energy Transition and Strengthening Water Security in Brazil (P179030) and is also preparing the Ceará Green Hydrogen Hub IPF (P181511).

79. **Stakeholder risks are assessed as substantial.** These risks relate to sensitivities in the reform agenda that intends to limit the emission of greenhouse gases at CIPP. This reform could affect the business operators' interests and undermine its implementation. To mitigate these risks, authorities are engaged in close consultations with several stakeholder groups. In addition, the WB is providing technical assistance to the GoC to prepare the energy balance and GHG emissions inventory for CIPP, which will involve engagement with the State and key stakeholder groups, including the possibility to conduct pre-feasibility studies for innovative technologies that can be deployed by high emitters in the CIPP to support the energy transition. The WB is also preparing an IPF (P181511) with the GoC to support the development of the Green Hydrogen Hub in CIPP that will require consultations with different stakeholders in CIPP.

⁵⁷ There are allegations of forced labor in the production of solar panels and components. This DPF focuses on policies and institutional reforms. DPF proceeds are not earmarked to any specific purpose, including the manufacture or procurement of solar panels or components.

⁵⁸ Initiatives supported by the Bank in Ceará: (i) Strengthening Service Delivery for Growth, Poverty Reduction and Environmental Sustainability in the State of Ceará Program-for-Results (P127463); (ii) Beneficiary Feedback and Data Analytics for Business Licensing in Ceará Program, supported by the Good Regulatory Practices Program: Closing the Implementation Gap and Uncertainty of G2B Services; (iii) Improving Business Environment for Prosperity (IBEP) Program, supported by the UK Prosperity Fund (IFC project # 602136).



Table 7: Summary Risk Ratings

Risk Categories	Rating
1. Political and Governance	● Moderate
2. Macroeconomic	● Moderate
3. Sector Strategies and Policies	● Moderate
4. Technical Design of Project or Program	● Moderate
5. Institutional Capacity for Implementation and Sustainability	● Substantial
6. Fiduciary	● Moderate
7. Environment and Social	● Substantial
8. Stakeholders	● Substantial
9. Other	
Overall	● Moderate



ANNEX 1: POLICY AND RESULTS MATRIX

DETAILED RESULTS FRAMEWORK

Prior actions	Results		
	Indicator Name	Baseline	Target
<i>Pillar 1: Improving public financial management</i>			
Prior Action #1: To improve the governance of its public investment projects, the Borrower adopted a new framework for public investment management that (i) redefines the roles and responsibilities of the agencies in charge of the project cycle, (ii) provides for the improved management of capital expenditures by mandating project risk assessment and prioritization based on a cost-benefit analysis, as well as a robust capital and operating costs estimation, and (iii) integrates climate change considerations through the fast-track of emergency projects; as evidenced by (i) the Borrower’s Decree no. 35.504, dated June 15, 2023, published in the Borrower’s Official Gazette on June 15, 2023, and (ii) the Borrower’s Public Investment Management Framework, dated February 23, 2023, available at https://www.seplag.ce.gov.br/ .	RI1. Number of public investment projects screened, appraised, and prioritized according to the methodology criteria set forth on the new legal framework	2022 = 0	2025 = 5
Prior Action #2: To improve the management of its real estate assets, the Borrower adopted a new framework for public real estate asset management that (i) provides for a comprehensive inventory of public properties within its territory, (ii) establishes procedures for public real estate asset valuation to maximize returns on sales, and (iii) allows for the consolidation of the ownership and management of its public real estate under a single agency (CearáPar); as evidenced by: (i) the Borrower’s Complementary Law no. 296, dated December 16, 2022, published in the Borrower’s Official Gazette on December 19, 2022, (ii) the Borrower’s Decree no. 35.505, dated June 15, 2023, published in the Borrower’s Official Gazette on June 15, 2023, (iii) the Borrower’s Decree no. 34.723, dated May 2, 2022, published in the Borrower’s Official Gazette on May 2, 2022, as amended by Decree no. 34.985, dated October 17, 2022, published in the Borrower’s Official	RI2. Real estate assets vacancy rate	2022 = 18.5 percent	2025 = 8 percent



Prior actions	Results		
Gazette on October 17, 2022, (iv) CONAG Resolution 01/2023, published in the Borrower’s Official Gazette on July 10, 2023, and (v) CONAG Resolution 02/2023, published in the Borrower’s Official Gazette on July 10, 2023.			
Prior Action #3: To improve its fiscal accountability and increase the transparency, effectiveness, and efficiency of its policies and programs, the Borrower adopted the 3-Lines of Defense Model developed by the Institute of Internal Audit (IIA) as a means to strengthen the internal control system of its government; as evidenced by the Borrower’s Complementary Law no. 309, dated July 11, 2023, published in the Borrower’s Official Gazette on July 11, 2023.	RI3. Increased deployment of the Integrity Program in five the State’s key sectoral budgets secretariats ⁵⁹ to assess its internal control structure according to the methodology criteria set forth on the Integrity Diagnostics Framework ⁶⁰ .	2022 = 54 percent	2025 = 75 percent
<i>Pillar 2: Strengthening the enabling environment to scale-up clean energy production</i>			
Prior Action #4: To limit further greenhouse gas emissions, the Borrower (i) prohibited new ventures in the CIPP that involve the burning of coal in any step of their production process, and (ii) committed to develop an emissions inventory regarding socioeconomic activities developed in its territory, which shall comprise the CIPP’s energy balance, within 24 months from June 15, 2023; as evidenced by the Borrower’s Decree no. 35.503, dated June 15, 2023, published in the Borrower’s Official Gazette on June 15, 2023.	RI4. Publication of targets for greenhouse gas emission reduction for the CIPP, utilizing the emissions inventory and energy balance.	2022 = no emission reduction targets published for the CIPP	2025 = emission reduction targets published for the CIPP for 2030, 2040 and 2050
Prior Action #5: To stimulate the expansion of distributed solar generation within its territory, in particular within low income and vulnerable communities, the Borrower approved the “Renda do Sol” program, which establishes the institutional arrangements	RI5. Funds transferred to the FIEE Fund to Support the Renda do Sol Program, utilizing energy	2022 = R\$ 0m	2025 ⁶¹ = R\$ 19m

⁵⁹ Secretariat of Education (SEDUC); Secretariat of Finance (SEFAZ); Secretariat for the Environment and Climate Change (SEMA); State Environment Superintendence – SEMACE; and Secretariat of Water Resources (SRH).

⁶⁰ Issued by Ordinance 74/2020 in State’s Official Gazette as of September 15, 2020.

⁶¹ RE savings transferred to FIEE.



Prior actions	Results		
and mechanisms by which (i) funding sources will be secured to provide financial support for the roll-out of distributed solar generation to the target beneficiaries, and (ii) local capacity will be created for systems operation and maintenance; as evidenced by the Borrower’s Complementary Law no. 314, dated September 7, 2023, published in the Borrower’s Official Gazette on September 11, 2023.	cost savings from the State’s public building renewable energy program.		
Prior Action #6: To promote investment in green hydrogen within its territory, the Borrower set up a process of environmental licensing for green hydrogen production projects, which provides for (i) the procedures, criteria and parameters applicable to the environmental licensing and authorization for the production of green hydrogen, and (ii) enhanced protections for vulnerable communities during the licensing process; as evidenced by (i) the Borrower’s Decree no. 35.506, dated June 15, 2023, published in the Borrower’s Official Gazette on June 15, 2023, and (ii) COEMA Resolution no. 03, dated 10 February 2022, published in the Borrower’s Official Gazette on February 14, 2022.	RI6. Locational environmental licensing assessments completed	2022 = 0	2025 = 4
Prior Action #7: To promote the development of skills linked to the low-carbon economy, the Borrower mandated the adoption of technical and vocational education and training curricula in secondary (<i>Ensino Médio</i>) and professional (<i>Ensino Profissional</i>) schools focusing on clean energy that supports inclusive and sustainable job creation; as evidenced by (i) the Borrower’s Law no. 18.194, dated August 31, 2022, published in the Borrower’s Official Gazette on August 31, 2022, and (ii) the Borrower’s Decree no. 35.499, dated June 15, 2023, published in the Borrower’s Official Gazette on June 15, 2023.	RI7. Number of TVET courses on clean energy. RI8. Number of girls (aged 14 to 19) participating on STEM career orientation program	2022 = 1 2022 = 0	2025 = 8 2025 = 20,000
Prior Action #8: To support learning recovery following the COVID-19 pandemic, the Borrower approved a plan to expand secondary (<i>Ensino Médio</i>) and professional (<i>Ensino Profissional</i>) full-time education in public schools within its territory; as evidenced by (i) the Borrower’s Law no. 17.995, dated March 29, 2022, published in the Borrower’s Official Gazette on March 29, 2022, and (ii) the Borrower’s Decree no. 35.499. dated June 15, 2023, published in the Borrower’s Official Gazette on June 15, 2023.	RI9. Number of full-time schools’ facilities rehabilitated or constructed following the criteria laid out in the regulations.	2022 = 257	2025 = 400

RESULTS INDICATORS BY PILLAR



Baseline	Closing Period
To improve efficiency in the public resource management	
Number of public investment projects screened, appraised, and prioritized according to the methodology criteria set forth on the new legal framework (Number)	
Dec/2022	Dec/2025
0	5
Real estate assets vacancy rate (Percentage)	
Dec/2022	Dec/2025
18.5	8
Increased deployment of the Integrity Program in five units of the state's key sectoral budgets secretariats to assess its internal control structure (Percentage)	
Dec/2022	Dec/2025
54	75
To improve the enabling environment to scale-up clean energy	
Publication of targets (for 2030, 2040 and 2050) for greenhouse gas emission reduction for the CIPP, utilizing the emissions inventory and energy balance (Yes/No)	
Dec/2022	Dec/2025
No	Yes
Funds transferred to the FIEE Fund to Support the Renda do Sol Program, utilizing energy cost savings from the State's public building renewable energy program (Text)	
Dec/2022	Dec/2025
R\$ 0 million	R\$ 19 million
Locational environmental licensing assessments completed (Number)	
Dec/2022	Dec/2025
0	4
Number of TVET courses on clean energy (Number)	
Dec/2022	Dec/2025
1	8
Number of girls participating on STEM career orientation program (Number)	
Dec/2022	Dec/2025
0	20,000
Number of full-time schools facilities rehabilitated or constructed following the criteria laid out in the regulations (Number)	
Dec/2022	Dec/2025
257	400



ANNEX 2: FUND RELATIONS ANNEX

Brazil—Assessment Letter for the World Bank February 9, 2024

Assessment letter in connection with the World Bank development policy operation for the State of Ceará, Brazil. The program proposes a loan in the amount of US\$470 million for the BR State of Ceará Sustainable Development Policy Loan. The objective of this operation is to support reforms of the State of Ceará to: (i) improve public financial management; and (ii) strengthen the enabling environment to scale up clean energy production. The letter assesses macroeconomic policies for the national economy.

Economic Developments, Outlook, and Risks

1. An ambitious reform agenda on inclusive and sustainable growth marked the first year of the government. The government expanded the renewed Bolsa Familia program, lifting incomes of the most vulnerable; reduced illegal deforestation in the Amazon biome by half; issued Brazil's first green and sustainable sovereign bond; and agreed on a carbon market framework. In addition, the authorities approved a new fiscal rule and the introduction of a modern VAT. Brazil is currently holding the G20 Presidency with ambitious goals for "a just world and a sustainable planet".

2. Growth in 2023 has been more resilient than expected while inflation declined. Growth is projected to have remained strong in 2023, driven by a sizable fiscal stimulus, buoyant agriculture, and resilient services. Growth is expected to moderate in 2024 before gradually converging to potential over the medium term. Headline inflation has declined markedly due to adequately tight monetary policy and favorable base effects and is projected to reach the 3 percent target by mid-2025. Core has fallen but less sharply. The external position was broadly in line with fundamentals in 2022, and the current account deficit is expected to reach about 2 percent of GDP over the medium term, from 1.4 percent of GDP in 2023.

3. The balance of risks has improved over the past year and strong buffers continue to support resilience. On the external front, the likelihood of an abrupt global slowdown or a sharp tightening of global financial conditions has declined, while risks from commodity price volatility remain elevated. On the domestic front, risks have subsided with resilient growth, falling inflation, and the approval of the VAT reform. However, uncertainty around the fiscal consolidation path remains high given the need for additional measures to meet the authorities' 2024 zero primary deficit and medium-term primary surplus targets. Downside risks also include a more negative fallout from El Niño and the recent drought. Upside risks stem from more dynamic domestic demand, a stronger trade balance, and green growth opportunities. Swifter implementation of the VAT reform could unleash earlier productivity gains. A sound financial system, adequate FX reserves, low reliance on FX debt, large government cash buffers, and a flexible exchange rate support resilience.

Policies

4. The authorities' commitment to strengthen the fiscal position is welcome. Staff projects a federal primary deficit of 2½ percent of GDP in 2023, including 0.9 percent of GDP in one-off settlements of court-ordered debts (precatórios), improving to a deficit of 0.9 percent of GDP in 2024 given the recent approval of some revenue measures. A fiscal effort of around 2 percent of GDP is projected over the medium term, contingent on the implementation of further measures, with general government gross debt stabilizing at a high level in staff's baseline scenario. The latest staff's debt sustainability assessment (July 2023) finds risks of debt distress to be moderate under the



baseline. However, the debt trajectory remains highly sensitive to shocks to borrowing costs and real GDP growth, and the materialization of fiscal risks. Acknowledging the need to preserve debt sustainability, the authorities aim to achieve a primary fiscal surplus of 1 percent of GDP by 2026. Staff recommends a more ambitious fiscal effort that continues beyond 2026 to put debt on a firmly declining path, while protecting social and investment spending, supported by an enhanced fiscal framework, a broader tax base, and reforms that tackle spending rigidities. The revenue-neutral VAT reform is expected to significantly streamline the tax regime and boost potential. Direct tax reforms will be key to generate revenues, eliminate inefficient tax expenditures, and increase progressivity.

5. With inflation projected to reach the target by mid-2025, the Central Bank of Brazil (BCB) is proceeding with a gradual easing cycle. The BCB reacted to price pressures in a proactive manner in line with the inflation targeting framework that has served Brazil well. The decision in June 2023 to adopt a continuous 3 percent inflation target from 2025 onwards helped reduce inflation expectations and should further improve monetary policy effectiveness. These factors allowed the BCB to cut the policy rate by 50 basis points in each of the last five meetings to 11.25 percent in January and signal further cuts ahead. The monetary policy stance will remain restrictive in the near term and approach its neutral level by 2025, in line with the inflation targeting framework. Given only partial re-anchoring of expectations and resilient growth, the monetary policy easing cycle is proceeding gradually to ensure inflation converges to target, guided by incoming data and inflation expectations.

6. The banking system is sound, the financial sector remains resilient, and systemic risks are contained. Targeted policy measures and financial literacy initiatives to address pockets of household debt vulnerabilities and protect consumers are welcome, including the government's Desenrola program targeted to poorer households. A bigger role for public banks should be managed carefully to mitigate risks for fiscal sustainability and monetary policy transmission.

7. The BCB is at the forefront of financial innovation. Notable initiatives include the highly successful instant payment system, Pix, launched in late 2020, and the Open Finance environment introduced in 2021. These initiatives have increased financial inclusion, efficiency, and competition. Plans for the Digital Real are expected to underpin a public blockchain infrastructure that fosters financial innovation within a regulated environment.

8. The authorities are advancing their ambitious structural agenda. To lift inclusive growth, priorities are rightly focused on fostering innovation, trade integration, and competitiveness; upgrading investment and skills; tackling poverty and inequality; and promoting green growth opportunities. Continuing efforts to strengthen the effectiveness of the anti-corruption and AML/CFT frameworks remains important. The authorities are considering policies to protect economic activity, assets, and livelihoods, including by boosting the Amazon's resilience to climate shocks via fiscal incentives for forest protection; investing in climate smart agriculture and insurance; continuing diversification of power supply to renewables and energy storage; developing a green taxonomy; and leveraging the BCB Sustainability Agenda. To meet Brazil's ambition in lowering emissions, the framework for the mandatory carbon market is very welcome.

IMF Relations

9. The 2023 Article IV consultation concluded on July 19, 2023. Staff discussions with the authorities for the 2024 Article IV consultation are expected to take place in May, with the IMF Executive Board Meeting tentatively scheduled on July 8.



Table 1. Brazil: Selected Economic Indicators, 2021-2029

I. Social and Demographic Indicators									
Area (thousands of sq. km.)	8,510	Health							
Agricultural land (percent of land area)	30.2	Physicians per 1000 people (2022)							
Population		Hospital beds per 1000 people (2022)							
Total (millions, 2022)	203.1	Access to safe water (2021)							
Annual rate of growth (percent, 2022)	0.5	Education							
Density (per sq. km. est., 2022)	23.9	Adult illiteracy rate (2019)							
Unemployment rate (2022)	9.3	Net enrollment rates, percent in:							
Population characteristics (2021)		Primary education (2019)							
Life expectancy at birth (years)	77	Secondary education (2019)							
Infant mortality (per thousand live births)	11	Poverty rate (in percent, 2021) 1/							
Income distribution (2017)		GDP, local currency (2022)							
Ratio between average income of top 10 percent of earners over bottom 40 percent	12.4	GDP, dollars (2022)							
Gini coefficient (post taxes and transfers, 2022)	51.8	GDP per capita (2022)							
Main export products: airplanes, metallurgical products, soybeans, automobiles, electronic products, iron ore, coffee, and oil.									
II. Economic Indicators									
	2021	2022	2023	2024	2025	2026	2027	2028	2029
	Proj.								
	(Percentage change)								
National accounts and prices									
GDP at current prices	18.4	11.8	7.1	6.5	5.4	5.6	5.6	5.5	5.6
GDP at constant prices	4.8	3.0	3.1	1.7	1.9	2.0	2.0	2.0	2.0
Consumption	3.2	3.7	1.7	1.5	1.6	1.9	2.0	2.0	2.0
Investment (GFCF)	12.9	1.1	0.1	0.6	0.8	1.5	1.4	1.4	1.5
Consumer prices (IPCA, average)	8.3	9.3	4.6	4.3	3.0	3.1	3.0	3.0	3.0
Consumer prices (IPCA, end of period)	10.1	5.8	4.6	3.9	3.0	3.0	3.0	3.0	3.0
GDP deflator	13.1	8.5	4.0	4.7	3.5	3.5	3.5	3.5	3.5
	(Percent of GDP)								
Gross domestic investment	17.0	14.4	13.6	13.3	13.1	13.0	12.9	12.8	12.7
Private sector	2.5	3.7	4.0	4.0	4.1	4.1	4.1	4.1	4.1
Public sector	19.6	18.0	23.6	22.1	20.8	20.0	19.4	18.8	18.6
Gross national savings	-2.8	-2.7	-7.4	-6.0	-5.1	-4.6	-4.2	-3.7	-3.8
Private sector									
Public sector									
Public sector finances									
Central government primary balance (national representation, incl. BCB) 2/	-0.4	0.5	-2.5	-0.9	-0.2	0.2	0.6	1.0	1.0
General government NIB primary balance	2.0	2.1	-2.2	-0.8	-0.1	0.3	0.7	1.2	1.2
General government NIB structural primary balance (in percent of potential GDP)	1.3	-1.1	-2.4	-1.6	-0.2	0.2	0.7	1.1	1.2
General government NIB	-2.5	-3.1	-7.9	-6.5	-5.7	-5.2	-4.8	-4.3	-4.4
Net public sector debt	55.1	56.1	59.5	62.8	65.8	67.9	69.6	71.0	71.7
General government gross debt, Authorities' definition	77.3	71.7	75.9	78.5	80.8	82.2	83.6	84.6	85.5
General government gross debt	88.9	83.9	86.2	88.9	91.4	93.1	94.6	95.6	96.5
Of which: Foreign currency linked	5.0	4.2	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Money and credit									
	(Annual percentage change)								
Base money 3/	2.7	16.6	7.1	6.5	5.4	5.6	5.6	5.5	5.6
Broad money 4/	8.7	10.6	8.2	6.1	5.3	5.8	5.5	5.5	10.8
Bank loans to the private sector	17.6	14.6	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Balance of payments									
	(Billions of U.S. dollars, unless otherwise specified)								
Trade balance	36.4	44.2	75.7	79.7	76.3	72.4	71.9	72.7	72.7
Exports	284.0	340.3	343.5	348.6	350.4	353.1	359.3	368.5	378.1
Imports	247.6	296.2	267.7	268.9	274.1	280.6	287.4	295.8	305.4
Current account	-46.4	-53.6	-29.6	-29.8	-36.2	-43.0	-47.7	-52.7	-58.8
Capital account and financial account	50.4	55.6	29.6	29.8	36.2	43.0	47.7	52.7	58.8
Foreign direct investment (net inflows)	30.2	53.9	32.0	36.9	40.7	45.1	50.6	55.0	59.7
Terms of trade (percentage change)	14.4	-7.1	-2.2	-1.7	-3.8	-2.4	-1.0	-0.8	-0.9
Merchandise exports (in US\$, annual percentage change)	34.8	19.8	0.9	1.5	0.5	0.8	1.8	2.5	5.2
Merchandise imports (in US\$, annual percentage change)	38.9	19.6	-9.6	0.4	1.9	2.4	2.4	2.9	6.3
Total external debt (in percent of GDP)	40.1	34.9	32.6	30.7	29.8	28.6	27.0	25.5	23.9
Memorandum items:									
Output Gap	-0.8	0.2	1.0	0.6	0.2	0.1	0.1	0.0	0.0
Current account (in percent of GDP)	-2.8	-2.7	-1.4	-1.3	-1.5	-1.7	-1.8	-1.9	-2.0
Unemployment rate 5/	13.2	9.3	8.0	8.1	7.9	7.7	7.6	7.6	7.6
Gross official reserves	362	325	346	346	346	346	346	346	346
REER (annual average in percent; appreciation +)	-3.2	12.1	--	--	--	--	--	--	--

Sources: Central Bank of Brazil, Ministry of Finance, IBGE, IPEA, and Fund staff estimates.

1/ Computed by IBGE using World Bank's threshold for upper-middle income countries (US\$5/day).

2/ Includes the federal government, the central bank, and the social security system (INSS).

3/ Currency issued, required deposits held at the Central Bank plus other Central Bank liabilities to other depository corporations

4/ Currency outside depository corporations, transferable deposits, other deposits and securities other than shares

5/ Unemployment rate for 2021 and 2022 shows the average of March, June, September, and December.



ANNEX 3: LETTER OF DEVELOPMENT POLICY



OFÍCIO GG Nº 230 /2023

Fortaleza, 11 de Outubro de 2023

Ao Senhor

JOHANNES ZUTT

Diretor do Banco Mundial para o Brasil
SCES Trecho 03, lote 05, polo 8, s/n
70.200-003 – Brasília / DF

Assunto: Contratação de Operação de Crédito *Development Policy Financing* (DPF)

Senhor Diretor,

Este documento compreende um conjunto de medidas de políticas para melhorar a eficiência na gestão dos recursos públicos e promover o desenvolvimento sustentável por meio de energia limpa e desenvolvimento de habilidades. Tem como objetivo integrar políticas públicas de desenvolvimento socioeconômico e sustentabilidade ambiental, melhorar a qualidade de vida do povo cearense e reduzir as desigualdades regionais no Ceará.

O Governo de Ceará entende que o apoio técnico-financeiro do Banco Internacional para Reconstrução e Desenvolvimento – BIRD, por meio do *Development Policy Financing* (DPF), será essencial ao sucesso do Programa de Sustentabilidade Econômico-Fiscal do Estado do Ceará – (Ceará Sustentável). Relevante salientar que o supracitado programa tem o intuito de, no médio prazo, elevar a capacidade de poupança do Estado e os investimentos com recursos próprios. Desta forma, o Estado de Ceará terá ganhos significativos na implementação deste Programa que envolve três pilares, fiscal, ambiental e socioeducacional, que impulsionarão o seu desenvolvimento sustentável e a manutenção do equilíbrio de suas contas públicas.

Panorama das finanças públicas estaduais

O Estado do Ceará tem-se mantido em uma trajetória fiscal sustentável, com geração de poupança e captação de recursos para suportar o investimento. Do lado da receita, o crescimento da arrecadação estadual se dá a partir da implementação de medidas que tornam mais eficazes a cobrança dos tributos estaduais da sua competência. O crescimento continuado das receitas tem sido uma razão importante para a manutenção da sustentabilidade fiscal do estado.

O Governo do Ceará tem demonstrado forte comprometimento com a boa gestão fiscal nos últimos anos, que reflete o maior controle do crescimento das despesas, se comparado ao



crescimento das receitas. Do lado da despesa, tem-se mantido os gastos sob controle, mas sem redução na oferta dos serviços públicos ou prejuízo à sua qualidade. O rápido crescimento anterior dos gastos com pessoal levou o Ceará a aprovar uma regra de teto de gastos do estado em 2016, uma reforma previdenciária em 2019 e a congelar salários de servidores públicos em 2020 e 2021 para melhorar suas contas públicas, antecipando futuras pressões e problemas fiscais que poderiam surgir da falta de controle fiscal. Com estas reformas, entre 2014 e 2022, as despesas totais cresceram apenas 2% ao ano no período e ficaram abaixo do crescimento real da Receita Corrente Líquida (RCL) no mesmo período (3,4% no período), mesmo com a recessão de 2015/2016 e a forte queda do PIB do Ceará em 2020 devido à pandemia. A forte posição fiscal do Ceará culminou em superávits primários recorrentes nos últimos dez anos e na manutenção de seu índice de capacidade de pagamento da dívida (CAPAG) de B de 2018 a 2022. As despesas com pessoal representaram apenas 35,0% da RCL em 2022, ficando abaixo do limite de alerta estabelecido pela Lei de Responsabilidade Fiscal – LRF - (44,1%). Por sua vez, esse rígido controle das principais categorias de gastos correntes permitiu ao Ceará aumentar os investimentos em 6,1% ao ano em termos reais entre 2014 e 2022. Desta forma, o estado tem sido capaz de ampliar seus investimentos públicos, que são financiados tanto com recursos próprios como com novas operações de crédito, sem que haja perda de controle da dívida pública.

Embora o estoque da dívida pública do Ceará esteja sob controle, seu perfil exige um acompanhamento cuidadoso. As medidas fiscais adotadas desde 2016 permitiram ao Ceará reduzir sua dívida líquida de 62% da receita corrente líquida em 2015 para 33,9% em 2022. No entanto, seu perfil de dívida apresenta desafios, pois o serviço da dívida (7,6% da RCL) e a parcela da dívida em moeda estrangeira (53,6 por cento da dívida total) é elevada. Apesar disso, os saldos fiscais sólidos permitiram ao estado navegar por períodos de estresse cambial e maiores necessidades de financiamento sem atrasar o pagamento de despesas ou incorrer em atrasos.

Mesmo diante de um cenário fiscal relativamente benéfico e tendo implementado importantes reformas para garantir sustentabilidade das suas finanças públicas, o estado do Ceará ainda enfrenta diversos desafios de desenvolvimento. A taxa de pobreza no Ceará é de 44,2%, medida pela linha de pobreza de US\$ 6,85/dia (PPP 2017), enquanto a parcela de pessoas extremamente pobres vivendo com menos de US\$ 2,15/dia (PPP 2017) foi de 11,0% (cálculos do Banco Mundial usando PNADC 2021). Além da pobreza, há desigualdades significativas entre a população do Estado. Embora o Estado seja conhecido por suas conquistas educacionais avaliadas por testes padronizados desde a última década, ocupando a 2ª posição no ranking nacional do Índice de Desenvolvimento da Educação Básica (IDEB) (INEP, 2021), nem todos os indicadores relacionados à educação tiveram tendências positivas. Em 2019, 82,7% das crianças de 7 e 8 anos eram alfabetizadas, enquanto a taxa foi de 69,4% em 2021 (PNADC).



O apoio do Banco via DPF:

Ante o exposto, o Governo do Estado do Ceará está pleiteando um empréstimo junto ao Banco Internacional para Reconstrução e Desenvolvimento – BIRD no valor de até 440.000.000,00€ (quatrocentos e quarenta milhões), na modalidade DPF – Financiamento de Políticas Públicas. Através do DPF, o Banco Mundial apoiará o Estado na implementação de políticas que contribuem para aumentar a sustentabilidade fiscal do Estado – para melhorar o perfil de seu endividamento, trocando algumas dívidas mais caras e curtas por outra de mesmo valor, mas mais barata e longa – e para dar continuidade aos seus esforços de promoção do desenvolvimento sustentável, por meio de melhores práticas de gestão pública. Além da economia vinda da redução do custo de endividamento, o novo endividamento permitirá suavizar os pagamentos de dívida ao longo do tempo, facilitando o trabalho de programação financeira, além de realizar novos investimentos e políticas sociais em atendimento à população cearense.

Este DPF se relaciona com o Plano de Desenvolvimento de longo prazo "Ceará 2050" e com a área de planejamento e modernização da gestão do PPA, na medida em que apoia as iniciativas da gestão pública para maior eficiência na gestão dos recursos públicos, resultando em maior poupança para o Governo, menor evasão fiscal, menor desperdício de recursos e fraudes e melhor prestação de serviços públicos, além de reforçar a disciplina fiscal. A implementação de uma nova estrutura de Gestão de Investimentos Públicos (PIM) é uma maneira eficaz de melhorar a governança de projetos de infraestrutura no nível estadual, considerando também soluções climáticas inteligentes no ciclo do projeto para garantir que os projetos de infraestrutura sejam sustentáveis e resilientes. O novo quadro legal para fortalecer a gestão do patrimônio imobiliário do Estado fornece orientações claras sobre a aquisição, gestão e alienação de bens imobiliários, bem como estabelece mecanismos de acompanhamento e avaliação regulares das carteiras imobiliárias. A implementação de um Sistema de Controle Interno do Poder Executivo de acordo com o modelo de 3 linhas (Lei Complementar nº309, de 10.07.23) fortalecerá a transparência e a prestação de contas do Governo.

Ainda, este DPF também se alinha aos objetivos estratégicos do Plano Ceará 2050 e com o PPA ao apoiar reformas para impulsionar a transição para uma matriz energética mais limpa no Ceará e com foco no desenvolvimento sustentável e do capital humano cearense. Propõe-se alcançar esses objetivos por meio de: (i) a promoção do plano estadual de transição energética justa, que incorpora a proibição de novas etapas produtivas que usem carvão mineral no Complexo Industrial do Porto de Pecém (CIPP), além do desenvolvimento de um balanço energético e inventário de emissões de gases de estufa no CIPP com fins de facilitar o Estado a lograr os seus objetivos de descarbonização; (ii) estabelecimento do Programa Renda do Sol (Lei Complementar nº314, De 07.09.23), o qual utilizará, entre outras fontes, as economias geradas por investimentos em energia renovável e eficiência energética nos prédios públicos estaduais para apoiar a geração de renda às famílias cearenses e seus trabalhadores da agricultura familiar, com impacto na redução da pobreza, no estímulo à utilização de energia renovável na produção do campo e no desenvolvimento social



sustentável, além de viabilizar a integração entre energia produzida pelas usinas fotovoltaicas do Programa e a demanda energética para a produção de hidrogênio verde; (iii) a concessão de licenciamento ambiental para projetos de produção de Hidrogênio Verde, tornando o Estado do Ceará o pioneiro nesta fonte de energia e referência aos demais estados brasileiros; (iv) adoção de educação profissional e treinamentos com foco em energia limpa; e (v) implementação da educação em tempo integral nas escolas estaduais.

É nesse conjunto de medidas que se situa a operação de crédito de políticas de desenvolvimento pleiteada junto ao Banco Mundial, com o objetivo de redefinir o perfil do endividamento do Estado, permitindo reduzir os pagamentos de serviço de dívida no curto prazo. Essa redução abrirá espaço fiscal para financiar a transição energética, a melhoria da governança e a oferta de serviços públicos para a população carente do Estado, especialmente, na área de educação.

Contamos com essa operação, que contribuirá para a manutenção de uma trajetória de equilíbrio das contas públicas estaduais sem perder o foco no investimento público e na promoção de um desenvolvimento sustentável.

Atenciosamente,

Elmano de Freitas da Costa
GOVERNADOR DO ESTADO DO CEARÁ



[Unofficial translation]

LETTER OF DEVELOPMENT POLICY

CG Letter No. 201/2023

Fortaleza, October 11th, 2023.

Dear Mr.

Johannes Zutt

Director – Brazil

Latin America and the Caribbean Region

The World Bank

Subject: Credit Operation Contracting

Development Policy Financing (DPF)

Mr. Director,

This document comprises a set of policy measures to improve efficiency in the management of public resources and promote sustainable development through clean energy and skills development. It aims to integrate public policies for socioeconomic development and environmental sustainability, improve the quality of life of the citizens of Ceará and reduce regional inequalities within the State.

The Government of Ceará understands that the technical and financial support of the International Bank for Reconstruction and Development – IBRD, through Development Policy Financing (DPF) instrument, will be key to the success of the Economic and Fiscal Sustainability Program of the State of Ceará (*Ceará Sustentável*). It is important to point out that this program seeks to increase the State's saving capacity and investments with its own resources, in the medium term. Thereupon, the State of Ceará will have significant gains in the implementation of this Program, that involves three pillars: fiscal, environmental, and socio-educational, which will boost its sustainable development and the maintenance of the balance of its public accounts.

Overview of State's public finances:

The State of Ceará has maintained a sustainable fiscal path, generating savings and raising funds to support investment. On the revenue side, the growth in State collection is due to the implementation of measures that make the collection of State taxes within its competence more effective. Continued revenue growth has been an important reason for maintaining the State's fiscal sustainability.

The Government of Ceará has shown a strong commitment to sound fiscal management in recent years, which reflects greater control of expenditure growth compared to revenue growth. On the expenditure side, expenditures have been under control without reducing public services supply or jeopardizing their quality. Previous rapid growth in personnel spending led Ceará to pass a State spending cap rule in 2016, a pension reform in 2019, and to freeze civil servant salaries in 2020 and 2021 to improve its public accounts, in anticipation of future pressures and fiscal problems that could arise from the lack of fiscal control. As a result of these reforms, total expenses grew only 1.23 percent per year between 2014 and 2022, in real terms, well below the real growth of Net Current Revenue (NCR) in the same period (3.57 percent in the period), despite the 2015/2016 recession and the plummeting in Ceará's GDP in 2020 due to the pandemic.



Ceará's strong fiscal position culminated in recurring primary surpluses over the last ten years and in the maintenance of its debt-paying capacity index (CAPAG) at B from 2018 to 2022. Personnel expenses represented only 42.83 percent of Adjusted NCR in 2022, remaining below the alert limit established by the Fiscal Responsibility Law – LRF – (44.1 percent). In turn, this strict control of the main categories of current expenditures allowed Ceará to increase investments by 4.67 percent per year, in real terms, between 2016 (the year of implementation of the expenditure rule) and 2022. Therefore, the State has been capable of expanding its public investments, which are financed both with its own resources and with new credit operations, without losing control of the public debt.

Although Ceará's public debt stock is under control, its profile requires careful monitoring. Fiscal measures adopted since 2016 have allowed Ceará to reduce its net debt from 43.6 percent of net current revenue in 2015 to 33.63 percent in 2022. However, its debt profile presents challenges, as debt service (7,91 percent of NCR) and the share of debt in foreign currency (53.6 percent of total debt) is high. Nevertheless, solid fiscal balances have allowed the State to navigate periods of currency stress and heightened borrowing needs without delaying expenditure payments or generating arrears.

Even in the face of a relatively beneficial fiscal scenario and having implemented important reforms to ensure the sustainability of its public finances, the State of Ceará still faces several development challenges. According to the Continuous Annual National Household Survey – “*PNAD Contínua*” – by IBGE, income inequality grew continuously in Ceará between 2014 and 2019. Inequality growth peaked in 2016 when it increased by 2.9 percent. In the same year, inequality also increased by 2.5 percent in Brazil and 2.0 percent in the Northeast. Overall inequality increased by 7.7 percent in Ceará between 2014 and 2019, while increasing 3.4 percent in Brazil and 5.2 percent in the Northeast. In 2020, inequality sharply declined during the Covid-19 pandemic. However, while the Gini Index of income distribution plummeted 6.0 percent in the Northeast, it fell only 3.7 percent in Brazil and 3.2 percent in Ceará. Finally, in 2021, the Gini index showed a strong increase in all geographic dimensions of comparison. For Brazil and the Northeast region, Gini levels were very similar to those observed in 2019. In turn, Ceará's Gini index (0.549) reflected lower income inequality than in 2019 level, but still higher than the index in 2014⁶².

Besides poverty, there are other significant inequalities affecting the State's population. Between 2014 and 2019, the literacy rate of children aged 6 to 9 years grew from 76.6 percent to 79.1 percent in the State, this performance being slightly below the national growth rate, which jumped from 77.3 percent to 79.8 percent but higher than the rate for the Northeast, which increased from 68.6 percent to 73.7 percent. However, the effects caused by the pandemic on the literacy process of children aged 6 to 9 years old are still worrying. In 2021, the literacy rate among this group was 71 percent in Brazil, 69 percent in Ceará and 64.2 percent in the Northeast. Conversely, 29 percent, 35.8 percent and 31 percent of children in this age group in Brazil, Northeast and Ceará, respectively, were not able to read and write, according to their guardians. In absolute terms, it is estimated that more than 636 thousand children aged 6 to 9 years were illiterate in the State of Ceará in 2021⁶³.

Bank support via DPF:

In view of the above, the Government of the State of Ceará is requesting a loan from the International Bank for Reconstruction and Development - IBRD in the amount of up to €440,000,000.00 (four hundred and forty million), in the DPF modality - Development Policy Financing. Through the DPF, the World Bank will support the State in implementing policies that contribute to increasing the State's fiscal sustainability – improving its debt profile, exchanging shorter and more expensive debts for cheaper and longer equivalent debts. – and to continue its efforts to promote sustainable

⁶² Evidências Socioeconômicas Recentes no Ceará: Choque Adversos, Avanços e Desafios. Barreto, Flávio Ataliba Flexa Daltro (org.). Instituto de Pesquisa e Estratégia Econômica do Estado do Ceará – IPECE, Ceará, 2022. p.267 Disponível em https://www.ipece.ce.gov.br/wp-content/uploads/sites/45/2022/12/EVIDENCIAS_SOCIOECONOMICAS_RECENTES_NO_CEARA.pdf p.315

⁶³ Evidências Socioeconômicas Recentes no Ceará: Choque Adversos, Avanços e Desafios. Barreto, Flávio Ataliba Flexa Daltro (org.). Instituto de Pesquisa e Estratégia Econômica do Estado do Ceará – IPECE, Ceará, 2022. p.267 Disponível em https://www.ipece.ce.gov.br/wp-content/uploads/sites/45/2022/12/EVIDENCIAS_SOCIOECONOMICAS_RECENTES_NO_CEARA.pdf p.267



development through better public management practices. In addition to the savings resulting from the reduction in the cost of debt, the new debt will make it possible to smooth debt payments over time, facilitating financial programming, and to make new investments and social policies to serve the population of Ceará.

This DPF is related to the long-term Development Plan “Ceará 2050” and to the area of planning and modernization of PPA management, insofar as it supports public management initiatives for greater efficiency in the management of public resources, resulting in greater savings for the Government, less tax evasion, less waste of resources and fraud and better delivery of public services, in addition to strengthening fiscal discipline. Implementing a new Public Investment Management (PIM) framework is an effective way to improve governance of infrastructure projects at the State level, while also considering climate-smart solutions in the project cycle to ensure infrastructure projects are sustainable and resilient. The new legal framework designed to strengthen the management of the State's real estate assets provides clear guidelines on the acquisition, management and selling of real estate, as well as establishing mechanisms for regular monitoring and evaluation of real estate portfolios. The implementation of an Internal Control System of the Executive Branch according to the 3-line model (Complementary Law No. 309, of July 10th, 2023) will strengthen the Government's transparency and accountability.

Furthermore, this DPF also aligns with the strategic objectives of the Ceará 2050 Plan and with the PPA by supporting reforms to boost the transition to a cleaner energy matrix in Ceará and focusing on sustainable development and human capital in Ceará. It is proposed to achieve these objectives through: (i) the promotion of the State plan for fair energy transition, which incorporates the prohibition of new production stages that use mineral coal in the Industrial Complex of the Port of Pecém (CIPP), in addition to the development of an energy balance and inventory of greenhouse gas emissions in the CIPP in order to facilitate the State in achieving its decarbonization objectives; (ii) establishment of the Renda do Sol Program (Complementary Law No. 314, of July 9, 2023), which will use, among other sources, the savings generated by investments in renewable energy and energy efficiency in State public buildings to support the generation of income for Ceará families and their family farming workers, with an impact on reducing poverty, encouraging the use of renewable energy in rural production and sustainable social development, in addition to enabling the integration of energy produced by the Program's photovoltaic plants and the energy demand for the production of green hydrogen; (iii) the granting of environmental licensing for green hydrogen production projects, making the State of Ceará the pioneer in this energy source and a reference for other Brazilian States; (iv) adoption of professional education and training focused on clean energy; and (v) implementation of full-time education in State schools.

The development policy credit operation sought from the World Bank is an integral part of this set of measures, which aims to redefine the profile of the State's indebtedness, allowing for the curtailment of debt service payments in the short term. This reduction will open fiscal space to finance the energy transition, the improvement of governance and the provision of public services for the most disadvantaged population of the State, especially in education.

I believe this operation will contribute to maintaining a balanced trajectory of the State public accounts without losing focus on public investment and the promotion of sustainable development.

Yours sincerely,

Elmano de Freitas da Costa

Governor of the State of Ceará



ANNEX 4: ENVIRONMENT AND POVERTY/SOCIAL ANALYSIS TABLE

Prior Actions	Significant positive or negative environment effects	Significant poverty, social or distributional effects positive or negative
Pillar 1: Improving public financial management		
PA#1: Public Investment Management (PIM) framework	Positive - It will bring positive environmental impacts as it will enable the adoption of effective climate adaptation and mitigation measures	Potentially positive equity impact through increased investments in public service provision and improved social accountability through public disclosure of assessments of socioeconomic outcomes of investments.
PA#2: Strengthen the management of the State’s real estate assets	Positive - will introduce a set of procedures for carrying out a more rigorous inventory of public assets, including georeferencing, assessment of degree of occupancy and assessment of environmental and climate risks	Potentially positive equity impact through increased investments in public service provision and poverty reduction resulting from donations of real estate assets and land regularization projects.
PA#3: Internal Control System of the Executive Branch	No	No expected negative poverty impact.
Pillar 2: Strengthening the enabling environment to scale-up clean energy production		
PA#4: Industrial Complex of Pecém (CIPP)	Positive - Limiting further expansion of the use of coal in CIPP will result in the stagnation of GHG emissions. Preparing CIPP's energy balance and emissions inventory creates baselines and increases local scientific knowledge.	Potentially positive and indirect impact on poverty. Impacts could come from the creation of jobs from the investments in the innovation hub.
PA#5: <i>Renda do Sol</i> program	Negative and Positive - environmental impacts common to small works are expected and may be considered of low magnitude, punctual and temporary. On the other hand, the environmental impacts arising from the transition of the energy system are substantial and lasting impact, such as the reduction of greenhouse gas (GHG) emissions	Households benefiting from the <i>Renda do Sol</i> Program will have significant savings on energy expenses. A key element to maximize impact of new source of income will be the provision of financial education to program’s recipients.



<p>PA#6: Environmental licensing for green hydrogen production projects</p>	<p>Negative and positive. Potential negative impacts to be considered with the expansion of green hydrogen include water usage and treatment of brine, particularly as the region of Ceará is prone to desertification, and risks related to safety in the storage and handling of green hydrogen and its derivatives, including ammonia. On the other hand, the environmental impacts arising from the transition of the energy system are anticipated to be substantial, such as the reduction of greenhouse gas (GHG) emissions.</p>	<p>Potential positive impacts in the medium term as it is expected to minimize and mitigate the adverse impacts on the fragile coastal ecosystems and the livelihood and distinct sociocultural organization of traditional communities (particularly the artisanal fishery communities) distributed across the State's coastline of the early State policy that simplified the environmental licensing process for energy projects considered small potential environmental impact (including wind power plants and other renewable matrix developments).</p>
<p>PA#7: Vocational Education and Training (TVET) to support inclusive and sustainable employment</p>	<p>No</p>	<p>Potential positive poverty impacts in the medium- or long-term as beneficiaries accumulate human capital. Ensuring low-income (or most vulnerable) individuals are benefitting from the new offer will require interventions to maximize take-up and support insertion into the labor market (especially women and the youth).</p>
<p>PA#8: Full-time education in State schools of Ceará</p>	<p>Negative - low-magnitude environmental impacts are expected, common to the construction, renovation and rehabilitation of school infrastructure.</p>	<p>Potential positive poverty impacts in the medium- or long-term as beneficiaries accumulate human capital. Ensuring low-income (or most vulnerable) individuals are benefitting from the new offer will require interventions to maximize take-up and support insertion into the labor market (especially women and the youth).</p>



ANNEX 5: PARIS ALIGNMENT ASSESSMENT TABLE

Program Development Objective(s): To support reforms of the State of Ceará to: (i) improve public financial management; and (ii) strengthen the enabling environment to scale-up clean energy production.	
Step 1: Taking into account our climate analysis (e.g., Country Climate and Development Reports or CCDRs), is the operation consistent with the country climate commitments, including for instance, the NDC, NAP, LTS, and other relevant strategies?	Answer: Yes Explanation: The operation is directly aligned with Brazil’s Update of the First Nationally Determined Contribution (NDC) submission (December 2020) and the climate action policy documents published by the GoC, such as the <i>Ceará Verde Plan</i> (Green Ceará Plan).
Mitigation goals: assessing and reducing the risks	
Prior Action 1. To improve the governance of its public investment projects, the Borrower adopted a new framework for public investment management that (i) redefines the roles and responsibilities of the agencies in charge of the project cycle, (ii) provides for the improved management of capital expenditures by mandating project risk assessment and prioritization based on a cost-benefit analysis, as well as a robust capital and operating costs estimation, and (iii) integrates climate change considerations through the fast-track of emergency projects.	
Pillar Objective: Improving public financial management.	
Step M2.1: Is the prior action likely to cause a significant increase in GHG emissions?	Answer: No. Explanation: This prior action is not likely to cause a significant increase in GHG emissions. The policy also promotes the reduction of GHG emissions by incorporating climate-smart parameters in the investment project cycle. This includes conclusive assessments of climate, economic, and environmental risks to ensure that only environmentally sustainable and economically viable projects are selected for implementation.
Step M2.2: Is the prior action likely to introduce or reinforce significant and persistent barriers to transition to the country’s low-GHG emissions development pathways?	Answer: NA
Step M3: Is the risk of the prior action introducing or reinforcing significant and persistent barriers being reduced to low after mitigation measures have been implemented?	Answer: NA
Conclusion for PA 1: The measure supported by the prior action is not likely to have any direct mitigation or emissions generating impact, consequently, it can be considered aligned on mitigation.	
Prior Action 2. To improve the management of its real estate assets, the Borrower adopted a new framework for public real estate asset management that (i) provides for a comprehensive inventory of public properties within its territory, (ii) establishes procedures for public real estate asset valuation to maximize returns on sales, and (iii) allows for the consolidation of the ownership and management of its public real estate under a single agency (CearáPar).	
Pillar Objective: Improving public financial management.	
Step M2.1: Is the prior action likely to cause a significant increase in GHG emissions?	Answer: No. Explanation: This prior action is not likely to cause a significant increase in GHG emissions. It introduces provisions to incentivize the use of Ceará real estate properties by third parties for the purpose of fostering the production of renewable energies that can support reduction in GHG emissions. Moreover, it enables



	CONAG to issue future guidelines for the implementation of climate risk assessments, as part of the asset inventory and regularization assessment of public buildings to be performed.
Step M2.2: Is the prior action likely to introduce or reinforce significant and persistent barriers to transition to the country’s low-GHG emissions development pathways?	Answer: NA
Step M3: Is the risk of the prior action introducing or reinforcing significant and persistent barriers being reduced to low after mitigation measures have been implemented?	Answer: NA
Conclusion for PA 2: The measure supported by the prior action is not likely to have any direct mitigation or emissions generating impact, consequently, it can be considered aligned on mitigation.	
Prior Action 3. To improve its fiscal accountability and increase the transparency, effectiveness, and efficiency of its policies and programs, the Borrower adopted the 3-Lines of Defense Model developed by the Institute of Internal Audit (IIA) as a means to strengthen the internal control system of its government.	
Pillar Objective: Improving public financial management.	
Step M2.1: Is the prior action likely to cause a significant increase in GHG emissions?	Answer No. Explanation: This prior action strengthens the State’s internal audit system through the implementation of the 3-Lines of Defense Model developed by the Global Institute of Internal Auditors (IIA). It is not likely to cause a significant increase in GHG emissions.
Step M2.2: Is the prior action likely to introduce or reinforce significant and persistent barriers to transition to the country’s low-GHG emissions development pathways?	Answer NA
Step M3: Is the risk of the prior action introducing or reinforcing significant and persistent barriers being reduced to low after mitigation measures have been implemented?	Answer NA
Conclusion for PA 3: The measure supported by the prior action is not likely to have any direct mitigation or emissions generating impacts, consequently, it can be considered aligned on mitigation.	
Prior Action 4. To limit further greenhouse gas emissions, the Borrower (i) prohibited new ventures in the CIPP that involve the burning of coal in any step of their production process, and (ii) committed to develop an emissions inventory regarding socioeconomic activities developed in its territory, which shall comprise the CIPP’s energy balance, within 24 months from June 15, 2023.	
Pillar Objective: Strengthening the enabling environment to scale up clean energy production.	
Step M2.1: Is the prior action likely to cause a significant increase in GHG emissions?	Answer No. Explanation: This prior action intends to reduce GHG emissions through the prevention of an expansion of an increase in installed coal-based electricity and industrial production.
Step M2.2: Is the prior action likely to introduce or reinforce significant and persistent barriers to transition to the country’s low-GHG emissions development pathways?	Answer NA
Step M3: Is the risk of the prior action introducing or reinforcing significant and persistent barriers	Answer NA



being reduced to low after mitigation measures have been implemented?	
Conclusion for PA 4: The measures supported by the prior action are intended to reduce GHG emissions, consequently, it can be considered aligned on mitigation.	
Prior Action 5. To stimulate the expansion of distributed solar generation within its territory, in particular within low income and vulnerable communities, the Borrower approved the “Renda do Sol” program, which establishes the institutional arrangements and mechanisms by which (i) funding sources will be secured to provide financial support for the roll-out of distributed solar generation to the target beneficiaries, and (ii) local capacity will be created for systems operation and maintenance.	
Pillar Objective: Strengthening the enabling environment to scale up clean energy production.	
Step M2.1: Is the prior action likely to cause a significant increase in GHG emissions?	Answer No. Explanation: This prior action intends to support GHG emission reductions through the adoption renewable energy (with negligible lifecycle GHG emissions) to displace grid supplied electricity ⁶⁴ .
Step M2.2: Is the prior action likely to introduce or reinforce significant and persistent barriers to transition to the country’s low-GHG emissions development pathways?	Answer NA
Step M3: Is the risk of the prior action introducing or reinforcing significant and persistent barriers being reduced to low after mitigation measures have been implemented?	Answer NA
Conclusion for PA 5: The measures supported by the prior action are intended to reduce GHG emissions, consequently, it can be considered aligned on mitigation.	
Prior Action 6. To promote investment in green hydrogen within its territory, the Borrower set up a process of environmental licensing for green hydrogen production projects, which provides for (i) the procedures, criteria and parameters applicable to the environmental licensing and authorization for the production of green hydrogen, and (ii) enhanced protections for vulnerable communities during the licensing process.	
Pillar Objective: Strengthening the enabling environment to scale up clean energy production.	
Step M2.1: Is the prior action likely to cause a significant increase in GHG emissions?	Answer No. Explanation: This prior action is intended to support a reduction of GHG emissions by supporting the development of green hydrogen, which can support decarbonization of hard-to-abate sectors, both within Brazil and globally.
Step M2.2: Is the prior action likely to introduce or reinforce significant and persistent barriers to transition to the country’s low-GHG emissions development pathways?	Answer NA
Step M3: Is the risk of the prior action introducing or reinforcing significant and persistent barriers	Answer NA

⁶⁴ Grid electricity is supplied by the Brazilian Interconnected System (SIN), a relatively clean grid, with renewables accounting for over 80 percent of installed capacity, compared to a world average of approximately 27 percent (*Plano Decenal de Expansão de Energia 2031* and IEA, World energy matrix 2019). However, recent policies and legislation have set the country on track to increase emissions from the power sector (Brazil - Country Climate and Development Report (English). Washington, D.C.: World Bank Group.).



being reduced to low after mitigation measures have been implemented?	
Conclusion for PA 6: The measures supported by the prior action are intended to reduce GHG emissions, consequently, it can be considered aligned on mitigation.	
Prior Action 7. To promote the development of skills linked to the low-carbon economy, the Borrower mandated the adoption of technical and vocational education and training curricula in secondary (<i>Ensino Médio</i>) and professional (<i>Ensino Profissional</i>) schools focusing on clean energy that supports inclusive and sustainable job creation.	
Pillar Objective: Strengthening the enabling environment to scale up clean energy production.	
Step M2.1: Is the prior action likely to cause a significant increase in GHG emissions?	Answer No. Explanation: This prior action aims to support a lower carbon transition through TVET on clean energy and is not likely to cause a significant increase in GHG emissions.
Step M2.2: Is the prior action likely to introduce or reinforce significant and persistent barriers to transition to the country's low-GHG emissions development pathways?	Answer NA
Step M3: Is the risk of the prior action introducing or reinforcing significant and persistent barriers being reduced to low after mitigation measures have been implemented?	Answer NA
Conclusion for PA 7: The measure supported by the prior action is not likely to have any direct mitigation or emissions generating impacts, consequently, it can be considered aligned on mitigation.	
Prior Action 8. To support learning recovery following the COVID-19 pandemic, the Borrower approved a plan to expand secondary (<i>Ensino Médio</i>) and professional (<i>Ensino Profissional</i>) full-time education in public schools within its territory.	
Pillar Objective: Strengthening the enabling environment to scale up clean energy production.	
Step M2.1: Is the prior action likely to cause a significant increase in GHG emissions?	Answer Yes. Explanation: This PA8 promotes the expansion and improvement of about 400 schools' infrastructure, which may lead to an increase in GHG emissions.
Step M2.2: Is the prior action likely to introduce or reinforce significant and persistent barriers to transition to the country's low-GHG emissions development pathways?	Answer No. Explanation: Infrastructure to be built and/or rehabilitated will promote energy efficiency and renewable energy, follow green building codes, enhance waste management, and be compliant with the PIM (PA1) and the new framework for public real estate asset management (PA2) which include provisions for climate change mitigation.
Step M3: Is the risk of the prior action introducing or reinforcing significant and persistent barriers being reduced to low after mitigation measures have been implemented?	Answer NA
Conclusion for PA 8: Considering the mitigation risks measures, the measure supported by the prior action is not likely to have any direct mitigation or emissions generating impacts, consequently, it can be considered aligned on mitigation.	
Mitigation goals: All prior actions are aligned on mitigation.	
Adaptation and resilience goals: assessing and managing the risks	
Prior Action 1. To improve the governance of its public investment projects, the Borrower adopted a new framework for public investment management that (i) redefines the roles and responsibilities of the agencies in charge of the project cycle, (ii) provides for the improved management of capital expenditures by mandating project risk assessment and	



<p>prioritization based on a cost-benefit analysis, as well as a robust capital and operating costs estimation, and (iii) integrates climate change considerations through the fast-track of emergency projects.</p>	
<p>Pillar Objective: Improving public financial management.</p>	
<p>Step A2: Are risks from climate hazards likely to have an adverse effect on the prior action's contribution to the Development Objective(s)?</p>	<p>Answer No. Explanation: This prior action's development impact is not expected to be threatened by climate risks. The State's new public investment system mandates thorough risk assessments and integrates risk reduction strategies, including those addressing climate change, into all projects. It includes specific provisions for key sectors like energy, water, sanitation, and transport. By rigorously evaluating projects in these sectors, the system will help provide another layer to screen the associated climate risks within the investment portfolio.</p>
<p>Step A3: Does the design of the prior action reduce the risk from climate hazards to an acceptable level, considering climate adaptation good practices applicable to the country context?</p>	<p>Answer NA</p>
<p>Conclusion for Prior Action 1. This prior action's development impact is not expected to be threatened by climate risks. The adaptation risks are low.</p>	
<p>Prior Action 2. To improve the management of its real estate assets, the Borrower adopted a new framework for public real estate asset management that (i) provides for a comprehensive inventory of public properties within its territory, (ii) establishes procedures for public real estate asset valuation to maximize returns on sales, and (iii) allows for the consolidation of the ownership and management of its public real estate under a single agency (CearáPar).</p>	
<p>Pillar Objective: Improving public financial management.</p>	
<p>Step A2: Are risks from climate hazards likely to have an adverse effect on the prior action's contribution to the Development Objective(s)?</p>	<p>Answer No. Explanation: This prior action's development impact is not expected to be threatened by climate risks. The new policy provides the basis for Ceará to issue additional guidelines regarding governance policies and socio-environmental measures to be used during the process of updating the inventory and regularization.</p>
<p>Step A3: Does the design of the prior action reduce the risk from climate hazards to an acceptable level, considering climate adaptation good practices applicable to the country context?</p>	<p>Answer NA</p>
<p>Conclusion for Prior Action 2. This prior action's development impact is not expected to be threatened by climate risks. The adaptation risks are low.</p>	
<p>Prior Action 3. To improve its fiscal accountability and increase the transparency, effectiveness, and efficiency of its policies and programs, the Borrower adopted the 3-Lines of Defense Model developed by the Institute of Internal Audit (IIA) as a means to strengthen the internal control system of its government.</p>	
<p>Pillar Objective: Improving public financial management.</p>	
<p>Step A2: Are risks from climate hazards likely to have an adverse effect on the prior action's contribution to the Development Objective(s)?</p>	<p>Answer No. Explanation: This prior action's development impact is not expected to be threatened by climate risks. The policy reform strengthens the State's internal audit system through the implementation of the 3-Lines of Defense Model developed by the Global Institute of Internal Auditors (IIA).</p>



Step A3: Does the design of the prior action reduce the risk from climate hazards to an acceptable level, considering climate adaptation good practices applicable to the country context?	Answer NA
Conclusion for Prior Action 3. This prior action’s development impact is not expected to be threatened by climate risks. The adaptation risks are low.	
Prior Action 4. To limit further greenhouse gas emissions, the Borrower (i) prohibited new ventures in the CIPP that involve the burning of coal in any step of their production process, and (ii) committed to develop an emissions inventory regarding socioeconomic activities developed in its territory, which shall comprise the CIPP’s energy balance, within 24 months from June 15, 2023.	
Pillar Objective: Strengthening the enabling environment to scale up clean energy production.	
Step A2: Are risks from climate hazards likely to have an adverse effect on the prior action’s contribution to the Development Objective(s)?	Answer No. Explanation: Risks from climate hazards are not material to the substance of the Prior Action.
Step A3: Does the design of the prior action reduce the risk from climate hazards to an acceptable level, considering climate adaptation good practices applicable to the country context?	Answer N/A.
Conclusion for Prior Action 4. This prior action’s development impact is not expected to be threatened by climate risks. The adaptation risks are low.	
Prior Action 5. To stimulate the expansion of distributed solar generation within its territory, in particular within low income and vulnerable communities, the Borrower approved the “Renda do Sol” program, which establishes the institutional arrangements and mechanisms by which (i) funding sources will be secured to provide financial support for the roll-out of distributed solar generation to the target beneficiaries, and (ii) local capacity will be created for systems operation and maintenance.	
Pillar Objective: Strengthening the enabling environment to scale up clean energy production.	
Step A2: Are risks from climate hazards likely to have an adverse effect on the prior action’s contribution to the Development Objective(s)?	Answer Yes. Explanation: Ceará has high vulnerability to flooding and moderate vulnerability to extreme heat ⁶⁵ , both of which have the potential to impact the performance and durability of solar PV systems.
Step A3: Does the design of the prior action reduce the risk from climate hazards to an acceptable level, considering climate adaptation good practices applicable to the country context?	Answer Yes. Explanation: Solar PV systems will be designed to consider resilience measures necessary to mitigate against climate-related risks in Ceará.
Conclusion for Prior Action 5 This prior action’s development impact is not expected to be threatened by climate risks. The adaptation risks are low.	
Prior Action 6. To promote investment in green hydrogen within its territory, the Borrower set up a process of environmental licensing for green hydrogen production projects, which provides for (i) the procedures, criteria and parameters applicable to the environmental licensing and authorization for the production of green hydrogen, and (ii) enhanced protections for vulnerable communities during the licensing process.	
Pillar Objective: Strengthening the enabling environment to scale up clean energy production.	

⁶⁵ According to the ThinkHazard climate tool designed by the World Bank’s GFDRR, available at: <https://thinkhazard.org/en/report/670-brazil-ceara>.



Step A2: Are risks from climate hazards likely to have an adverse effect on the prior action’s contribution to the Development Objective(s)?	Answer No. Explanation: The Green Hydrogen Hub, located in the city of São Goncalo Do Amarante, is not expected to face significant climate risks that would impact green hydrogen development ⁶⁶ . Thus, this prior action’s development impact is not expected to be threatened by climate risks.
Step A3: Does the design of the prior action reduce the risk from climate hazards to an acceptable level, considering climate adaptation good practices applicable to the country context?	Answer NA
Conclusion for Prior Action 6 This prior action’s development impact is not expected to be threatened by climate risks. The adaptation risks are low.	
Prior Action 7. To promote the development of skills linked to the low-carbon economy, the Borrower mandated the adoption of technical and vocational education and training curricula in secondary (<i>Ensino Médio</i>) and professional (<i>Ensino Profissional</i>) schools focusing on clean energy that supports inclusive and sustainable job creation.	
Pillar Objective: Strengthening the enabling environment to scale up clean energy production.	
Step A2: Are risks from climate hazards likely to have an adverse effect on the prior action’s contribution to the Development Objective(s)?	Answer No. Explanation: This prior action’s development impact is not expected to be threatened by climate risks. Indeed, it is likely to contribute to the adaptation of climate change by developing high-skilled local labor and increase the awareness of the importance of clean energy through teachers training and pedagogical materials to support the clean energy transition.
Step A3: Does the design of the prior action reduce the risk from climate hazards to an acceptable level, considering climate adaptation good practices applicable to the country context?	Answer NA
Conclusion for Prior Action 7. This prior action’s development impact is not expected to be threatened by climate risks. The adaptation risks are low.	
Prior Action 8. To support learning recovery following the COVID-19 pandemic, the Borrower approved a plan to expand secondary (<i>Ensino Médio</i>) and professional (<i>Ensino Profissional</i>) full-time education in public schools within its territory.	
Pillar Objective: Strengthening the enabling environment to scale up clean energy production.	
Step A2: Are risks from climate hazards likely to have an adverse effect on the prior action’s contribution to the Development Objective(s)?	Answer Yes. Explanation: The main climate and disaster risks likely to affect the prior action are extreme heat, drought, and flooding (river and urban), in addition to landslides and wildfires.
Step A3: Does the design of the prior action reduce the risk from climate hazards to an acceptable level, considering climate adaptation good practices applicable to the country context?	Answer Yes. Explanation: Risks will be reduced to low with the adoption of mitigation measures that will include: (i) PA#1 and PA#2 incorporate climate resilience criteria that benefit the design and rehabilitation of educational infrastructure; (ii) training materials for teachers and students, integrating climate change adaptation and resilience, particularly focused on local impacts of the climate change; (iii) State’s alert systems can help the population to

⁶⁶ According to the ThinkHazard climate tool, the city of São Goncalo Do Amarante has a high risk for wildfires and a medium risk for flooding and extreme heat. Renewable energy and green hydrogen developers can take into account these risks in designing their investments. Water is necessary for the production of hydrogen, and the risk of water scarcity is considered low in the city; furthermore, a number of potential green hydrogen developers are considering investments in desalination plants. The environmental licensing process will allow developers and the State to have a clearer view of possible environmental hazards and mitigate them accordingly.



	anticipate negative climate events; and (iv) skills development in higher education teaching and skills development interventions.
Conclusion for Prior Action 8. This prior action’s development impact is not expected to be threatened by climate risks considering the risk mitigation measures in place. The adaptation risks have been reduced to low.	
Adaptation and resilience: All prior actions are aligned on adaptation and resilience. The adaptation risks are low.	
OVERALL CONCLUSION OF PARIS ALIGNMENT ASSESSEMENT: The operation is aligned with the goals of the Paris Agreement.	

ANNEX 6: ESTIMATED IMPACTS OF THE REVENUE MEASURES PROPOSED BY THE BRAZIL’S FEDERAL GOVERNMENT

Table 5: Measures announced by the Government to recover revenues, impacts estimated by the Government and impacts considered by IFI in their projections*

Policy Measure	Gov. Estimates (BRL bn)			IFI Estimates (BRL bn)**		
	2023	2024	2025	2023	2024	2025
Revenue from the transfer of PIS/PASEP ⁶⁷ resources to the Treasury	23.0	-	-	23.0	-	-
Return of PIS/COFINS ⁶⁸ on financial revenue	4.4	6.0	6.0	4.4	6.0	6.4
Return of PIS/COFINS on gasoline and alcohol, including tax on the export of crude oil	28.9	54.5	54.5	28.9	34.7	58.2
Return of PIS/COFINS on diesel, cooking gas and aviation kerosene	1.5	18.6	18.6	1.5	19.8	21.2
Collection of PIS/COFINS on ICMS credits within the scope of States and the DF	31.9	58.0	61.2	-	-	-
Collection of IRPJ and CSLL on tax benefits under ICMS	47.0	47.0	47.0	7.1	12.5	18.8
Taxation on income earned abroad	3.3	3.6	6.8	3.3	3.6	6.8
Updating the exemption range value of the monthly income tax	-3.2	-5.9	-6.3	-3.2	-5.9	-6.3
Multinationals Taxation Review regarding transfer pricing	-	70.0	70.0	-	20.0	26.2
Total	136.8	251.8	257.8	65.0	90.7	131.3
% of GDP	1.3%	2.2%	2.4%	0.6%	0.8%	1.2%

Source: IFI, Finance Minister

* (BRL billion adjusted by the change in nominal GDP)

** According to the IFI Fiscal Follow-up Report of June 2023, there are uncertainties regarding the materialization of tax collections, especially the Collection of IRPJ and CSLL on tax benefits under ICMS and transfer pricing.

⁶⁷ PIS/PASEP - Social Integration Program (*Programa de Integração Social*).

⁶⁸ COFINS – Contribution for Social Security Financing (*Contribuição para o Financiamento da Seguridade Social*)



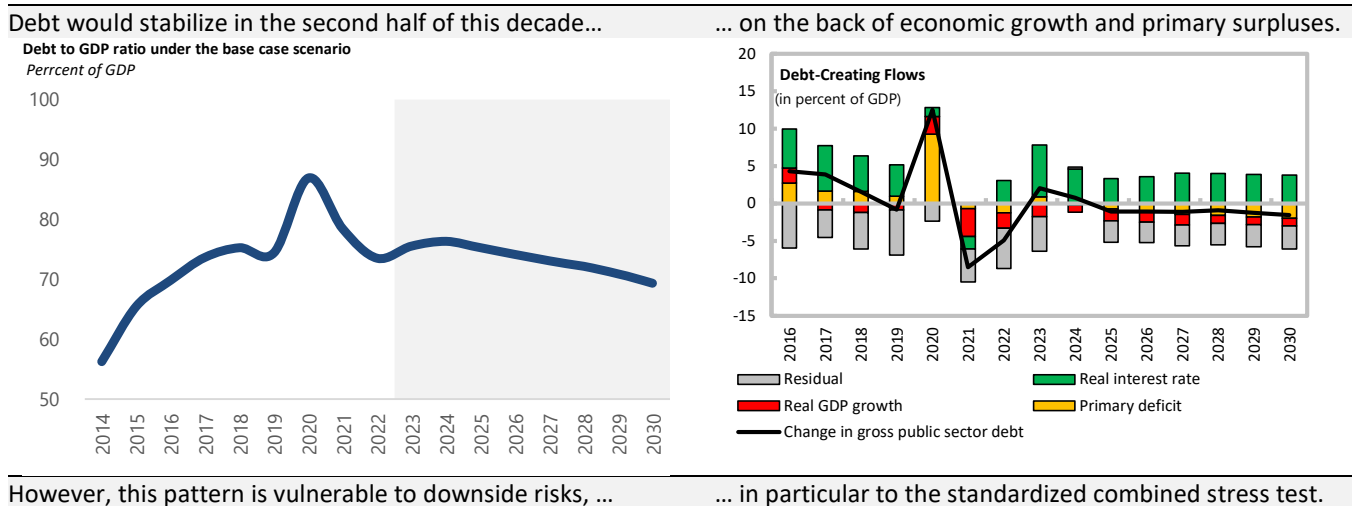
ANNEX 7: BRAZIL DEBT SUSTAINABILITY ANALYSIS

The medium-term fiscal consolidation is expected to stabilize debt slightly below 80 percent of GDP up to the end of this decade. Public debt declined from a historic peak of 87 percent of GDP in 2020 to 73 percent in 2022 due to the recovery from the pandemic-induced recession, high commodity export prices, and diminishing emergency fiscal stimulus. However, public debt is expected to increase to peak at 76.3 percent by 2024, 6.3 percentage points above the indicative threshold for emerging countries of 70 percent, due to higher social and capital expenditure commitments by the new administration and more onerous refinancing costs. After that, however, debt is expected to decline 69.4 percent in the second half of this decade due to a medium-term consolidation effort to prevent an unsustainable increase in public debt.

This fragile debt sustainability is vulnerable to most downside risks set by the standardized stress tests. A drop of 2.9 percentage points in GDP growth between 2024 and 2025, the standard deviation between 2012 and 2022, would lead to a sharp increase in public debt to slightly above 80 percent of GDP by the end of this decade, 11 percentage points higher than the baseline scenario. This scenario also assumes that every percentage point of less economic growth reduces inflation by 0.25 basis points and increased the real interest rate by 0.25 basis points. An accumulated deterioration in the primary balance of about 3.1 percentage points of GDP between 2024 and 2025 would increase debt to 73 percent by the end of the decade, 3.6 percentage points above the base case scenario. This scenario also assumes that every percentage point of GDP of less primary balance increases the interest rate by 0.25 basis points. A permanent increase in the average interest rate of 200 basis points would steadily increase public debt to 76.7 percent in 2030. Finally, if all these shocks affect the economy simultaneously, public debt would steadily increase to 103 percent of GDP by 2030, 33 percentage points higher than the baseline.

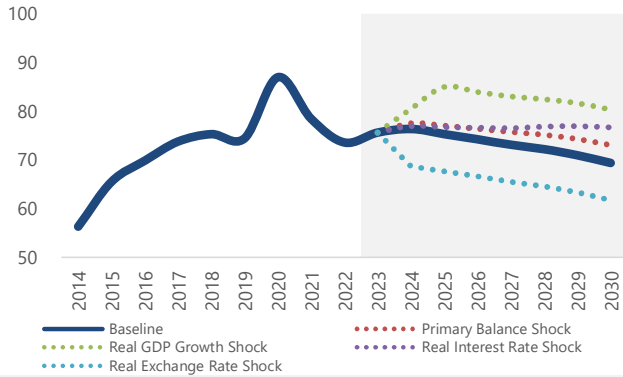
Although public debt is high and would only stabilize in the medium term, moderate country risk and low external debt would ease its management. The debt and the financing need to GDP ratios stay above their indicative thresholds for emerging countries of 70 percent and 15 percent over the projections period in the base case scenario and all standardized tests. However, the country's risk is under control, remaining at around 211 basis points in the last three months until September 2023. Additionally, while the indexation of a significant part of public debt to inflation and the monetary policy interest rate exposes it to macroeconomic volatility, public debt exposure to exchange risk is low, as external and foreign-currency-denominated debt accounts for a tiny part of total debt.

Figure 1: Public Debt Sustainability Analysis, Macro-Fiscal Stress Tests

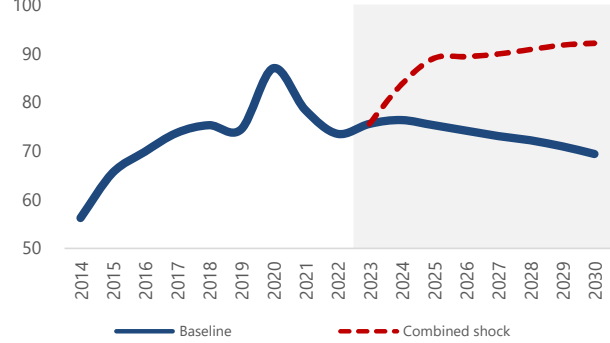




Debt to GDP ratio under the standardized stress tests
Percent of GDP



Debt to GDP ratio under the combined stress tests
Percent of GDP



However, debt management is eased by moderate low country risk and low external debt.

Public DSA Assessment: Heat Map

Debt level ^{1/}	Real GDP Growth Shock	Primary Balance Shock	Real Interest Rate Shock	Exchange Rate Shock	Contingent Liability shock
Gross financing needs ^{2/}	Real GDP Growth Shock	Primary Balance Shock	Real Interest Rate Shock	Exchange Rate Shock	Contingent Liability Shock
Debt profile ^{3/}	Market Perception	External Financing Requirements	Change in the Share of Short-Term Debt	Public Debt Held by Non-Residents	Foreign Currency Debt

Source: WB staff.



ANNEX 8: INTERGOVERNMENTAL FISCAL ARRANGEMENTS IN BRAZIL

Brazil is a highly decentralized federation, with Subnational Governments being responsible for the delivery of most public services. The Brazilian Constitution gives State and Municipal Governments substantive fiscal autonomy and large spending responsibilities. Municipalities provide primary education and health care, and States fund most secondary schools and hospitals. Public universities are mostly federal, but many States also maintain public universities of their own. States are the primary providers of policing and public security. State and Municipal Governments are also in charge of building and maintaining local and regional infrastructure and delivering social protection programs.

States and municipalities also raise significant tax revenues of their own. The Brazilian Constitution assigns taxation powers to different levels of government. Brazil's largest tax by revenue, the ICMS (*Imposto sobre Circulação de Mercadorias e Serviços*), is an indirect tax levied by States on goods and selected services (intermunicipal transport and communication). The States also tax motor vehicles (IPVA), and inheritances and donations (ITCMD). Municipalities levy a service tax (ISS) on services not covered by the ICMS, and tax urban properties (IPTU) and real estate transactions (ITBI). State and Municipal Governments have full autonomy to define their tax bases and rates. States also share 25 percent of the ICMS and 50 percent of the IPVA with Municipalities.

To provide public services, Subnational Governments receive intergovernmental transfers. Brazil's Federal Government shares its tax revenues with States and Municipalities through two general-purpose unconditional transfer funds, respectively the FPE (*Fundo de Participação dos Estados e do Distrito Federal*) and the FPM (*Fundo de Participação dos Municípios*). These are constitutionally mandated, and their allocation is based on demographic factors, with less developed States and Municipalities receiving higher per capita allocations. As a result, these funds are the predominant source of revenue for poorer States, and poor rural Municipalities. Brazil's Federal Government also provides specific transfers for education (FUNDEB) and health care (SUS), as well as capital transfers for specific programs.

Fiscal rules for Subnational Governments are enshrined in the 2000 Fiscal Responsibility Law (LRF—*Lei de Responsabilidade Fiscal*). With a view to reducing moral hazards in intergovernmental fiscal relations, the LRF explicitly prohibits debt refinancing operations between different levels of government. Complementary Senate resolutions also prohibit subnational borrowing if certain fiscal thresholds are not respected. The recent subnational fiscal crisis made it evident that the LRF and State-federal fiscal adjustment programs (PAFs) need strengthening. In response, Brazil's Federal Government approved: (i) a Fiscal Recuperation Regime for bankrupt States (LC 159/2017); and (ii) debt amortization extensions for States facing liquidity problems (LC 156/2016), conditional on fiscal adjustment measures. Following the tendency of improvement of the intergovernmental fiscal relations, Congress modified and approved fiscal rules to support fiscal adjustment at Subnational Governments (LC 178/2021). The main innovations of this law are: (i) the improvement of the FRR by changing LC 159/2017; (ii) creation of the Fiscal Equilibrium Plan (FEP), which was designed to support the adjustment of Subnational Governments with limited debt, but that were facing liquidity problems; (iii) clarified the definition of some limits of the Fiscal Responsibility Law, such as the one for personnel spending.

Subnational Governments' borrowing capacity is tightly regulated, and States and Municipalities cannot issue debt securities. Much of the stock of subnational debt is in the form of long-maturity debt with Brazil's Federal Government as part of a 1997 bailout and is governed by State-federal fiscal adjustment programs (PAFs). Since 2016, the repayment conditions for these loans have been restructured, lowering near-term payments required from States. Subnational Governments also have significant debts with public banks (BNDES, Banco do Brasil, and CEF), multilateral lenders (mostly IBRD and IADB), bilateral development partners, and, occasionally, commercial banks. Brazil's Federal Government's system for authorizing federally guaranteed subnational debts (CAPAG) was reviewed in 2017, with technical assistance from the WB, limiting federal discretion and requiring adequate fiscal space (measured by the current savings rate) from Subnational Governments to qualify for federal guarantees.



States and Municipalities cannot issue debt securities directly, they require federal guarantees. The creditworthiness scoring system (CAPAG) is conducted by the Federal Treasury (STN) for federally guaranteed subnational borrowing. The STN assesses three different indicators: (i) indebtedness; (ii) current savings; and (iii) liquidity. Depending on the combination of the evaluation of these indicators, each Subnational Government will receive a score between A and D. To have borrowing access with federal guarantees, the SNG must have a CAPAG A or B score (those are the creditworthy SNGs).



ANNEX 9: DPF PRIOR ACTIONS AND ANALYTICAL UNDERPINNINGS

Table 6: DPF Prior Actions and Analytical Underpinnings

Prior Actions	Analytical Underpinnings
Pillar 1: To improve efficiency in public resource management	
PA#1	<p>World Bank. Reference Guide for Climate-Smart Public Investment, 2022. https://elibrary.worldbank.org/doi/abs/10.1596/38390</p> <p>The report assesses the current PIM adaption and mitigation measures adopted in different degrees of maturity throughout the world, including preparation, appraisal, and project execution potential activities with CCB.</p> <p>Ministério da Economia. Estruturação de Propostas de Investimentos em Infraestrutura – Modelo de Cinco Dimensões, 2022. https://www.gov.br/produtividade-e-comercio-exterior/pt-br/choque-de-investimento-privado/modelo-de-cinco-dimensoes/guia-modelo-de-cinco-dimensoes.pdf/view</p> <p>The framework encompasses the adaptation of the UK PIM methodology to the Brazilian Federal Government, detailing the project cycle and toolkits that can be adapted to subnational entities.</p> <p>Ministério da Economia. Secretaria Especial de Produtividade e Competitividade. Secretaria de Desenvolvimento da Infraestrutura. Guia Geral de análise socioeconômica de custo-benefício de projetos de investimento em infraestrutura, 2021. https://www.gov.br/casacivil/pt-br/assuntos/governanca/comite-interministerial-de-governanca/arquivos/guia-geral-de-analise-socioeconomica-de-custo-beneficio.pdf</p> <p>The cited reports proved valuable in facilitating the intuitive and visually coherent organization of key points pertaining to climate smart PIM. It also played a pivotal role in aiding the adaptation of international best practices to the specific context of subnational governments in Brazil, considering their attributions and limited budget flexibility.</p>
PA#2	<p>IMF. Unlocking Public Wealth, 2018. https://www.imf.org/en/Publications/fandd/issues/2018/03/detterhttps://www.imf.org/en/Publications/fandd/issues/2018/03/eter</p> <p>The publication illustrates the guidance for an updated asset map, including the stages of mapping, cataloguing, and effectively registering real estate assets, as reflected in Ceará new legal framework.</p> <p>World Bank. Case Study – FONSIS: Pursuing a Tripple Bottom Line of Economic Impact, Financial Returns, and Private Capital Mobilization https://elibrary.worldbank.org/doi/10.1596/978-1-4648-1870-7_ch9https://elibrary.worldbank.org/doi/10.1596/978-1-4648-1870-7_ch9</p> <p>The case study helped the State to enhance CearaPar mandate, by describing a step-by-step process to strategically turn real estate assets into increased State’s revenue.</p> <p>World Bank. Real Estate Registration Project – Additional Financing (P169463).</p> <p>The referenced project was very significant in informing the provisions specified in the State decree. It also contributed to the validation of the outlined State’s asset management strategy, as well as its dissemination among other subnational governments.</p>
PA#3	<p>World Bank. National Internal Control Assessment based on COSO and IA-CM, 2020. https://documentsinternal.worldbank.org/search/33253600</p> <p>The report assesses the current internal control capacities and arrangements in place thought out Brazil, based on compliance with international accounting and auditing standards, to set a Baseline and identify specific action plans reforms for each of the state and municipalities participating, including potential political, social, and economic factors associated to an effective internal control system.</p>



	<p>The Institute of Internal Auditors. The IIA’s three-line model an update of the three lines of Defense. https://www.theiia.org/globalassets/documents/resources/the-iias-three-lines-model-an-update-of-the-three-lines-of-defense-july-2020/three-lines-model-updated-english.pdf and Leveraging COSO across the three lines of Defense. https://riskcue.id/uploads/ebook/20211013105542-2021-10-13ebook105459.pdf</p> <p>The references help the State to enhance their overall governance structures by providing guidance on how to articulate and assign specific roles and responsibilities regarding internal control by relating the COSO Internal Control – Integrated Framework1 to the Three Lines of Defense.</p>
Pillar 2: Strengthening the enabling environment to scale up clean energy production	
PA#4	<p>International Energy Agency. Net Zero by 2050 – A Roadmap for the Global Energy Sector. https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroby2050-ARoadmapfortheGlobalEnergySector_CORR.pdf</p> <p>This report provides analytical evidence and guidance about the urgency and challenges for decarbonizing the energy sector, including the transition from fossil fuels to renewable energy.</p> <p>Center for American progress. The Pathway to Industrial Decarbonization. https://www.americanprogress.org/article/the-pathway-to-industrial-decarbonization/</p> <p>This report serves a reference for the urgent need to develop and energy balance and GHG emissions in the CIPP in order the State of Ceará to meet its decarbonization goals.</p> <p>These reports provide analytical evidence to support a just transition away from fossil fuels towards cleaner fuels.</p> <p>Brazil CCDD: Brazil - Country Climate and Development Report (English). Washington, D.C.: World Bank Group. This report provides evidence of the unique economic benefits that Brazil can reap by decarbonizing its energy sector.</p>
PA#5	<p>World Resources Institute. How Community Solar Can Benefit Low- and Moderate-Income Customers, 2022. https://www.wri.org/insights/community-solar-low-income-customers</p> <p>Using Distributable Renewable Energy to Create a Just Energy Transition: https://www.esi-africa.com/energy-efficiency/using-distributed-renewable-energy-to-create-a-just-energy-transition/</p> <p>These two reports serve as a reference to the State in the designing of the Renda do Sol program to bring the benefits of the State’s abundant renewable energy resource to its low income and vulnerable citizens.</p> <p>How Distributed Energy Resources Can Improve Resilience in Public Buildings: https://www.energy.gov/sites/prod/files/2019/09/f66/distributed-energy-resilience-public-buildings.pdf</p> <p>This report serves as a reference to the State in the designing the DG systems on its public buildings.</p>
PA#6	<p>Enabling Framework for Renewables: https://energy.ec.europa.eu/topics/renewable-energy/enabling-framework-renewables_en</p> <p>This report demonstrates the importance of streamlined permitting in the overall enabling environment for scaling up of renewable energy.</p> <p>World Economic Forum. Speeding up renewable energy – bottlenecks and how you resolve them. https://www.weforum.org/agenda/2023/01/speeding-up-sustainable-energy-bottlenecks-and-how-you-resolve-them-davos2023/</p> <p>This paper provides lessons learned from Europe and India on effectively streamlining permitting processes for renewable energy to enable the scale-up required to meet global decarbonization objectives.</p>
PA#7	<p>World Bank. 2022. Building a Responsive and Resilient Vocational Education and Training System in Benin. Washington, DC. https://openknowledge.worldbank.org/entities/publication/b1e9fe6d-ca8f-53da-8e00-ab1b80207802 License: CC BY 3.0 IGO</p> <p>The policy note provides a broader analysis on TVET global trends, including technological advances, climate change, structural challenges, and gender inequality based on Benin TEVT system example. The policy note provides key recommendations on how to design TVET reform considering governance, financing, and quality assurance factors.</p>
PA#8	<p>Hallegette, Stephane; Rentschler, Jun; Rozenberg, Julie. 2019. Lifelines: The Resilient Infrastructure Opportunity. Sustainable Infrastructure. Washington, DC: World Bank. © World Bank. https://documents1.worldbank.org/curated/en/111181560974989791/pdf/Lifelines-The-Resilient-Infrastructure-Opportunity.pdf</p>



The report provides a broader analysis on the design and improvement of school environments to support learning recovery and acceleration and aims at increasing resilience to future crises and climate change impacts, including information on disaster risk and climate vulnerability. The report also provides recommendations on support green, climate-resilient, inclusive, and safe school interventions with the construction of energy-efficient solutions, access to water supply and waste management systems. Alfaro, P., Evans, D. & Holland, P. (2015). Extending the School Day in Latin America and the Caribbean. Policy Research Working Paper; Washington DC: World Bank. <https://elibrary.worldbank.org/doi/abs/10.1596/1813-9450-7309>

The paper reviews 15 studies measuring the effects of longer school days examines and provides one detailed case study and cost-effectiveness exercise (for Uruguay) and provides an evidence-based discussion of the implications for policy makers and practitioners considering an extension of the school day.