CIF CLIMATE INVESTMENT FUNDS

Meeting of the CTF Trust Fund Committee

Washington, D.C. (Hybrid)

Wednesday, February 26 and Thursday, February 27, 2025

DOMINICAN REPUBLIC (ACT) INVESTMENT PLAN

CLIMATE INVESTMENT FUNDS
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CTF/TFC.33/04/Rev.01
February 14, 2025

PROPOSED DECISION TEXT

The CTF Trust Fund Committee, having reviewed the document *Dominican Republic (ACT) Investment Plan (CTF/TFC.33/04/Rev.01):*

i. Thanked the Government of Dominican Republic for the work it has done in preparing the ACT Investment Plan;

ii. Endorsed the Investment Plan as a basis for the further development of the projects foreseen in the plan, and took note of the **total requested funding of USD 85 million,** consisting of USD 75.5 million of concessional finance and USD 9.5 million of grant financing **(inclusive of any MDB project preparation and supervision services -MPIS-)**, to support the following components:

1. Component I: Strengthening the institutional and regulatory framework (USD 4.275 million in grants)
2. Component II: Just and inclusive transition for impacted communities and workforce (USD 4.75 million in grants)
3. Component III: Accelerated CPP retirements, asset replacements and semi enhancements (USD 72.9 million in concessional resources)
    a. Subcomponents 3.1 & 3.2 – CPP retirements
    b. Subcomponents 3.3 – Coal transition credits
    c. Subcomponent 3.4 – Replacement projects
    d. Subcomponent 3.5 – Transmission enhancements

ii. Took note of the estimated budget of USD 3.075 million for MDB project preparation and supervision services (MPIS): USD 225,000 for Component I; USD 250,000 for Component II and USD 2.6 million for Component 3 from the concessional finance allocation.

PRESIDENCIA DE LA
REPÚBLICA DOMINICANA

Cambio Climático

CNCCMDL 0026-2025

Santo Domingo, D. N.
February 16, 2025

Mrs
Tariye Gbadegesin
Manager
Climate Investment Funds, Administrative Unit
1818 H Street NW
Washington D.C. 20433, USA

Dear mrs Gbadegesin,

As the focal point for the Dominican Republic to the Climate Investment Funds (CIF), it is a great pleasure to present the Dominican Republic's Investment Plan (IP) submission to the ACT Program.

This plan was led by the Ministry of Energy and Mines and will boost the energy transition that the ministry is implementing in a just and inclusive way.

The Government of the Dominican Republic appreciates all the support provided by the Climate Investment Funds (CIF), the Inter-American Development Bank Group, and the World Bank Group to develop this IP. We look forward to working together and successfully implementing the project's portfolio.

Yours sincerely,

PRESIDENCIA DE LA REPUBLICA DOMINICANA
CONSEJO NACIONAL PARA EL CAMBIO CLIMATICO
DESPACHO

Max Puig
Executive Vice President
Climate Change Council and Clean Development Mechanism

Climate Investment Fund

ACCELERATING COAL TRANSITION PROGRAM (CIF-ACT)

Investment Plan for the Dominican Republic

CIF CLIMATE INVESTMENT FUNDS

CLIMATE INVESTMENT FUND

ACCELERATING COAL TRANSITION PROGRAM (CIF-ACT)

Investment Plan for the Dominican Republic

TABLE OF CONTENTS

TABLE OF FIGURES

TABLE OF TABLES

ACRONYMS AND ABBREVIATIONS

ACT	Accelerating Coal Transition
AFOLU	Agriculture, Forestry and Other Land Uses
AMCHAM	American Chamber of Commerce (DR)
APS	Announced Pledges Scenario
BAU	Business As Usual
BCRD	Central Bank of the Dominican Republic
BESS	Battery Energy Storage System
CC	Combined Cycle
CCDR	Country Climate and Development Report
CDE	Dominican Electricity Corporation
CDEEE	Corporación Dominicana de Empresas Eléctricas Estatales
CDM	Clean Development Mechanism
CEPM	Consorcio Energético Punta Cana Macao S.A.
CIF	Climate Investment Fund
CNCCMDL	National Council for Climate Change and Clean Development Mechanism
CNE	National Energy Commission
COD	Commercial Operations Date
CPF	Country Partnership Framework
CPI	Consumer Price Index
CPP	Coal-fired Power Generation Plant(s)
CPPD	Country Private Sector Diagnostic
CTF	Clean Technology Fund
CUED	Unified Council of Distribution Companies
DEG	German Investment and Development Company
DPL	Development Policy Lending
DR	Dominican Republic
EA	Environmental Audit
EAMP	Environmental Adequacy and Management Program
EAP	Economically Active Population
EE	Energy Efficiency
EGE	Electricity Generating Company
EGEHID	State-owned hydropower company
END	National Development Strategy
ERPA	Emission Reductions Payment Agreement
ESMS	Environmental and Social Management Specialist
ETA	Energy Transition Accelerator
ETED	Dominican Electric Transmission Company
EV	Electric Vehicle
FDI	Foreign Direct Investment
FICDIE	Investment Fund for Energy Infrastructure Development
FMO	Dutch Entrepreneurial Development Bank
FONPER	Equity Fund
GBV	Gender-based violence
GDP	Gross domestic product
GDR	Government of the Dominican Republic
GHG	Greenhouse Gas
GIZ	German Agency for International Cooperation
GRB	Gender Responsive Budgeting
GW / GWh	Gigawatts / Gigawatt-hour
HV	High voltage
HVL	High voltage line
IAD	Dominican Agrarian Institute
IDB	Inter-American Development Bank
IEA	International Energy Agency
IFC	International Finance Corporation
II	IDB Invest
IMF	International Monetary Fund
INFOTEP	National Institute for Technical Professional Training
INGEI	Greenhouse Gas Inventory System
IP	Investment Plan
IPPU	Use of Industrial Products and Processes
IRENA	International Renewable Energy Agency
IRF	Integrated Results Framework
JICA	Japan International Cooperation Agency
LAC	Latin American and the Caribbean
LGBTQ+	Lesbian, gay, bisexual, transgender, queer and other
LGE	General Electricity Law
LTS	Long-term strategy
MAAP	Mitigation Activity Assessment Protocol
MADD	Mitigation Activity Design Document
MARENA	Ministry of Environment and Natural Resources
MEM	Ministry of Energy and Mines
MICM	Ministry of Industry, Commerce and Mipymes
MMUJER	Ministry of Women
MUSD	Millions of USD (MU$)
MVA	Mega volt-amp
MW / MWh	Megawatts / Megawatt-hour
NCRE	Non-Conventional Renewable Energies
NDC	Nationally Determined Contribution
NGCC	Natural gas combined cycle
NPC	Nature People and Climate
NREL	National Renewable Energy Laboratory (USA)
NZE	Net Zero Emissions
OC	System Coordinator
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
OLADE	Latin American Energy Organization
ONE	Office for national statistics
PEN	National Energy Plan
PLANEG	National Plan for Gender Equality and Equity
PMESD	Master Plan for the Expansion of the Distribution System
PPCA	Powering Past Coal Alliance
PPL	Programmatic Policy Loan
PROMIPYME	Small Businesses Promotion Agency
PRPMC	Loss Reduction and Business Improvement Program
PS	Private Sector
PV	Photovoltaic
RD	Dominican Republic
RE	Renewable Energy
SENI	National Interconnected Electric System
SGN	National Geological Survey
SIE	Superintendency of Electricity
SME	Small and medium enterprise
STEM	Science, technology, engineering, and/or math
STN	National Transmission System
SVC	Static VAR compensator
TA	Technical assistance
TOR	Terms of reference
TPP	Thermal power plants
TW/TWh	Terawatts / Terawatt-hour
UNDP	United Nations Development Program
UNR	Unregulated User
US or USA	United States of America
USAID	U.S. Agency for International Development
USD	Dollar of the United States of America
VAT	Value-added tax
WB	World Bank
WOLCOT	Women-Led Coal Transitions

The Projects outlined in this Investment Plan are at an early stage of conceptual development and are subject to review and confirmation by the Inter-American Development Bank (IDB), IDB Invest of the IDB Group; the World Bank (WB), the International Finance Corporation (IFC) of the World Bank Group during the preparation period. The scope and funding for each project are subject to change.

The views and visions expressed in this Investment Plan Report are those of the authors and do not necessarily reflect the views and policies of the IDB, IDB Invest, IFC and WB or their Boards of Governors, or the governments they represent. IDB, IDB Invest, IFC and WB do not guarantee the accuracy of the data included in this publication and accept no responsibility for any consequence of its use. By making any designation or reference to a particular territory or geographic area, or by the use of the term "country" in this document, the IDB, IDB Invest, IFC and WB do not intend to pass any judgment concerning the legality or any legal status of any territory or area. If any material in the Investment Plan Report is attributed to any source, please contact the copyright or publication owner of that source for any permission to reproduce it. Neither the IDB, IDB Invest, IFC or WB may be sued for any claims arising as a result of the use of this material.

Monetary Equivalences
(Exchange Rate effective as of September 1, 2024)
Monetary Unit = Dominican Peso RD$.1 = RD$58.94
0.0017 RD$ = $1

EXECUTIVE SUMMARY OF THE PROPOSAL

This document presents the CIF/ACT Investment Plan (ACT-DR-IP) for the Dominican Republic, with the aim to *"accelerate the transition from coal-powered to clean energy while ensuring a holistic, integrated, socially inclusive and gender-equal just transition."*

The Dominican National Interconnected Electricity System (SENI, in Spanish) had 5 GW of installed capacity in 2023 and recorded a record year of 24 TWh consumption per annum, 15% from renewable sources.

The current plan aims to accelerate the retirement and replacement or reconversion of the coal-fired power plants (CPP) Itabo 1 (128 MW, 0.96 TWh in 2023), Itabo 2 (130 MW, 0.88 TWh in 2023) and Barahona Carbón (52 MW, 0.38 TWh in 2023), through a just transition. For a safe and reliable retirement that will not affect the SENI's final consumer, regulatory and technical challenges must be overcome, in a context of greater integration of variable renewable energy plants and the emergence of energy storage systems.

During 2024, the following studies were therefore conducted at system level:

(Study 1) Literature review and lessons learned of transition projects; (Study 2) modeling and impact analysis of CPP substitution at system level; and (Study 3) a technical, economic and financial feasibility analysis for the creation of a carbon credit mechanism for coal transition.

In the context of the specific retirement of the Itabo and Barahona CPP:

(Study 4) a replacement feasibility (technical, economic and financial) analysis, including decommissioning, addition of a BESS or flywheels, other auxiliary functions, and cost/benefit review of the selected options; (Study 5) an environmental and social analysis of the reconversion of plant sites; (Study 6) a gender and diversity analysis that designed inclusive stakeholder consultations; and (Study 7) a labor market and stakeholder characterization analysis.

In parallel, stakeholder consultation sessions were held at a workshop on June 12, 2024, with the participation of electricity generation, transmission and distribution companies, as well as the regulatory entities of the electricity subsector. A participatory workshop on carbon markets in the framework of the energy transition was held on August 6-8, 2024, bringing together key stakeholders from the country's public and private sectors.[1] From October 8-11, 2024, all proposals were reviewed with the relevant authorities in order to finalize this document. Finally, the ACT-IP document was published in November 2024 for public comments, posted on the Ministry of Energy's website.[2]

As a result of this process, the Plan's goal and vision contribute directly to the reduction of carbon consumption, eliminating GHG emissions from CPP, in line with the country's Nationally Determined Contribution (NDC).

[1] https://presidencia.gob.do/noticias/ministerio-de-energia-y-minas-encabeza-taller-para-acceder-fondos-de-mercados-de-carbono.
[2] https://mem.gob.do/transparencia/noviembre-25/.

The Plan comprises three components, organized into subcomponents for a logical order of execution, control and follow-up, with its respective levels of results, indicators and goals:

COMPONENT I: Strengthening the institutional and regulatory framework

- **Subcomponent 1.1:** Creation of regulations and norms that facilitate a just and inclusive transition toward the gradual elimination of coal and the insertion of renewable energy sources.
- **Subcomponent 1.2:** Support to the Government of the Dominican Republic in the development of transition plans, development of a regulatory framework for participation in carbon markets, strengthening governance and institutional capacity.
- **Subcomponent 1.3.A:** Public-Private Roundtable for the early retirement of CPP, with civil society participation.
- **Subcomponent 1.3.B:** Gender and Inclusion Roundtable (implementing a Monitoring and Evaluation mechanism), to ensure a cross-cutting approach in all subcomponents and decisions of the Investment Plan.

COMPONENT II: Just and inclusive transition for impacted communities and workforce

- **Subcomponent 2.1:** Socioeconomic mitigation measures for the CPP workers and contractors, considering aspects of gender and diversity.
- **Subcomponent 2.2:** Socioeconomic mitigation measures for the communities and indirect workforce impacted by the transition, considering the aspects of gender and diversity.

Subcomponent 2.3: Mitigation projects in adjacent municipalities for the social welfare of vulnerable communities impacted by the transition, with a gender-aware approach.

COMPONENT III: Accelerated CPP retirements, asset replacements and SENI enhancements

- **Subcomponent 3.1:** Cessation of operations and decommissioning of CPP Itabo 1+2
- **Subcomponent 3.2:** Cessation of operations and decommissioning of CPP Barahona Carbón
- **Subcomponent 3.3:** Coal Transition Credit Support Mechanism
- **Subcomponent 3.4:** Replacement or reconversion of CPP with renewable energy and BESS projects

Subcomponent 3.5: Transmission System enhancements to improve resilience and flexibility.

The budget of the following requested investments illustrates the intention that the IDB and the World Bank (WB) will be jointly responsible for Components I and II corresponding to the Governance and Just Transition pillars with public sector, non-reimbursable (Non-R) IFC/ACT support, while IDB Invest (II) and IFC will partner to leverage reimbursable (R) support for private sector-led projects of Component III (Infrastructure pillar):

Components / Subcomponents	Financing (MUSD)								
	ACT		Multilateral banking				Private sector	GDR	Total
	R	Non-R	IDB	II	WB	IFC			
Component I: Strengthening the institutional and regulatory framework									
Total Governance	0	4.5							**4.5**
Component II: Just and inclusive transition for impacted communities and workforce									
Total Just Transition	0	5							**5**
Component III: Accelerated CPP retirements, asset replacements and seni enhancements									
Subcomponents 3.1 and 3.2– CPP retirements	75.5	0					27.5		714
Subcomponent 3.3 - Coal transition credits									
Subcomponent 3.4 – Replacement projects				85.5		85.5	440		
Subcomponent 3.5 – Transmission enhancements	0	0						508	508
Total infrastructure	75.5	0		85.5		85.5	468	508	**1222**
Total	**75.5**	**9.5**		85.5		85.5	468	508	**1232**

("R": reimbursable funds, "Non-R": non-reimbursable funds, "II": IDB Invest, "WB": World Bank, "GDR": Government)

The main activities of the ACT plan will be coordinated with the multilateral development banks and its international technical cooperation programs in the strengthening of the regulatory framework, energy efficiency and the promotion of renewable energies. Prospective results and goals, with specific values of their respective indicators, may vary and deviate from what was expected and/or programmed, either positively or negatively, depending on external or internal factors, which may be under (or outside) the control of the executing units. The main risks have been studied and mitigation measures are presented.

Finally, an Investment Program Monitoring and Reporting System has been prepared in line with ACT guidelines (ACT M&R System)[3], which is the fundamental instrument that establishes the results and indicators with their base and projected measurement values to follow up, monitor and evaluate the periodic, intermediate and final progress of the Plan's general objective, its components and specific subcomponents associated with the ACT program pillars.

The IP's annexes include the Concept Note for the **Governance Project**, the Concept Note for the **Just Transition Project** and the Concept Note for the **Infrastructure Program**, with their respective budgets and expected execution schedules, as well as additional context and details on their respective estimated costs and activities.

[3] https://www.cif.org/sites/cif_enc/files/knowledge-documents/coal_transition_toolkit_final.pdf.

1

COUNTRY CONTEXT

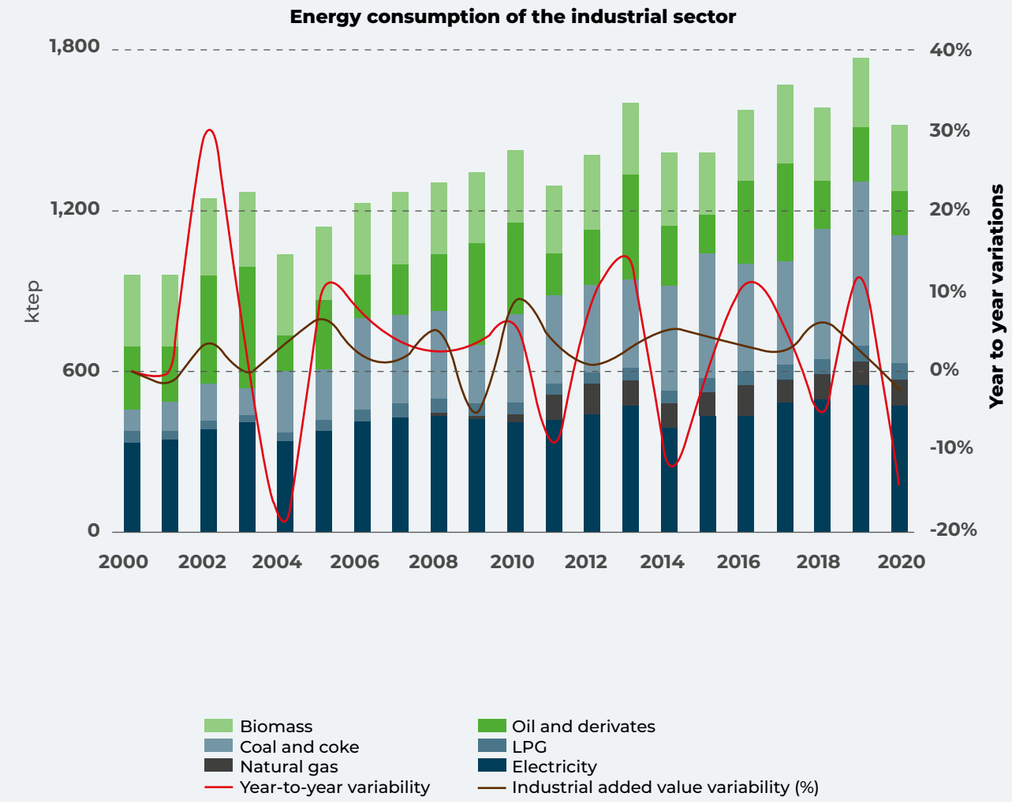
CURRENT STATUS OF COAL-FIRED ENERGY SYSTEMS AND ASSETS

Coal-dependent economic sectors

The Dominican Republic is a net importer of coal. The industrial sector is the largest end user as it consumes coal and coal-fired electricity in its operations. Total coal consumption exceeded 20% year-to-year variability in 2019 and slightly below 20% in 2020 (OLADE, 2021, p. 246).

The electricity generation subsector has the highest demand for coal as a primary source. In the last decade of the last century, 89% of electricity was generated using oil and derivatives. As of 2017, this has diminished to about 50% while the rest has been generated using coal and more recently renewable sources (Global Energy Monitor, 2024).

Figure 1 | Coal supply in the Dominican Republic and variation rates 2000 2020



Source: OLADE - Energy Outlook for Latin America and the Caribbean 2021

Description of operational CPP in the Dominican Republic

Table 1 | Updated list of coal-fired power plants (2024)

COAL-FIRED POWER PLANTS (CPP)	COD	DATE AND TYPE OF LATEST REINVESTMENTS	RATED CAPACITY (MW) NET YEARLY ENERGY (GWH)	SELECTED FOR EARLY RETIREMENT UNDER CIF-ACT (YES/NO)
Punta Catalina - Unit 1	2019	N/A	376 MW 2,340 GWh (2020-2023 average)	X
Punta Catalina - Unit 2	2020	N/A	376 MW / 2340 GWh (2020-2023 average)	X
Empresa Generadora de Electricidad de Haina, S. A. - Barahona Carbón	2001	2018 New turbine + generator ($30M)	51.9 353 GWh (Average 2013-2023)	✓
Empresa Generadora de Electricidad de Haina, S. A. - Barahona Carbón	1984	2020 New generator	128 MW 896 GWh (Average 2013-2023)	✓
Empresa Generadora de Electricidad Itabo, S. A. Itabo 2	1988	2011: New rotor 2020: New generator	132 MW 924 GWh (Average 2013-2023)	✓

Source: System Coordinator (OC), 2024

The respective total installed capacity per type of generation is presented below. Coal represents 1.06 GW (2024):

Table 2 | Installed capacity by type of plants (2024)

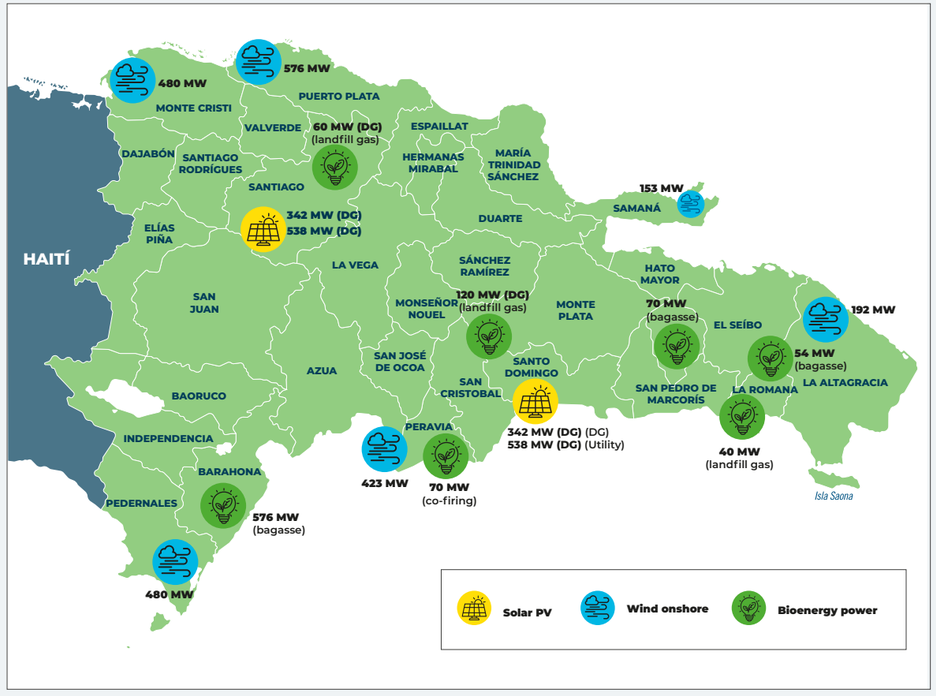
INSTALLED CAPACITY (BY TYPE)	EFFECTIVE POWER (MW)
Base (coal) Thermal Power Plants	1,064 MW
Thermal Power Plants (TPP)	1,828 MW
Combined Cycle (CC) Thermal Power Plants	1,084 MW
Hydroelectric, biomass, PV and wind power plants	1,780 MW

Source: OC, 2024

Renewable energy potential to replace coal

The International Renewable Energy Agency (IRENA) has provided a RE potential map for the year 2030, where solar PV and wind energy stand out, and estimates the overall generation potential at 16 TWh per annum:

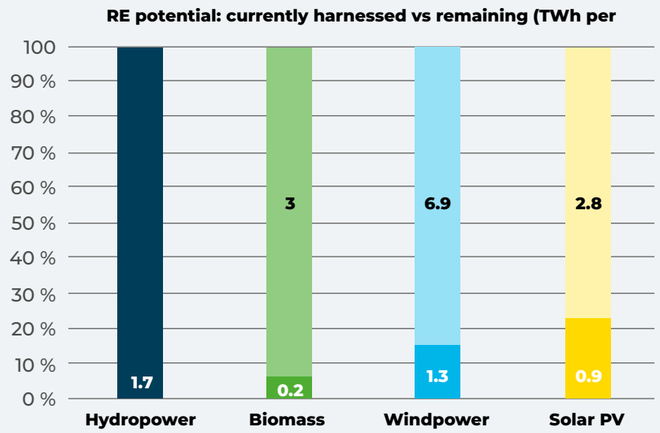
Figure 2 | Renewable energy potential map



Source: IRENA_REmap_Dominican_Republic_report_2016.pdf

The renewable generation potential still to be developed represents more than 4,600 MW in the short term, and 60,000 MW in the case of offshore wind (representing 210 TWh per year) in the longer term, which is 8 times the current SENI peak demand (5 GW, 24 TWh per year). A simplified modeling of the current energy stock versus the remaining potential to be tapped if the feasible projects are realized is presented below:

Figure 3 | Estimated harnessed vs. remaining potential from renewable sources



Source: data from the OC, own elaboration

It is very important to recognize that the country has already strengthened its trend towards greater diversification of its energy matrix, which helps to move more confidently to maintain the levels of energy security achieved to date, and even consolidate them. The current RE potential harnessed represented 3.4 TWh at the end of 2023, with respective contributions of 1129 GWh from wind, 1157 GWh from hydroelectricity and 1108 GWh from solar photovoltaic, according to OC figures.

Given that dependence on coal weighs substantially (CPP contributed 7.4 TWh to the SENI in 2023), the challenge will be to ensure investments in time to gradually cover the retirement of coal-fired plants selected for early retirement and contribute up to a potential 12.8 TWh per year that could be generated by intermittent sources, ensuring the necessary conditions to enable this transition without creating shortages or instability:

Table 3 | Comparison of renewable vs. coal potential (2023)

		Energy (TWh/year)		Energy (TWh/year)	
	Cp	Existing	Remaining	Existing	Remaining
Hydroelectricity	31%	623	0	1.7	0.0
Biomass	79%	30	438	0.2	3.0
Onshore wind	33%	466	2400	1.3	6.9
Solar PV	18%	561	1800	0.9	2.8
Total renewable sources (IRENA)		1680	4638	4.13	12.8
Coal contribution (2023)	77%	1064	0*	7.4	0*

*Source: OC. (Cp: average capacity factor / *ACT initiative mandates to not add any new capacity)*

SUMMARY OF INTERNATIONAL AND NATIONAL CLIMATE STRATEGIES AND PLANS

Summary of international strategies to minimize the effects of climate change

With the objective of reducing the temperature of the national and global climate to 1.5°C, through decarbonization, the **International Energy Agency (IEA)** proposes two scenarios: the **Announced Pledges Scenario (APS)**, which reduces coal demand by 70% and oil and gas by about 40% in 2050, and the **Net Zero Emissions in 2050** (NZE) **Scenario**, which reduces global coal use by 90% in 2050, with the power sector fully decarbonized in developed countries by 2035 and the rest of the world by 2040. (IEA, 2022, pp. 13, 14). A massive scaling-up of renewable energy sources and systemic improvement in energy efficiency are essential for their completion[4]. The sustainable conceptual approach is Just Transition, with processes focused on the needs of people, stakeholders and communities, the construction of *clean alternatives*, energy services, feasible and safe, but without emissions (IEA, 2022, p. 17).

"Accelerating Coal Transition Investment Program." CIF-ACT offers a large-scale solution to the just transition from coal to clean energy. It provides criteria for selecting plants to retire and a holistic approach with a set of tools that link national strategies, people, population and communities, as well as infrastructure.

The ACT Strategy works through three cross-cutting pillars[5]: P1 Governance, P2 People and Communities and P3 Infrastructure.

Energy Transition Accelerator (ETA). Initiative of the U.S. Department of State, the Bezos Earth Fund Foundation and the Rockefeller Foundation. The funding aims to support the generation of high-quality carbon credits to leverage private investment in the implementation of strategies to accelerate the transition from coal to clean energy.

The Dominican Republic is one of the three pilot countries of this initiative.

Powering Past Coal Alliance (PPCA)[6]. Strategy to accelerate the transition away from coal consumption in a sustainable and economically inclusive manner. It was launched by the governments of Canada and the United Kingdom at the COP23 international convention in 2017 in Bonn, Germany, and has been joined by 182 countries and international financial

[4] "World Energy Outlook" 2022 "Coal in Net Zero Transitions."
[5] Accelerating Coal Transition Investment Program | Climate Investment Funds (cif.org).
[6] https://poweringpastcoal.org/

organizations, including the Government of the Dominican Republic. The strategy is to curb any new coal-based investments and promote investments in alternative energy sources.

Summary of national plans to reduce the effects of climate change

Update and progress of Nationally Determined Contribution (NDC)

In 2020 the Dominican Republic updated its NDC-DR[7] with a list of 10 sectors for mitigation, adaptation and cross-cutting elements. It increased the GHG emissions-reduction target under the BAU scenario to 27%. The NDC-DR 2020 proposes:

- A 2022-25 Action Plan, with a total of 86 outcomes under four components: Enabling Frameworks, Investment Project Portfolios, Climate Transparency, and Capacity building.
- 46 mitigation options, of which 27 (58.7%) are focused on electricity generation, energy efficiency and road transportation. The rest are in the Industrial Product and Process Use (IPPU), Agriculture, Forestry and Other Land Use (AFOLU) and Waste sectors.
- For 2021-2030, 37 climate change adaptation measures were proposed in various sectors of the economy.
- To strengthen institutional capacities and the governance system for effective decarbonization and climate adaptation. Cross-cutting elements such as inclusion and gender equity (Components 4 and 5. Civil society Consultation Council, Action Plan and National Plan for Gender Equality and Equity 2030 (PLANEG III)[8]), the role of youth, cities and municipalities, human rights and just transition are considered.
- To align all national planning processes in order to articulate the policies, measures and actions required by the NDC. (NDC Gobierno de República Dominicana, 2020)

To comply with the mitigation and adaptation options evaluated under the BAU, the country requires an investment of approximately US$8,916,950,000.00 and US$8,715,787,193.00, respectively, expressed conditionally and unconditionally. In May 2024, the Inter-American Development Bank approved a technical cooperation with the objective of supporting the DR Government in updating the NDC to 2025, which will allow reviewing the progress of the action plan and updating its prospective goals.

National energy system development strategy

The National Energy Plan 2022-2036 is based on four strategic lines:

Strengthening of the legal and institutional framework: Regulation of competitive electricity market conditions. Law on Energy Efficiency and Rational Use of Energy. **Institutional Reformulation:** Reforms to eliminate duplication of functions, decision-making and resources in the electricity sector. Energy **Transition and Sustainability:** Financial and operational recovery of electricity distribution, and investments in the transmission sector. The promotion of RE and **storage** technologies, **wind and solar**, and other **small-scale** modalities. **Reliable, secure and quality supply:** A model that ensures access to reliable and modern energy services, based on demand.

[7] This was preceded by the constitutional provision in Art. 194 that prioritizes a land use plan in line with climate adaptation. The enactment of Law 1-12 National Development Strategy 2030 and Decree No. 269-15 on the National Policy on Climate Change.

[8] "Dominican Republic First NDC (Updated Submission) .pdf," accessed March 28, 2024, https://unfccc.int/sites/default/files/NDC/2022-06/Dominican%20Republic%20First%20NDC%20%28Updated%20Submission%29.pdf.

GAP ANALYSIS AND PROGRAM JUSTIFICATION

Characteristics of the Dominican Republic: gap analysis

The analysis and preparatory and preliminary studies of the Plan (see Annex 11) highlight the following gaps:

The Dominican Republic is an emitter of CO_{2eq}.

Between 2000 and 2022, the country's GHG emissions ranged between 18 million and 24 million tCO_{2eq} per year. Emissions from coal consumption ranged between 245,000 and 3 million tCO_{2eq}[9]. The INGEI (GHG reporting system) recorded that the energy sector (transportation and electricity generation) accounted for 61% of GHG emissions, followed by agriculture with 19.9%.

Inexperience and limited institutional, regulatory, planning and financial capabilities for a just transition of CPP.

The country does not have the experience or sufficient human, material and financial resources for the early retirement of its CPP and the management of the created impacts within the framework of a just transition.

Gender disparity, with broad disadvantages for women in the country and the areas of interest of the ACT Plan: Barahona and San Cristóbal provinces

32.9% of the population is 15 to 34 years of age, 51% women and 49% men, and 68.8% of the women in the general population have suffered some type of violence. In the general population 50.7% of women are reported to be active, compared to 76.8% of men. As far as the electricity subsector is concerned, women represent 40.3% of the workforce, mostly present in administrative and commercial positions.

In the provinces of Barahona and San Cristóbal, the gender data identified in 2024 are:

Table 4 | Population gender data in Barahona and San Cristóbal

	Population		Femininity index # Women/Men		Density inhab./km²	
	Barahona	San Cristóbal	Barahona	San Cristóbal	Barahona	San Cristóbal
Women	46,120	140,128	105/100	102/100	500/km²	1,314/km²
Men	44,046	137,665				
Totals	**90,166**	**277,793**				

Source: Own elaboration with data from C. Gutiérrez, 2024

[9] CO_2 emissions by fuel - Our World in Data.

In Barahona, women constitute only 38% of the Economically Active Population[10] (EAP), with an unemployment rate of 38.4%, compared to 12.7% for men. In San Cristóbal, 14.8% of the female EAP is unemployed, compared to only 5.5% of the male EAP.[11]

Lack of regulatory framework for CPP retirements and related impacts.

There is no comprehensive regulation (procedures, technical, contractual, commercial, economic and social criteria) for the withdrawal of Power Generation Plants from the SENI. The SIE-007-2022-MEM regulation states that it does not establish a procedure for the disconnection and definitive withdrawal of generation plants from SENI. Likewise, it does not regulate the implications for the security and integrity of the SENI, the continuity of supply to end users and consumers, and the security and integrity of people and goods.[12]

A largely untapped renewable energy potential.

The remaining generation potential based on renewable sources in the SENI represents more than 4,600 MW in the short term, and probably up to 60,000 MW of off-shore wind (representing 210 TWh per year) in the longer term, which is 8 times the current maximum demand of the SENI (5 GW, 24 TWh per year). Even as hydroelectricity doesn't offer any more feasible options, considering only the most feasible projects, should they built, the following gaps could be bridged: only 0.9 TWh of solar photovoltaic energy are being harnessed and 2.9 TWh remain easily achievable, 0.2 TWh of bioenergy with 3 TWh remaining; 1.3 TWh of onshore wind energy with 6.9 TWh remaining.

A missing regulatory framework for carbon markets under the Paris Agreement

The country does not have a regulated framework to facilitate its participation in international carbon trading under the Paris Agreement. The existence of this regulatory framework is an enabling condition for the issuance of high-quality and high-integrity carbon credits and their international transfer.

[10] https://www.one.gob.do/publicaciones/2024/tu-municipio-en-cifras-barahona/?altTemplate=publicacionOnline

[11] Needs study "Gender and diversity analysis", Catalina Gutiérrez, 2024. https://www.one.gob.do/media/m1masqr0/municipio-en-cifras-san-cristobal.pdf

[12] Jorge Moreno, May 2024 Joint Mission Summary.

Characteristics of the Dominican Republic: program justification

The analysis of the DR's needs to succeed in a coal transition justify the importance of the CIF-ACT Program to cope with the following features: an electricity matrix historically dependent on coal, with a total of five CPP units that contributed 7.4 TWh to electricity consumption (31%) in 2023; three CPP were selected for early retirement: Barahona Carbón, Itabo 1 and Itabo 2, have completed their initial investment cycle and have prolonged their technical useful life through investments to renew their main equipment; **an isolated electrical system vulnerable to climatic events:** the SENI is composed of four distribution sectors and operates in isolation from transnational electrical grids and is exposed to a high risk of hurricanes due to its location in the Caribbean Sea; **a very dynamic electricity market with rapid evolutions and important economic challenges:** electricity consumption has grown at an average rate of 4.9% per year since 2020, while peak demand has grown at an average rate of 8.2% per year during the same period. Distribution companies operate with high deficits; and finally, the SENI has a transmission infrastructure (STN) **under development**, with the aim of creating greater transmission capacity and stability (345, 138 and 69 kV lines and substations), facing the challenges of adding new evacuation capacity for more wind power plants in the north and in the "Ddeep Ssouth" to route electricity to the center of the country and the greater Santo Domingo area.

2

ACCELERATING COAL TRANSITION CONTEXT

OPERATION OF THE DOMINICAN ELECTRICITY MARKET

The wholesale electricity market in the Dominican Republic is based on a marginalist design. It is characterized by centralized hourly economic dispatch based on regulated variable production costs (by the System Coordinator, or OC), as well as remuneration of firm power and related services such as frequency regulation, forced dispatch, deviations and reactive energy, among others.

In the wholesale electricity market, the generation, transmission, and distribution utilities interact, as well as the unregulated users (UNR)[13] buying, selling and transporting electricity. This market is governed by the Contract Market/Spot Market framework (approximately 80% of the energy volume comes from the Contract Market as of 2024). The Contract Market is for electricity purchase and sale transactions based on usually long-term supply contracts between agents (generators, distributors and unregulated users), under the supervision of the regulator. The agents agree on the transactions in terms of price, quantity, duration and supply points, among other factors. The Spot Market, on the other hand, is for short-term electricity purchase and sale transactions, not based on term contracts and carried out based on the Short-Term Marginal Cost of Energy and the Marginal Cost of Capacity. In other words, spot market prices reflect instantaneous transactions and are therefore the most important mechanism for sending signals to agents about the operating status of the system.

Institutions of the Dominican Republic's electricity market, public vs. private roles. The country has transitioned from a monopolistic public market to a wholesale competition market, with broad participation of the private sector. In 2023, private participation reached levels above 60% of gross electricity generation. The State is the planner and regulator. The **CNE** exercises a guiding and regulatory role by preparing and coordinating draft laws, regulations, policies and standards, as well as preparing indicative plans for the proper functioning and development of the energy sector to be proposed to the Executive Branch. In addition, it must promote investment decisions consistent with the plans approved by the Executive Branch. Its competencies cover the entire energy sector, from study activities, exploration, construction, export and import, to distribution and commercialization, etc. (Articles 12 and 13 of Law No. 125-01). The **SIE** oversees and supervises the electricity sector, is in charge of *"elaborating, enforcing and systematically analyzing the structure and price levels of electricity and setting, by resolution, the rates and tolls subject to regulation in accordance with the established guidelines and norms..." processing concessions and permits.* (Congreso Nacional República Dominicana, 2024) (Art. 24, Law 125-01).

[13] UNRs are consumers whose maximum demand exceeds 1 MW and freely negotiate their tariffs with generators, without being subject to the SIE provisions for regulated consumers.

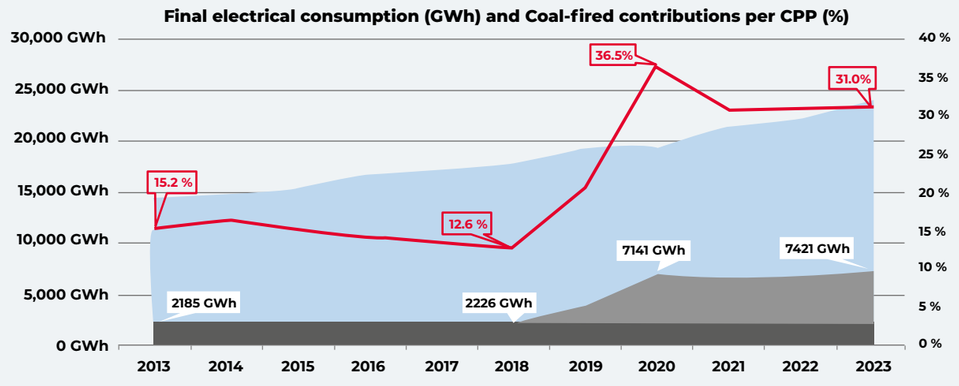
ANALYSIS OF COAL GENERATION AND PRODUCTION PORTFOLIO

The Dominican Republic imports coal in significant quantities for industrial and domestic consumption and especially for electricity generation. Preliminary data for 2023 from the Central Bank reflect a total of US$358.4 million in imports of mineral coal[14]. More than 80% is imported from Colombia, about 15% from the United States and the rest from countries including Peru, Germany, Spain, China, Mexico and France (Global Energy Monitor, 2024). According to the DR National Energy Plan, from 2018 to 2036, imports of primary energy —natural gas, coal and oil — would experience average annual growth rates of 3.61% (trend sensitivity scenario) and 9.36% (alternative sensitivity scenario). As for the trend sensitivity scenario, coal imports would grow from 864.2 ktoe in 2018 to 2095.7 ktoe in 2036, for an average annual growth rate of 5.04%. In the alternative sensitivity scenario, the average annual growth rate of coal imports is higher, at 5.30%[15].

As for coal-fired power generation, the three CPP (Itabo, Barahona Carbón and Punta Catalina) as of 2020 represented more than 30% of the total generation since it has tripled with the entry into operation of the recent 752 MW Punta Catalina Thermoelectric Power Plan (Jairo Quirós Tortós., et al., 2023, p. 15). Coal-fired installed capacity totaled 1.06 GW in 2023.

The total contribution of coal to the electricity matrix evolved sharply since the entry into commercial operation of the Punta Catalina plant in 2019 (up to 36.5%). The addition of renewable energy plants as of 2021 has allowed it to trim its overall contribution to the electricity matrix (31% in 2023).

Figure 4 | Evolution of electricity consumption (GWh) and contribution share of CPP (2013-2023)



Source: OC and ONE data, 2024 - Own elaboration

[14] Central Bank of DR: Importaciones_Trimestrimestrales_6.xls (live.com).

[15] Source: National Energy Plan 2022-2036. CNE.

NATIONAL LOW-CARBON ENERGY STRATEGIES

Energy sector overview

In the National Energy Plan 2022-2036, the Minister of Energy and Mines states that *"the current circumstances demand from the Dominican State* ***a clear strategy for energy autonomy and sustainability"*** (National Energy Commission, 2022, p. 9). Two fundamental categories are identified, autonomy and sustainability, which are based on two contexts: national and international. This entails the need to overcome the dependence on imported fossil fuels, including coal, leading the country towards access to alternative primary energy sources and, in the projection of further developing non-conventional renewable energy (NCRE) sources (National Energy Commission, 2022, p. 9).

Energy diversification strategy

The country has already strengthened its trend toward greater diversification of the energy matrix. The current RE potential harnessed reached 3.4 TWh at the end of 2023, with respective contributions of 1129 GWh of wind, 1157 GWh of hydroelectricity and 1108 GWh of solar photovoltaic, according to figures from OC.[16]

The SENI's expansion strategy confirmed the effort to invest in natural gas-based plants, which diversifies generation by reducing emissions (vs oil and derivatives) and opening avenues for accelerated investments in renewable energy generation sources.[17]

[16] Marandin L. Chan J. SENI-ACT Model Development in PLEXOS and Scenario Analysis of Interest. June 2024. ACT-RD Consulting. IADB.

[17] To avoid all doubt, none of the components and activities of this Investment Plan will be directly or indirectly linked to supporting gas pipelines and related infrastructure.

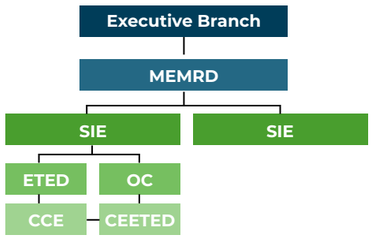
EVOLUTION OF THE INSTITUTIONAL FRAMEWORK AND CAPABILITIES

The institutional framework that plans, manages, administers and governs the electricity system and electricity market relations in the Dominican Republic is relatively recent. Although the SENI was formally created in 1955, sustained efforts to formalize the sector culminated in July 2001, when the 125-01 General Electricity Law (LGE) was approved. This created the present institutions of the Electricity subsector: The National Energy Commission (CNE, in Spanish), the Superintendence of Electricity (SIE in Spanish) and the System Coordinator (OC, in Spanish), subordinated to the SIE (Title III). This law was amended in 2007 by Law 186-07. The LGE also organizes the ecosystem (generation, transmission, distribution-commercialization companies), throughout the value chain, their rights and obligations. It also addresses the legal, institutional and regulatory aspects of the national electricity market, including permits and concessions, the electricity pricing system and the penal provisions for the violation of laws, regulations and resolutions governing the market (National Energy Commission, 2022, p. 14).

The other key legislation is Law 100-13, which in 2013 created the Ministry of Energy and Mines (MEM) and institutionally restructured the Dominican energy sector. It attached to the MEM the decentralized bodies: the CNE; the Corporación Dominicana de Empresas Eléctricas Estatales (CDEEE), which remained in operation while the ministry was definitively constituted[18]; the SIE; the Mining General Directorate; and the National Geological Service (SGN). It also modified the composition of the CNE as it was led by the MEM and integrated by the Ministries of Economy, Planning and Development (MEPyD), Finance, Industry, Commerce and SMEs (MICM) and Environment and Natural Resources (MARENA).

Hierarchical governance structure of the electricity subsector

Figure 5 | Organization chart of the institutional governance of the DR electricity market



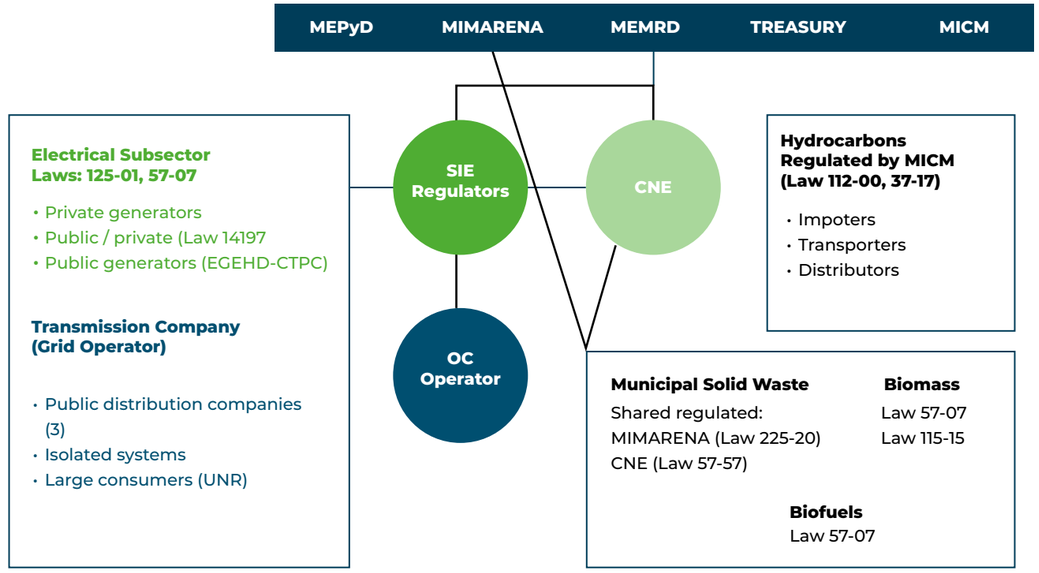
Source: OC, MEM

[18] Law 342-20 liquidates the CDEEE.

The OC is in charge of planning the operation of the electricity system and calculating commercial transactions. The OC and the Dominican Electrical Transmission Company (ETED, in Spanish) are in charge of operating, managing and maintaining the SENI.

The institutional framework of the Dominican energy sector is charted by the CNE in its National Energy Plan.

Figure 6 | Institutional framework of the Dominican energy sector



Source: CNE National Energy Plan 2022. https://cne.gob.do/documentos/tecnicos/pen/

ROLE OF THE PRIVATE SECTOR, INNOVATION AND LEVERAGING OF RESOURCES

In 1999, with the Public Enterprise Reform Law No. 141-97, participation by private investors in the capitalization of public sector companies was opened. Itabo (1+2) and Barahona Carbón CPP, formerly state owned, called for international public bidding and were capitalized on approximately 50% by private shareholders. The administration of the power plants is the responsibility of the private shareholder company, which ensures their efficient and effective operation:

- **Barahona Carbón CPP** is partly owned by EGE-HAINA (Empresa Generadora de Electricidad Haina S.A.), incorporated in 1999. With stock market operations in the local financial market, it is one of the successful examples of the public-private partnership strategy. The company is 50% private and 50% public in terms of assets, investment and contribution to the State. It is 100% Dominican owned and, according to its data, has contributed US$1.13 billion in dividends and taxes to the State between 1999 and 2023[19]. In addition, in the past decade it has made significant investments in clean energy including solar PV and wind power, increasing its total installed capacity to 410 MW composed of 225.24 MW in natural gas and 296.5 MW from renewable sources with an availability improving from 94% to 97%, with minimum forced dispatch and an overall efficiency of 42.8%[20].

- **Itabo (1+2) CPP** is partly owned by The Linda Group, a venture that expanded its business in 2023 by acquiring shares of the AES Group, including 20% of the business of the AES Colón energy complex[21].

These and other actions show confidence in the economic and market conditions in the Dominican Republic and favorability for public and private investments in projects in the electricity sector.

The National Council for Climate Change and Clean Development Mechanism (CNCCMDL) has promoted public-private partnerships through projects under the Clean Development Mechanism CDM scheme. Business sectors have adopted a position of support for the strategies of decarbonization of the economy and climate and environmental sustainability. In particular, the private sector has been promoting energy efficiency measures in its production processes for both goods and services, as well as incentives for the use of renewable energies in its energy sources for its operations. It recognizes the importance of training its personnel on climate change and environmental protection, the recovery of forest cover through reforestation and the application of climate-smart agriculture, and strengthening the resilience of communities impacted by business operations.

[19] https://www.egehaina.com/Nosotros.
[20] EGE Haina.
[21] AES Corporation, Grupo Linda and AFI Popular announce new corporate alliances for the Dominican Republic and Panama - ITABO.

3

PROGRAM DESCRIPTION

THE DOMINICAN REPUBLIC AND THE ACT PROGRAM

The Accelerating Coal Transition (ACT) program presents a unique opportunity to implement transformative solutions on a large scale. While developed countries have identified coal phase-out as a priority, dedicating considerable resources to the process, ACT represents the leading initiative to match this effort in the developing world, providing a dedicated platform that offers large-scale resources to test different models and approaches that can be applied more broadly.

ACT seeks to address the challenges associated with reducing coal use by supporting three dedicated pillars: **Governance, People and Communities and Infrastructure**. While the Governance pillar provides support to strengthen the enabling environment, such as the policy and institutional frameworks that allow a country to pursue its coal transition pathways, the People and Communities pillar focuses on ensuring a just transition for the people and communities that will be most affected by the phaseout of existing coal assets. Finally, the Infrastructure pillar focuses on the early retirement and replacement or retrofitting of existing coal assets.

The Clean Technology Fund (CTF) decision-making body initially selected four countries (India, Indonesia, the Philippines and South Africa) to be supported through the program. In February 2023, two new countries (Dominican Republic and North Macedonia) were added to bring the total number of countries supported through the program to six.

As of December 31, 2022, total funding under the program was USD 2.25 billion, with contributions from the governments of Canada, Denmark, Germany, the United Kingdom and the United States.
In the Dominican Republic, one-third of electricity production in 2023 (7.4 TWh) came from coal-fired power plants. This, coupled with the fact that the country is eligible for Official Development Assistance (ODA) and has an active loan program with the IDB, made it eligible for the CTF's ACT investment program.

In August 2021, the Government of the Dominican Republic (GDR) submitted an Expression of Interest (EoI) for consideration in the CIF's ACT investment program. This EoI included four relevant letters of support from: the President of the Dominican Republic, Luis Abinader Corona; the Minister of Energy, Antonio Altamonte Reynoso; the Minister of Economy, Planning and Development, Miguel Ceara Hatton; and the Executive President of the National Council for Climate Change and Clean Development Mechanism, Max Puig.

Following the first round of countries selected in November 2021, the Dominican Republic submitted an assessment of its readiness to participate in a second round of countries to be selected by CTF in February 2023. The CTF committee selected the Dominican Republic and North Macedonia and subsequently invited the GDR to participate in the ACT investment program with a resource package of up to $85 million for this Investment Plan. In April 2023, the GDR formally appointed the IDB Group to coordinate the Investment Plan preparation. The current proposal is based on studies, meetings, workshops, consultations and decisions that took place from mid-2023 to November 2024.

OVERVIEW OF THE ACT INVESTMENT PLAN FOR THE DOMINICAN REPUBLIC

In general, the objective of the ACT Plan focuses on the cessation of coal-fired generation operations of the Itabo (1+2) and Barahona Carbón CPP through a fair and inclusive transition, agreed upon by the relevant public and private sector stakeholders, maintaining energy security, without negative effects on the final cost of electricity supply. The objective and vision of the Plan contribute directly to the reduction of coal consumption, reducing the emission of CO2 by the CPP to be retired and, consequently, to the reduction of GHG emissions proposed by the Dominican Republic in its NDC.

The Plan adopts the pillars of Governance, People and Communities and Infrastructure, which in turn coincide with the components and subcomponents, all interrelated and complementary for the achievement of the main objective. Thus, it comprises three components, and given the complexity and diversity of actions in each of them, they have been divided into subcomponents for a logical order of execution, control and follow-up, under the ACT guidelines for M&R System (See Annex 2: Integrated Results Framework (IRF) of ACT-IP-DR).

Component I: Strengthening the Regulatory and Institutional Framework.

This component seeks to establish the legal and institutional framework that integrates in a cross-cutting manner the gender perspective and social inclusion in the just transition, as well as the creation of a Public-Private Roundtable to facilitate the coordination of the gradual and early retirement of the selected CPP. In addition, it seeks to develop a regulatory framework that allows the country's participation in international carbon trading under Article 6 of the Paris Agreement, developing and/or updating regulations, standards and procedures, as well as strengthening the institutional capacities of all sectors, including specific mechanisms to ensure the participation of communities, especially women and other traditionally excluded groups.

This component is essential to provide the other components with a superstructure to guide actions, plans and strategies, as well as to legitimize their actions by strengthening the institutional capacity of the State and the public-private entities that direct and execute the transition plans.

The following table shows the component and its subcomponents:

Component I	Subcomponents
Strengthening the institutional and regulatory framework	**1.1.** Creation of regulations and norms that facilitate a fair and inclusive transition towards the gradual elimination of coal and the insertion of renewable energy sources
	1.2. Support to the Government of the Dominican Republic in the development of transition plans, development of a regulatory framework to participate in the carbon markets, strengthening governance and institutional capacity
	1.3. A Public-Private Roundtable for the early retirement of CPP, with civil society participation
	1.3. B Gender and Inclusion Roundtable (implementing a Monitoring and Evaluation mechanism), to ensure a cross-cutting approach in all subcomponents and decisions of the Investment Plan

Component II: Just and Inclusive Transition for Impacted Communities and Workforce.

This component addresses all aspects of social, labor, community economic impact and the preservation of the rights of communities and groups in vulnerable situations, guaranteeing gender equity, respect for diversity and the environment. The actions and plans must take into consideration the regulations established for the transition and the strategies and plans for the selected CPP's cessation of operations, as developed in Component III. They must also be harmonized with the opportunities opened up by SENI's expansion projects for RE investments, also contemplated in Component III.

Specific measures will be integrated to identify, prevent and address all forms of violence and abuse that may arise during the transition process, including gender-based violence (GBV), workplace harassment, domestic violence and other forms of abuse affecting communities and the workforce. These measures will be aligned with the regulations established for just transition, and with the opportunities offered by SENI expansion projects and renewable energy investments, ensuring safe working and community environments free of violence and abuse. Likewise, the specific needs of the retirement-age population or those whose labor reintegration is not possible will be taken into account, prioritizing their access to adequate support and social welfare programs.

The following table shows Component II and its subcomponents:

Component II	Subcomponents
Just and inclusive transition for impacted communities and workforce	**2.1.** Socioeconomic mitigation measures for the CPP workers and contractors, considering the aspects of gender and diversity
	2.2. Socioeconomic mitigation measures for the communities and indirect workforce impacted by the transition, considering the aspects of gender and diversity
	2.3. Mitigation projects in adjacent municipalities for the social welfare of vulnerable communities impacted by the transition, with a gender-aware approach

Component III: Accelerated CPP retirements, asset replacements and SENI enhancements.

Accelerated CPP retirement, asset replacement and SENI enhancements. This component first addresses the design and implementation of strategies and technical plans in conjunction with private stakeholders for the voluntary cessation of operations and decommissioning of each of the selected CPP. Second, it supports the creation of a mechanism for coal transition credits. Third, it identifies and develops technological options including those for replacement and/or reconversion of plant spaces with the CPP owners, toward renewable energy sources interconnected to the SENI. The various technological options offered by the RE market will be taken into consideration at the appropriate time. The concessional resources of Component III are focused primarily on the early retirement of CPPs and their alternative replacements. They may be distributed throughout the different subcomponents in relation to each CPP object of this Plan and with the different alternatives of replacement, and/or substitution.

Given that the closure of the CPP and their replacement is the central action of the Plan and its investments, the social plans and strategies of Component III are taken into consideration in an integrated manner for their success.

Inclusive infrastructure practices will be adopted so that infrastructure procurement and utilization policies promote the equitable participation of women and other underrepresented groups in the construction, operation and maintenance of all new renewable energy facilities. In addition, infrastructure will be made accessible to all people, including those with disabilities.

The following table shows the structure of Component III with its subcomponents:

Component III	Subcomponents
Accelerated CPP retirements, asset replacements and seni enhancements	**3.1.** Cessation of operations and decommissioning of CPP Itabo 1+2 units
	3.2. Cessation of operations and dismantling of the CPP Barahona Carbón
	3.3. Mechanism to support coal transition credits
	3.4. Replacement or reconversion of CPP with renewable energy and BESS projects
	3.5. Transmission System enhancements to improve resilience and flexibility

Investment preparation activities

The modeling of SENI load curve evolution (in PLEXOS) prepared in the context of this Plan foresees an increase in total consumption from 23.9 TWh in 2023 to 41.69 TWh in 2035. The ACT Plan is developed under the condition that the generation matrix remains in balance despite the early retirement of the selected CPP. A hypothetical retirement of CPP Barahona Carbón in 2026 and CPP Itabo 1+2 units in 2030 represents a stock of 5.5 TWh accumulated during a 10-year period (2026 to 2035), to be replaced by renewable energy, generated mainly from solar photovoltaic plants (paired with BESS load shifting) and/or wind power.

To put it in perspective, the annual energy deficit due to lack of coal-fired generation never amounts to more than 3.5% of the total volume needed to supply the SENI.

The following estimate represents the amount of new renewable capacity needed to achieve energy block substitution under the assumption of an early retirement of Itabo 1+2 in 2030. Obviously, this estimate does not take into account the challenges of intermittency or hourly dispatch. It only allows us to calculate the minimum value of new capacity to be installed to achieve the ACT objective described in the current proposal:

Table 5 | Estimated energy to be retired and RE replacement

Baseline (GWh) / withdrawals	2026 X	2027	2028	2029	2030 X	2031	2032	2033	2034	2035
Barahona carbón CPP	**132**	14	0	0	0	0	0	0	0	17
Itabo 1 CPP					**176**	192	337	467	602	688
Itabo 2 CPP					**338**	338	396	510	605	720
Punta catalina 1 (Does not apply to ACT)	*3152*	*2947*	*2601*	*2408*	*2290*	*2521*	*2614*	*2791*	*2858*	*2912*
Punta catalina 2 (Does not apply to ACT)	*3170*	*3079*	*2837*	*2606*	*2482*	*2731*	*2778*	*2850*	*2916*	*2960*
Energy to be withdrawn (GWh)	**132**	**14**	**0**	**0**	**515**	**531**	**733**	**977**	**1207**	**1425**
Share of total SENI consumption (%)	0.5	0.05	0.0	0.0	1.6	1.5	2.0	2.6	3.0	3.4
Solar PV equivalent (MW) (with Cf: 25%)	60	6	0	0	**235**	242	335	446	551	651
Wind power equivalent (MW) (with Cf:	42	4	0	0	**163**	168	232	310	383	452

Source: Elaboration of SENI-ACT Model in PLEXOS and analysis of scenarios of interest (Marandin, Chan, 2024)

With the conservative future capacity factors considered in this model, the retirement of coal-fired power in 2030 represents a minimum of 235 MW (AC Value) of solar projects or 163 MW of wind power plants (or a combination of both), because of the limited dispatch of CPP in this period of the SENI trajectory (as modeled in PLEXOS).

If we delay the retirement scenario of Itabo 1 and Itabo 2 to 2035, these values would rise to 651 MW (AC Value) of solar projects or 452 MW of wind power plants.

This modeling should be reviewed at the time of approval of the ACT-IP-DR and the underlying hypotheses updated according to the operating conditions and new expansion plans of the SENI at the time of implementation.

4

FINANCING PLAN AND INSTRUMENTS

PRESENTATION OF THE ACT PLAN INVESTMENT

The requested investment budget presented below illustrates the intention that the IDB and the World Bank (WB) will be jointly responsible for Components I and II aligned with the **Governance and Just Transition** pillars with public sector, non-reimbursable (*Non*-R) CIF/ ACT support, while IDB Invest (II) and IFC will coordinate to leverage reimbursable (R) support for private sector-led projects for Component III (**Infrastructure** pillar).

Component III may be financed through different financial instruments (price guarantee mechanism for coal transition credits or concessional loans) depending on the market context when these operations are executable.

The plan mobilizes up to US$1232 million, with a CIF/ACT requested amount of US$85 million.

Costs and sources of funding

Table 6 | Indicative Financing

COMPONENTS / SUBCOMPONENTS	ACT (MUSD)				CO-FINANCING (MUSD)							PILLARS		
	Reimbursable		Non reimbursable		Multilateral Banking				Private sector	GDR	TOTAL	Gover-nance	People and Communities	Infra-structure
	IDB	IFC	IDB	WB	IDB	IDB Invest	WB	IFC						
COMPONENT I: STRENGTHENING THE INSTITUTIONAL AND REGULATORY FRAMEWORK														
SUBCOMPONENT 1.1: Creation of regulations and norms that facilitate a just and inclusive transition towards the gradual elimination of coal and the insertion of renewable energy sources.	0	0	0.75	0.75							1.5	✓		✓
SUBCOMPONENT 1.2: Support to the Government of the Dominican Republic in the development of transition plans, development of a regulatory framework for participation in the carbon markets, strengthening governance and institutional capacity	0	0	0.75	0.75							1.5	✓		✓
SUBCOMPONENT 1.3: Public-Private Roundtable for the early retirement of CPP, with civil society participation. Gender and Inclusion Roundtable (implementing a M&E mechanism)		0	0.75	0.75							1.5	✓	✓	✓
SUBTOTAL COMPONENT I	**0**	**0**	**2.25**	**2.25**							**4.5**			
COMPONENT II: JUST AND INCLUSIVE TRANSITION FOR IMPACTED COMMUNITIES AND WORKFORCE														
SUBCOMPONENT 2.1: Socioeconomic mitigation measures for the CPP workers and contractors, considering aspects of gender and diversity.	0	0	1.25	1.25							2.5		✓	
SUBCOMPONENT 2.2: Socioeconomic mitigation measures for the communities and indirect workforce impacted by the transition, considering the aspects of gender and diversity.	0	0	0.5	0.5							1		✓	
SUBCOMPONENT 2.3: Mitigation projects in adjacent municipalities for the social welfare of vulnerable communities impacted by the transition, with a gender approach.	0	0	0.75	0.75							1.5		✓	
SUBTOTAL COMPONENT II	**0**	**0**	**2.5**	**2.5**							**5**			
COMPONENT III: ACCELERATED CPP RETIREMENTS, ASSET REPLACEMENTS AND SENI ENHANCEMENTS														
SUBCOMPONENT 3.1: Retirement of CPP Itabo 1+2 plants	37.75	37.75				0		0	22.2	0			✓	✓
SUBCOMPONENT 3.2: Retirement of CPP Barahona Coal						0		0	5.6	0			✓	✓
SUBCOMPONENT 3.3: Transitional Credit Support Mechanism						0		0	0	0	**714**	✓		
SUBCOMPONENT 3.4: Replacement Projects (RE + BESS)						85.5		85.5	440	0			✓	✓
SUBCOMPONENT 3.5: Transmission System enhancements	0	0				0		0	0	508	**508**			✓
SUBTOTAL COMPONENT III	**37.75**	**37.75**				**85.5**		**85.5**	468	**508**	**1222.3**			
TOTALS	**37.8**	**37.8**	**4.75**	**4.75**	**0**	**85.5**	**0**	**86**	468	**508**	**1231.8**			
	85.0				**1146.8**						**1231.8**			

Source: Own elaboration (CIF-ACT format)

The CIF/ACT funds are distributed in non-reimbursable funds up to 11% and 89% in reimbursable funds. Depending on the amount allocated, they are classified as Priority 1, 2 or 3. 89% (US$75.5 million) is allocated to Component III, corresponding to the Infrastructure Pillar (Priority 1), given that the implementation of the transition relies on the early retirement strategies of the CPP. This amount is requested as a concessional loan and other reimbursable mechanisms, covering the decommissioning of the CPP and their replacement or reconversion with new renewable sources and/or storage systems (BESS). Of the remaining 11% non-reimbursable, US$5 million (6%) is allocated to Component II (Priority 2) as a grant. These will be invested in socioeconomic support mechanisms for affected individuals and communities, and US$4.5 million (5%) is allocated to Component I (Priority 3) to strengthen the institutional and regulatory framework. Of this, 50% will be allocated to the CPP Public-Private and the Gender and Inclusion Roundtables, where all stakeholders will be invited to build consensus, coordination, and a shared commitment to a just transition.

Types of financing requested

Components I and II will be financed by non-reimbursable funds through structures such as Cooperation Agreements for Cooperation or Technical Assistance facilities administered by the IDB and the World Bank.

Component III will be financed by a combination of reimbursable concessional funds from the CIF, financing from IDB Invest and IFC, and the participation of the private sector both as private equity and commercial loans. Subcomponent 3.5 regarding the transmission system will be financed by the public sector (GDR) without resorting to the use of CIF concessional funds.
The financial instruments to be used for Component III of the CIF concessional funds may be first-loss guarantees or concessional loans, or a combination of both. Annex 8 describes the basic criteria for the use of these instruments, and the amounts to be distributed among the different subcomponents.

Recipients of financing

The recipients of funding are different depending on the IP's component:

For Component I it is foreseen that the recipients will be different agencies under the Ministry of Energy and Mines such as the National Energy Commission, or the structures of the SIE involved in the command of the electricity system and market in the Dominican Republic, in charge of directing and guaranteeing the just transition.

For Component II the recipients could be a combination of the affected people who should receive support through government institutions and local authorities together with women's and civil society organizations. These will be involved in the management and execution of social projects for labor incorporation, economic regeneration and integration and expansion of projects with female participation, and those related to training in new technologies or retraining for the recovery of human talent, as well as social mitigation actions in the communities.

Finally, for Component III the recipients will be a combination of the CPP joint ventures that own Itabo and Barahona Carbón, and other private actors who will participate with complementary replacement generation and BESS projects. These investments, by their nature, will represent the highest amounts of this intervention.

FINANCING INSTRUMENTS

Anticipated cofinancing

The Investment Plan from its conception is co-financed by the concessional funds of the ACT program and the Multilateral Development Banks, specifically by the Inter-American Development Bank Group (IDB and IDB Invest); and the World Bank Group (World Bank and IFC).

The main financing instrument is Loan Agreements (reimbursable funds) among institutions, the government and the private sector. Contracts can also be issued to finance exclusively the private sector on commercial terms, with or without sovereign guarantee. In a context of international carbon trade participation, with private sector participation, Mitigation Performance Purchase Agreements and CO_{2eq} Emission Reduction Contracts could also be used.

Similarly, these entities may issue Cooperation Agreements or Technical Assistance contracts (non-reimbursable funds). These would be directed mainly to support the projects of Components I and II, being very important to provide legal structure to the whole process, and mitigation measures for the social and economic impacts caused by the Component III early retirement activities.

Multilateral development bank cofinancing

In Component III, both IDB Invest and IFC will provide financing for the early retirement of the CPP assets by assuming a portion of the debt of these projects and mobilizing the private sector to complete these interventions. In the scenario of early retirement of Itabo 1 and Itabo 2 in 2030, this corresponds to US$85.5 million for each entity (II and IFC).

GDR contributions

It is estimated that the Government of the Dominican Republic will be able to contribute 41% of the total investment necessary to comply with the Plan through a capital contribution to ETED (public company) associated with the development of the Plan, with regard to the infrastructure of the transmission system (high voltage transmission lines and substations).

Private sector contributions (developers and commercial banks)

The private sector will be the second-largest contributor to the implementation of the ACT Plan (38%), contributing more than US$400 million for the development and construction of the generation projects. Commercial loan contracts at market interest rates will be the main instruments to finance the closure and replacement of plant assets.

To achieve this level of investment, it is expected that commercial banks will be involved with a participation of approximately US$ 320 million of private debt, representing 27% of the Investment Plan total.

5

ADDITIONAL DEVELOPMENT ACTIVITIES

PARALLEL ACTIVITIES FUNDED BY OTHER DEVELOPMENT PARTNERS

International, multilateral and bilateral cooperation organizations participate in strengthening the country's electricity sector. Among them, the Inter-American Development Bank (IDB) and its financing arm for the private sector — IDB Invest, the World Bank (WB) and the International Finance Corporation (IFC) — promote sustainable development and diversification of the energy matrix and finance energy infrastructure projects, including renewable energy generation, energy efficiency and improvement of the distribution network.

The International Energy Agency (IEA) collaborates in the development of policies and strategies to promote the sustainable use of energy and the reduction of carbon emissions. The United States Agency for International Development (USAID) collaborates to strengthen the energy sector, improve efficiency and promote the use of renewable energy. The Japan International Cooperation Agency (JICA) has provided technical and financial support to improve energy efficiency. The National Renewable Energy Laboratory (NREL) conducts scientific research to increase the capacity to develop decarbonization strategies and projects at larger scales, especially in renewable energies.

In December 2023, the Dominican Republic became a pilot country for the U.S. Government-sponsored Energy Transition Accelerator (ETA) initiative, an innovative jurisdictional carbon finance platform aimed at catalyzing private capital to support ambitious just energy transition strategies in emerging economies.

Public sector:

World Bank

The World Bank Group has a strong commitment to the Dominican Republic to improve people's lives by promoting access to quality public services, increasing the number of high-quality jobs through better skills and higher-quality education, and increasing responsiveness and resilience to the adverse effects of climate change.

In the energy sector, the World Bank has a long-standing commitment to the Dominican Republic dating back to the 1960s. The World Bank's first loan to the Dominican Republic, the Falconbridge Project ($25 million), approved in 1969, financed a power plant for the Falconbridge ferronickel mining plant. The Emergency Program ($25 million), approved in 1980, financed urgently needed imports after Hurricane David, as well as two 30 MW gas turbines for the Dominican Electricity Corporation (CDE). The Itabo coal terminal and power engineering project ($3.8 million) implemented between 1983 and 1986 helped finance the engineering design and feasibility for the Haina coal unloading port and transportation facilities to the Itabo CPP, the environmental study and engineering design for the installation of ash handling facilities in the Haina-Itabo area, and technical assistance and engineering studies to rehabilitate the existing thermal power plants.

Since then, the Bank has continued to support the Government of the Dominican Republic in energy market development, sector reforms and strengthening the electricity distribution sub-sector. This includes the successful implementation of (a) the technical assistance (TA) loan for the energy sector ($7.3 million) and (b) the series of programmatic loans for energy sector reform ($100 million) from 2005-2009. These operations helped to (a) improve the regulatory system by strengthening the Superintendency of Electricity (SIE) as the sector regulator and the National Energy Commission (CNE) as the sector planning entity; (b) design the transmission grid and wholesale energy market by supporting the creation of business plans, identifying alternatives for private sector participation, establishing a transmission expansion plan and revising the methodology for setting transmission charges; (c) improve the management of the Government's interests as a shareholder in electricity sector companies through the Equity Fund (FONPER); and (d) support rural electrification programs and the Outage Reduction Program in urban neighborhoods.

These were complemented by several investments: (a) the Electricity Sector Rehabilitation and Distribution Project ($105 million) implemented from 1988-1995, (b) the Electricity Distribution Rehabilitation Project ($42 million) implemented from 2008-2013; and (c) the Distribution Network Modernization and Loss Reduction Project ($120 million) from 2015-2022. These investments supported the Government's key programs in the sector, namely the 24-hour Light Program, the Outage Reduction Program and measures to improve the cash recovery rate and reduce energy distribution losses. The two investments in loss reduction in the EDEs, together with extensive parallel investments by other multilateral development banks, corresponded to a decrease in losses from 36% to 27% during the 2009-2019 (pre-COVID) period.

Since 2022, the World Bank has broadened and deepened its support of the sector with (a) the Development Policy Lending (DPL) series for Electricity Reform for Sustainable Growth from 2022-2024 ($800 million) and (b) the three-investment series of the Multiphase Programmatic Approach for Sustainable Decarbonization and Access to Cleaner Electricity from 2023-2033 ($505 million). The series of DPLs supported the broad reform agenda set out in the Electricity Compact by: (a) strengthening sector governance by supporting the consolidation and streamlining of sector planning and oversight functions within the Ministry of Energy and Mines (MEM) and bringing greater transparency and accountability to the management of the three electricity distribution companies (EDEs); (b) supporting the implementation of the country's low-carbon energy transition and greater system resilience to climate change by establishing a process for the systematic use of least-cost

electricity generation planning to increase renewable energy deployment, mandating competitive procurement of renewable energy projects (moving away from directly negotiated agreements), a draft law and national strategy for energy efficiency, and a strengthened grid code to enable greater integration of renewables while ensuring quality service delivery by distribution companies; and (c) improving the sector's financial sustainability and operational performance by defining a trajectory for future gradual tariff increases while reforming the Bonoluz program to protect the poorest and most vulnerable households from the financial impacts of such increases.

The programmatic series catalyzes investments to accompany the GDR over the medium term in the continued implementation of key reform areas and the achievement of critical sector objectives. Phase 1, the Distribution Efficiency Improvement and Utility Strengthening Project ($225 million), to be implemented over 2024-2028, aims to improve the governance, financial and environmental sustainability of electricity distribution companies to enable the energy transition. Phase 2, the Energy Efficiency and Rooftop Solar Project ($150 million), to be implemented over 2025-2030, aims to reduce the consumption of high-carbon grid electricity in public buildings. Phase 3, which is being identified, will aim to address the high carbon intensity of power generation and will be complemented by activities supported by this IP of the CIF.

World Bank investments have been complemented by a wide range of technical assistance grants to MEM, the Unified Council of Distribution Companies (CUED), the Superintendency of Electricity (SIE), the System Coordinator (OC), the state-owned hydropower company (EGEHID), the National Council on Climate Change and Clean Development Mechanism, the Ministry of Economy, Planning and Development (MEPyD). For MEM, the World Bank has been providing technical assistance in scoping offshore wind project development prospects, identifying optimal locations for future energy projects and preparing the draft national strategy on energy efficiency, to name a few. For CUED, the World Bank has been providing advisory support on the urgent recovery plan to ameliorate the significant COVID-related deterioration of services and financial situations of the utilities. For SIE and the OC, the World Bank is providing support in the planning and implementation of the next issuance of the battery storage (BESS) regulation. For EGEHID, the World Bank provided workshops on best practices in the development of pumped storage hydropower projects and on environmental and social risk management for hydropower projects. For the National Climate Change Council, the World Bank supported the development of the Decarbonization Pathways for Energy, Transport and Agriculture, Forestry and Other Land Use (AFOLU). For MEPyD, the World Bank is supporting the development of the Long Term Strategy (LTS) for Low Carbon and Resilient Development.

These broad engagements with the wide range of sector entities align with the World Bank Group's FY22-FY26 Country Partnership Framework, which prioritizes improved access to quality public service delivery, increased numbers of high-quality jobs and greater resilience to climate change. They also inform and operationalize the key findings of the WB's corporate flagship report, the Country Climate and Development Report (CCDR) for the Dominican Republic, which identifies a pathway for the country's transition to more resilient, low-carbon development with an emphasis on near-term actions to guide policy formulation and investment decisions.[22]

[22] https://openknowledge.worldbank.org/server/api/core/bitstreams/89f67367-f915-4369-8f30-9afbc6d89741/content.

Inter-American Development Bank (IDB)

The IDB has been actively supporting the Dominican Republic's electricity sector since 2008 with the approval of the first financing (DR-L1026) for US$40 million to support the Loss Reduction and Business Improvement Program (PRPMC) for distribution companies (EDEs).

In 2011, the IDB approved a Programmatic Policy Loan (PPL), the first of a series of three financing operations, called Program for the Sustainability and Efficiency of the Electricity Sector (DR-L1050) for $200 million. This first operation contributed to the implementation of sectoral policy reforms necessary to increase the efficiency of the power distribution utilities and guide them towards financial sustainability, with the establishment of goals for the main operating and commercial variables linked to Management Contracts for the reduction of losses and improvement of collection. It achieved progress in the transparency of the sectoral accounts for better monitoring of the efficiency improvements of the companies in the sector; in the management of the subsidy focused on electricity consumption; in the planning of the efficient expansion of the generation and transmission systems; and in the development of the legal framework for Energy Efficiency (EE).

Giving continuity to the improvement strategy in the electricity distribution subsector, the IDB in 2014 approved financing (DR-L1034) for US$78 million for the Distribution Network Modernization and Electricity Loss Reduction Program, with specific objectives focused on the operational and commercial improvement of the utilities and the improvement of the quality of electricity supply to end customers, by means of: (a) rehabilitation of priority electric circuits, and the improvement of metering systems; (b) strengthening of commercial management and social management; and (c) continuity in institutional strengthening.

The prioritization of needs at the level of electricity infrastructure in the distribution subsector was established in the Master Plan for the Expansion of the Distribution System (PMESD), including a review of investment needs for eight years, prepared with support from the IDB in 2017, and which allowed in 2018 the approval of the first financing to expand EDESUR's substation and network infrastructure (DR-L1128) for US$155 million, with the objectives of: (a) reducing technical losses; (b) increasing average service availability; (c) increasing supply in the intervention areas; and (d) improving the economic empowerment of women through productive activity initiatives.

The second Programmatic Policy Loan (PBP) of the series of three financing operations was approved with US$400 million in 2018 for the Program for the Sustainability and Efficiency of the Electricity Sector (DR-L1058). This operation provides continuity to the Bank's support to the electricity sector reform program to advance the sector's financial sustainability and operational efficiency reforms, by expanding its supervisory, regulatory and planning capacity; and deepening improvements in operational and financial management of the sector through policy commitments focused on the sector's fundamental challenges in terms of generation; distribution; tariffs and subsidies; and institutions.

The IDB, together with JICA, has led the strategic studies for the development of efficiency in the electricity sector, assessing the potential and defining spaces for prioritized intervention. This allowed in 2019 the approval of the Energy Efficiency Program (EE) for the Dominican Republic (DR-L1122), with funding of $39 million from the IDB and $36 million from JICA, to reduce electricity consumption in the public sector and contribute to the reduction of GHG through technology substitution and implementation of EE measures in public lighting. Its specific objectives are to: (a) reduce the consumption of imported fossil fuels for generation and consequently public spending; (b) incorporate digital or other technologies that enable an improvement in lighting management; and (c) strengthen the capacities of the institutions' personnel in efficient technology management.
In 2020, the IDB approved the third Programmatic

Policy Loan (PBP) of the series of three financing operations, for the Program for the Sustainability and Efficiency of the Electricity Sector (DR-L1146) for $200 million. This third tranche continues to contribute to achieving more efficient generation costs in the long term by: monitoring minimum technical values of generation plants to optimize costs; diversifying the matrix in line with the indicative generation expansion plan; approving the regulatory framework for distributed generation; and carrying out generation contracting through competitive processes. The program promotes the implementation and follow-up of the Management Improvement Plans and the Utilities Loss Reduction Plan monitored by the SIE; it supports the definition of a transition tariff regime that allows reaching the reference tariff and reducing the generalized subsidy, consolidating the focused subsidy with the allocation of the benefit to the most vulnerable households. The program strengthens the institutional framework by supporting the implementation of the MEM Organic Regulation, strengthening the development of EE and rural electrification programs, and the continuous development of the SIE's capacity to regulate the sector.

The IDB has played a leading role in accompanying the definition of strategic guidelines for the improvement of the sector, contributing in different areas through studies such as: study of acceptable penetration of NCRE in the Dominican Republic; proposal for private participation schemes in distribution (2017 and 2020); preparation of the regulations for quality of service for distribution and distributed generation (2022); proposal to amend the framework law of the electricity sector to strengthen the institutional framework and comply with the mandate of the Electricity Pact (2022); survey of distribution assets and support for the periodic implementation of financial audits for the utilities in the framework of the transparency mandate; and identification of potential for the development of pumped storage plants in the country (both 2023).

Private sector:

IFC

The International Finance Corporation (IFC), the private sector arm of the World Bank Group, is the largest global development finance institution focused on the private sector in emerging markets. A long-term partner in the Dominican Republic, IFC has invested and mobilized over US$1.4 billion for private sector projects there in various sectors such as renewable energy, ports, airports, telecommunications, creative industries, agribusiness, manufacturing and SME financing.

IFC has been present in the Dominican Republic since 1961, playing a counter-cyclical role at key moments and working with companies to support the continued diversification of the energy matrix by providing financing for new energy capacity. IFC has supported innovation, for example, by financing one of the first wind power plants in the country.

Country strategy:

IFC's work in the Dominican Republic is guided by four important strategic documents:

- the Country Partnership Framework (CPF) for FY22-FY26, which prioritizes increasing access to quality public service delivery, the number of high-quality jobs, and resilience to climate change;
- IFC's FY20-FY24 Country Strategy that focuses on economic growth, inclusion and sustainability;
- the Country Private Sector Diagnostic (CPPD) published in October 2023 which identified opportunities mainly in agribusiness, manufacturing (including eco-industrial parks) and MedTech; and
- the Country Climate and Development Report (CCDR) published in November 2023, which aims to accelerate climate action to build resilient development in the Dominican Republic.

IFC's strategy focuses specifically on three pillars:

- Productivity — supporting the continued development of capital markets and improved competitiveness through advisory services in

- PPPs and investments in critical sectors such as roads, water and renewable energy.

- Inclusion — increasing the population's access to services, e.g., through financing (especially for women and SMEs), digitalization, education and health.

- Sustainability — supporting climate adaptation and resilience through IFC's activities in resilience building, energy and resource efficiency, green finance products for financial institutions, and carbon-footprint reduction through decarbonization and investment in renewable energy and storage systems.

Country program:

IFC's current investment portfolio in the Dominican Republic (as of September 2024) amounts to US$126 million and comprises four investments in the financial institutions and renewable energy sectors, and its advisory services portfolio of approximately US$18 million in various sectors. Notable investment projects include a 17-year project financing the 50 MW PECASA wind power plant in Montecristi.

Advisory services complement investment projects. Ongoing advisory and pre-investment services supporting energy sector development and green initiatives include:

- Technical assistance to the Superintendency Office of the Superintendent of Securities to develop a green taxonomy for capital markets.

- Collaboration with the SIE to develop a study to model the technical and commercial impact of integrating battery energy storage systems (BESS) in the country to complement variable renewable energy. The results of these studies will help inform how batteries could be implemented and the subsidy required to finance them.

IFC also supports sustainable development through regional programs such as:

- Climate Smart Agriculture: Technical assistance to the Superintendency of Securities to develop a green taxonomy for capital markets.

- Sustainable Finance in LAC: Supporting the financial market and financial institutions to consolidate and accelerate the transformation of green finance through capacity building among key stakeholders.

- Global Resilient Building Program: improving climate-resilient housing and buildings.

Planned activities include pre-investment support and advice on PPPs for energy transition.

Aligned with its efforts to drive shared prosperity and support sustainable growth, IFC is honored to continue the long-standing relationship that has been established between the World Bank Group, including IFC, the Climate Investment Funds and the GDR in the context of the Accelerating Coal Transition (ACT) program. As part of this initiative, IFC is working with regulators, market participants and other multilateral organizations to help develop an attractive investment plan that will serve to replace certain coal plants in the Dominican Republic.

IDB Invest

IDB Invest, as a member of the IDB Group, aligns its organizational and financing efforts with the IDB Group's country strategy. The current version of the IDB Group's country strategy for the Dominican Republic was published in December 2021, effective 2021-2024, and a new country strategy is expected to be adopted at the end of this year.

The country strategy 2021-2024 highlighted three priority areas of work: (a) improving public management and the institutional framework; (b) sustainable and inclusive productive reactivation; and (c) strengthening human capital. In particular, synergies between the investment plan and priority areas (b) and (c) are highlighted.

The country strategy highlights the need to strengthen electricity infrastructure as a driver of productivity, focusing on increasing generation capacity to meet unmet demand, improving service quality, reducing dependence on fossil fuels to improve energy affordability, and reducing technical and commercial losses. In this regard, the Group's strategy highlights “developing a sustainable and resilient productive infrastructure in the electricity and transport and logistics sectors (in partnership with the private sector), with a view to reducing companies' operating costs and improving the quality, affordability and sustainability of service, in order to take advantage of the opportunities created by the reconfiguration of global and regional value chains” (IDB, 2021).

As for human capital, the strategy identifies the integration of gender and diversity considerations in the design of operations and projects as cross-cutting areas of work.

IDB Invest carries out projects and investments in three directions: energy and infrastructure, financial institutions, and corporations. In energy, during the 2021-2024 country strategy, the following investments stand out:

- CEPM green projects (14348-01) — US$42 million loan to Consorcio Energético Punta Cana Macao S.A to finance (a) the expansion of an existing solar photovoltaic power plant from 7.2 MW to 24.6 MW and the installation of a battery energy storage system (BESS); (b) the construction of the first Electric Vehicle (EV) charging station for individuals, electric buses and micromobility (electric motors and bicycles); (c) a microgrid system using solar energy on Saona Island on the southeast coast of the Dominican Republic; and (d) other general capital expenditures and corporate uses.

- AES Warehouse for renewable projects (14542-01) — US$125 million loan to AES Dominicana to (a) finance the design, construction, operation and maintenance of the Mirasol solar project, the Peravia I solar project and the Peravia II solar project, three new Non-Conventional Renewable Energy projects with a total installed capacity of 240 MWac, and (b) refinance the short-term credit facilities obtained by the Borrower to construct the Agua Clara wind project, the Bayasol solar project and the Santanasol solar project; three NCRE projects with a total installed capacity of 150 MWac.

- Enertur Solar (14676-01) — US$33.9 million loan to InterEnergy Group to finance the design, development, construction, operation and maintenance of a solar photovoltaic power plant with an installed capacity of up to 50 MW and a BESS with a capacity of up to 50 MW in the Municipality of La Romana.

These projects highlight IDB Invest's commitment to the energy transition in the country while contributing to the goals of energy security and affordability. They also demonstrate the institution's capacity as a relevant actor in the financing of generation and storage replacement assets within the framework of the CIF-ACT.

Others

Annex 6 provides more details on the current projects identified.

SYNERGIES IDENTIFIED

Coordinate actions to strengthen the legal framework, energy efficiency and the promotion of renewable energies with the German Cooperation Agency (GIZ), the International Renewable Energy Agency (IRENA), Energy Transition Accelerator (ETA), USAID, JICA and UNDP.

6

IMPLEMENTATION POTENTIAL WITH RISK ASSESSMENT

INSTITUTIONAL, TECHNOLOGICAL, ENVIRONMENTAL, SOCIAL AND FINANCIAL RISKS

The prospective results and goals, with specific values of their respective indicators, may vary and deviate from what was expected and/or programmed, either positively or negatively, depending on external or internal factors. Methodologically, it is essential to identify the potential risks associated with the implementation of the Plan, according to its scope and nature, describing them in correspondence with the components of the Plan. Risks may be external or internal, depending on the control exercised by the owners and executors of the Plan.

Table 7 | Risk identification matrix

RISKS	MITIGATION	RESIDUAL RISK
PILLAR I. GOVERNANCE		
External risks		
High dependence on external financial resources to achieve climate change goals and development objectives.	The GDR has made a significant effort to define strategies, plans and mechanisms for public-private partnerships to address the challenges of climate change and the decarbonization of the economy, and updated its NDC in 2020. Climate Change Funds and other international sources are strongly collaborating with the country to achieve these objectives. However, the roadmap is long term and depends on the chosen partnerships.	**Medium**
Internal risks		
Limitations in planning and execution management capabilities in the electricity sector.	The country has been modernizing and strengthening the institutional framework of the electricity sector. In the past two decades, important steps have been taken in the creation of institutions with a clear distribution of functions that allow for a more orderly and balanced management of the Dominican electricity market. The country has a Strategic Plan for the Electricity Sector. CIF/ACT and NPC Investment Plans are pursued. International financing agencies WB/IFC and IDB/II, and other cooperating development actors in the country, will play an essential support role in strengthening the planning and management of the sector.	**Medium**
Gaps in the regulatory framework for the energy transition.	Although there has been progress in the approval of laws in the energy sector, a series of gaps has been identified in regulations that encourage and expedite the competitiveness of new renewable energy projects, as well as for the process and procedures for the decommissioning of CPP. Another series of complementary regulations such as energy storage, ancillary services and marginal costs in generation, ownership of carbon financial assets and government participation in international transactions of mitigation results needs to be updated or created.	**Medium**
Institutional capacity for the management and execution of large-scale projects is still very limited.	The energy transition in the Dominican Republic requires large-scale investment projects. Technical and financial support from CIF/ACT and multilateral financial institutions such as the IDB Group, World Bank Group and other important international cooperation actors will be key to supporting the country and reducing this risk. Technical advice and assistance for institutional strengthening, resource management capacity and fiduciary risk mitigation will be part of the preparatory actions prior to and during implementation and the flow of resources that the ACT Investment Plan will demand in the country. This implies strengthening the GDR's control over the protection of resources and the fight against corruption and financial administrative weaknesses.	**Medium**
PILLAR II. PEOPLE AND COMMUNITIES, JUST TRANSITION		
External risks		
Social, political and economic crises in Haiti exert migratory pressures and additional demands for public services that affect the economic stability of the DR.	The Dominican Republic faces important public and private funding needs to mitigate the effects of Haitian migration, which puts pressure on public services such as water, energy, health, education, public safety and employment. It also damages bilateral trade relations, generating significant losses in exports and/or imports between the two countries.	**Medium/ High**
Internal risks		
Social and environmental impact of the retirement and decommissioning of CPP.	The removal of CPP will require an adequate study of their impact from the physical-environmental point of view as well as the social and economic effects on workers, indirect workers, surrounding communities and adjacent municipalities. Strategies to address them should be proposed and agreed upon with those affected, prioritizing gender interests, ethnic diversity and vulnerable groups such as children, people with lower incomes and less economically developed communities.	**Medium**
Deepening of inequalities and gender and ethnic discrimination in the dynamics of plant shutdowns in the electricity generation sector (social risk).	The ACT IP contains as a cross-cutting theme the gender-aware approach and the protection of the rights of ethnically diverse groups. The program will focus especially on creating participatory mechanisms so that women from vulnerable and diverse groups can access the program through raising awareness, building capacity and economic empowerment activities. The M&E system includes indicators and objectives disaggregated by sex to ensure an equitable distribution of expected results, as well as the creation of the Gender and Inclusion Roundtable.	**Low**
Unemployment and reduction of income of CPP direct and indirect workers, families and communities linked to the economic dynamics of the plants' retirements. **The coal transition, with the closure of operations, generates negative impacts on people directly and indirectly linked to the generation industry.**	The Just Transition approach as the guiding principle of the Investment Plan addresses this risk by including a central component to mitigate unemployment, income reduction and economic instability impacts in the communities, and proposes projects and actions to improve resilience and provide economic and labor alternatives. The affected people will be able to lower the impact with job reincorporation opportunities, training and/or retraining (upskilling/reskilling), as well as economic regeneration alternatives in the affected communities and adjacent municipalities. The Plan is not fulfilled if these aspects are not addressed with efficiency and priority.	**Low**

PILLAR III. INFRASTRUCTURE		
External risks		
High vulnerability to the impacts of climate change, especially tropical weather events (hurricanes, tsunamis, landslides) and other more generic phenomena such as earthquakes and forest fires.	The Dominican Republic has a protection and mitigation system to lower the impact of natural catastrophic events that are very common and extreme, especially wind and rainstorms during the wet season from May to November. Law 147-02 on Risk Management regulates the concept of risk management and creates the related institutional structures. Prevention and mitigation measures focus on the protection of the population and, to a certain degree, the infrastructure. The SENI, in general, suffers from the effects of these events and has many difficulties restoring service due to the lack of adequate resources and technology, as well as of mitigation and energy reserve mechanisms.	**High**
High dependence on oil imports and other primary fossil fuel sources such as liquefied gas and coal.	The Dominican Republic resorts to higher imports when fossil fuel prices rise. The volatility of the prices of primary fossil fuel sources is caused by external shocks in the international market, by international conflicts in producing and exporting countries, etc. The country has set its sights on achieving energy independence. The ACT IP is committed to expanding RE sources to reduce coal consumption.	**High**
Internal risks		
Technology. Massive implementation of renewable energy projects and modernization of SENI.	New investments in renewable energy, while increasing SENI's capacity and expanding clean energy generation, present a great challenge for electricity supply. The System will require greater flexibility capacity to maintain its response capacity to a growing demand in the face of the intermittency of NCRE, which will imply important technical analyses and the determination of enabling conditions prior to the closure of the CPP and the commissioning of new clean energy plants and related storage units. This is widely considered in the Investment Plan, including BESS.	**Medium**
Limited transmission system capacity for the energy transition and decarbonization of the electricity sector.	Combined with the risks presented above, the Investment Plan contemplates a significant investment in the modernization and expansion of the Transmission System to ensure stability in the transmission and distribution of electricity from high RE potential areas to the Greater Santo Domingo area and other high demand sectors.	**Medium**
System modeling to be updated in subsequent phases of the program.	The SENI's system model developed for the purposes of this Investment Plan is to be updated in subsequent phases of this program based on actual development of the system and foreseen planning initiatives by the Government, potentially affecting the stated targets and metrics of the Investment Plan and always in observance of the security, reliability and affordability of electricity in the country.	**Medium**

ABSORPTION CAPACITY FOR ACT PROGRAM AND ASSOCIATED INVESTMENTS

The commitments of NDCs and the Energy Plans of the Dominican Republic demonstrate its political will and governmental commitment to the decarbonization of the economy and the strengthening of its energy infrastructure. It is important to specify that the absorption capacities are measured by the capacity to execute the programs in time and form and the adequate use of resources, obtaining the expected results, without deviating from the proposed objectives. The country has received and still receives many external cooperation and investment resources in various social and economic sectors and for public utilities.

In the past decade, the country has experienced rapid economic growth, positioning it among the fastest-growing economies in Latin America. Its nominal GDP reached US$121.8 billion in 2023 (IMF, 2024). According to the IMF's September 2024 review[23], after a strong post-pandemic recovery, economic growth slowed to 2.4% in 2023 due to tighter global and domestic financial conditions, weak export demand and transitory domestic factors, mainly climatic. In response, the Central Bank of the Dominican Republic (BCRD) prudently and appropriately reduced its main monetary policy rate. The current account deficit in 2023 was sharply reduced to 3.6% of GDP and was fully financed by foreign direct investment (FDI) inflows. The financial sector is well capitalized and profitable.

According to the IMF, the outlook is positive despite high uncertainty, mainly global. By 2024 and in the medium term, real GDP growth is projected to be close to 5%, with inflation around the 4% target. The current account deficit is projected to gradually narrow to less than 3% of GDP and continue to be fully financed by FDI. Near-term risks to economic performance from tighter global financial conditions, geopolitical tensions and volatile commodity prices have moderated since 2023 but remain elevated and skewed to the downside. Over the medium term, risks are more balanced with upside biases if major reforms are successfully implemented.

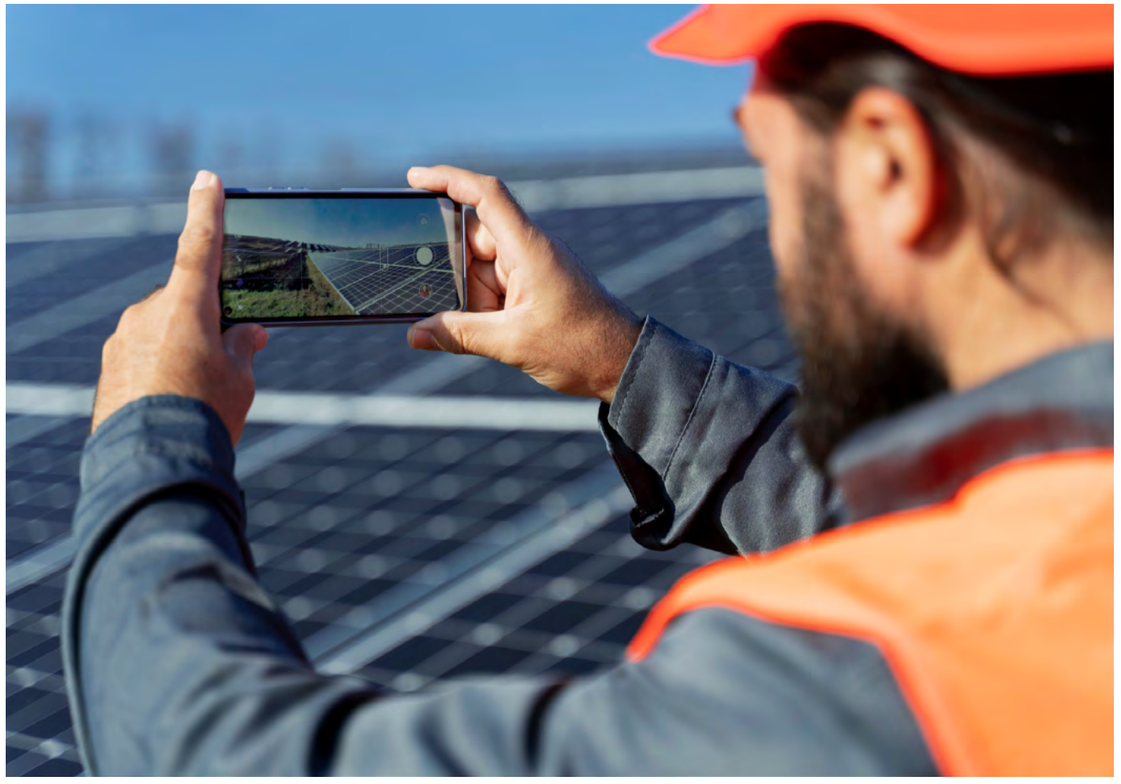
The Dominican Republic has one of the most stable economies in Latin America and the Caribbean. Macroeconomic stability has promoted foreign direct investment (MUS$3,600 in 2023), particularly in the tourism sector, one of the country's main and most consolidated activities. In addition, it is possible to appreciate the DR's capacity to provide sustainability to investments, evidencing its commitment by allocating counterpart resources for projects, adopting the results achieved, turning them into sustained public policies in the long term and preventing them from being reversed. It is evident that the country is seriously promoting investments in renewable energy to decarbonize the electricity sector. All these elements provide confidence and certify that there is capacity in the country to absorb resources on the scale of the ACT program, which will be mainly funded by private sector debt.

[23] https://www.imf.org/es/News/Articles/2024/09/10/pr24323-dominican-republic-imf-exec-board-concludes-2024-aiv-consult.

7

MONITORING AND EVALUATION

ANALYSIS OF COMPLETE SYSTEMS



The Integrated Results Framework (IRF) offers an articulated systemic vision and describes the results and indicators with their base values and projections over time to follow up, monitor and evaluate the periodic and final progress of the Plan's general objective and its components, associated to the ACT program pillars[24]. The IRF represents the CIF/ACT indicators [25] and identifies the interrelationships of the different elements of the Plan to achieve the results and goals. This ensures the integrality and holistic approach of the ACT program, the axes of the NDC and the National Energy Plan.

The indicators established according to their categories, by the Operational Guide of the ACT Monitoring and Follow-up System, are contemplated in the general objective, actions and projects of the three components corresponding to the three pillars: Governance, People and Communities, and Infrastructure.

[24] The IRF has been constructed based on the ACT program's Integrated Results Theory and Design. Source: coal_transition_toolkit_final.pdf (cif.org).

[25] "Operational Guidance on the ACT M&R System."

ANTICIPATED PROGRAM-LEVEL IMPACTS

At the ACT program level, the ACT-IP-DR aims to: *Accelerate the transition from coal to renewable energy while ensuring a holistic, integrated, socially inclusive transition and promoting gender equality.*

The proposed ACT-IP-DR Theory of Change states that, if the program:

- Leverages funds for the successful implementation of national strategies and the realization of the associated projects;
- Contributes to consensus at the local and regional level to accelerate the transition away from coal and rescind any new coal-fired generation investment projects; and
- Supports investment policies and strategies for economic regeneration, socioeconomic plans and income support for affected workers and communities,

then the GDR at all levels, the energy assets of the public sector and the private operators of the electricity sector will be prepared and will act to accelerate the early retirement of CPP and their replacement with new sources of clean and renewable energy (RE) while ensuring a just transition away from coal with a holistic, integrated, socially inclusive approach and with respect for gender equality.

Impact of the Dominican Republic's Investment Plan to accelerate the coal transition. The expected impact of the Investment Plan consists of:

Replacement and/or reconversion of coal-fired generation operations in the retired Itabo 1, Itabo 2 and Barahona Carbón units with renewable energy projects, through a just and inclusive transition, agreed upon by the relevant actors of the public and private sectors, maintaining energy security in the country, without negative effects on the final cost of electricity supply for the users of the system.

DOMINICAN REPUBLIC INTEGRATED RESULTS FRAMEWORK (IRF)

The IRF presents in a systemic and coherent way the comprehensiveness of the ACT Investment Plan for the DR, establishing from a follow-up and monitoring approach level and at the objective, component and subcomponent impact levels, the results and their performance indicators, with both baseline and target values over time and respective verification mechanisms. In addition, from an evaluation and learning approach level, it describes the key areas and how they interact in a transversal way among the different levels of the Plan.

The indicators, baseline, targets and means of verification are detailed in Annex 2.

PROPOSED APPROACHES FOR TRACKING AND EVALUATING TRANSFORMATIONAL CHANGE

The Investment Plan is based on a holistic and cross-cutting approach to just transition and inclusion issues. The approach is one of evaluation and learning, in line with the ACT program[26], at different levels of the Plan, with its respective monitoring systems and mechanisms.

The elaboration of policies and regulations and key decisions will be validated with the private sector and civil society, including women and diverse ethnic groups, as well as social and environmental NGOs. In parallel, institutional capacity building will be promoted involving all stakeholders.

[26] coal_transition_toolkit_final.pdf (cif.org).

Support for Just Transition by the Gender and Public-Private Partnership roundtables. The working groups will have clear powers and roles and level of decision making. They will record their work in meeting minutes, reports and periodic executive summaries, which should be communicated and made public as agreed.

The Plan will be developed under a dynamic of internal controls, which could include quarterly, semi-annual and annual evaluations and reports. Semiannual and annual evaluations and reports are mandatory. Evaluations should report on compliance with activities, results and indicators, and make recommendations in case of risks. The management of resources must always be institutional and in accordance with the capacities of the executors, who must be evaluated technically, operationally and fiduciarily. In this aspect, the financing agencies will play a major role.

A mid-term and final evaluation of results, in all medium-term (two years) or long-term (three years or more) projects, will be recommended. **A mid-term and final evaluation of results, in all medium-term (two years) or long-term (three** **years or more) projects, will be recommended.** Mid-term evaluations may propose adjustments to the components or to the Plan level, which must be duly justified and documented to be submitted for the knowledge and approval of the funding agencies, especially CIF/ACT. The final evaluation of the Projects, as well as of the Plan in general, will close the execution, which will be monitored by the financing agencies.

The evaluations of the transformational change process will be guided and technically accompanied by specialists who advise on the CIF/ACT Theory of Change, under which the results in the three pillars of the Plan will be analyzed: Governance, People and Communities/ Just Transition, and Infrastructure. These may be part of the annual evaluations.

Finally, **the monitoring and reporting system must be based on formats and information systems that clearly identify the results, activities and indicators** at the different levels, the modifications made with respect to the program and their due justification, as well as the corrective or reoriented measures applied.

The table below summarizes the dimensions of transformational change:

Table 8 | Summary of transformational change dimensions

DIMENSION	JUSTIFICATION OF TRANSFORMATIONAL CHANGE
RELEVANCE	The ACT Investment Plan for the Dominican Republic pursues the retirement of the 312 MW of coal-powered thermal energy units and their replacement or substitution through the deployment of renewable energy and Battery Energy Storage Systems in the country. The Dominican Republic has already engaged in an energy transition process that creates the environment to design a phased and gradual transition away from coal. The process envisioned to incentivize such transition is defined by the implementation of a series of enabling conditions to improve the regulation of the deployment of replacement assets and establish participatory mechanisms among the public sector, the private sector and the relevant stakeholders through a just transition approach. The ACT Investment Plan envisions the use of innovative market mechanisms conducive to voluntary retirement of fossil-fuel-based energy generation.
SYSTEMIC CHANGE	The Investment Plan preparation has encompassed a series of studies and dialogue between the relevant stakeholders to pave the way toward a Public-Private Working Group that guarantees a participatory transition. The goal has been for diverse interests and positions to converge for a holistic and integrated approach to closing coal operations in CPP and managing their financial and technical, economic-business, economic-social, labor and rights aspects of the communities and vulnerable groups affected, as well as safeguarding gender rights and increasing the participation of women. This Public-Private Working Group follows the model of the Chilean Decarbonization Roundtable, which successfully established a roadmap for the Chilean transition away from coal starting in 2019. The working group will be complemented by a Gender and Inclusion Roundtable to integrate the gender-aware perspective in the governance of the energy sector, developing policies that favor gender equality and social inclusion.
SPEED	The Investment Plan targets the early retirement of 312 MW of coal power by 2030-2035 with enabling activities starting in 2025 upon approval of the Investment Plan. The enabling activities across Components 1 and 2 are designed to safeguard the security and reliability of the Dominican energy system while creating favorable conditions and market mechanisms for a phased, gradual and orderly replacement of coal power plants with renewable energy.
SCALE	The Investment Plan supports piloting Coal Transition Credits as an asset class with potential for replication in other jurisdictions. The ACT intervention in Component 3 sits at the crossroads of blended finance and carbon markets, providing a temporary subsidy (subject to the application of the principles of Blended Finance) to eventually promote a permanent market solution where carbon assets and liabilities meet to accelerate decarbonization processes through a just transition approach.
ADAPTIVE SUSTAINABILITY	The Investment Plan is designed with a view toward building voluntary participation in the transition away from coal, ensuring that regular processes and spaces for dialogue and consensus are established and maintained over time so that the coal transition remains consistent with the overarching goal of decarbonizing the energy system while maintaining security and reliability of the Dominican system. Both the institutional design of Components 1 and 2 and the financial instruments design in Component 3 are conceived to establish a flexible and adaptive toolkit resilient to the different variables through the period of implementation of this plan, initially envisioned from 2025 to 2030.

Source: Own elaboration

8

ANNEXES

ANNEX 1: THEORY OF CHANGE ACT-IP-DR

ACT INVESTMENT PLAN FOR THE DOMINICAN REPUBLIC		
Theory of Change		
ACT IMPACT	**Accelerating the transition from coal to renewable energy while ensuring a holistic, integrated, socially inclusive transition and promoting gender equity.**	
IMPACT OF ACT-IP-DR	***Early retirement of the coal-fired Itabo and Barahona power plants, substituted by renewable energy and BESS projects, through a just and inclusive transition, agreed upon by the relevant stakeholders of the public and private sectors, maintaining energy security in the country, without negative effects on the final cost of electricity supply.***	**If the Dominican Republic:** **a.** Develops a consensual and clear coal-to-renewable energy transition strategy aligned with the PEN 2024-3038 and the NDCs. **b.** Establishes a business and financing model to incentivize public, private and international concessional investment and carbon markets to accelerate the gradual replacement and/or reconversion of coal-fired power generation plants (CPP); **c.** Prepares policies, regulations and project portfolios to facilitate a rapid expansion of renewable sources through the processes enabled by the CNE; **d.** Strengthens its institutional and regulatory capacities to assume the processes of just transition; and **e.** Guarantees actions for economic regeneration, social recovery of workers and their families, protection of the rights of vulnerable groups, as well as environmental protection from the effects of the gradual substitution and/or reconversion of the selected CPP; **f.** Facilitates the development of investment in associated and related systems necessary (such as improvement and modernization of transmission networks and energy storage solutions) for the timely and cost-efficient integration of RE to the SENI; **g.** Verifies that it has met the enabling conditions for the cessation of operations of CPP Itabo and Barahona Carbón and verified the strength of SENI in the face of this change, Thus, the Dominican Republic will accelerate its transition from coal to renewable energy in a holistic, manageable, integrative, socially inclusive and gender-sensitive manner, respecting the rights of vulnerable groups, while ensuring a stable, reliable and cost efficient operation of the national grid (SENI), which will allow for the continuity of its robust economic growth.

	GOVERNANCE				PEOPLE AND COMMUNITIES			INFRASTRUCTURE				
RESULTS	**SUB COMPONENT 1.1: Creation of regulations and standards for coal transition and insertion of renewable energy sources**	**SUB COMPONENT 1.2: Support to the Government of the Dominican Republic for participation in carbon markets**	**SUB COMPONENT 1.3A: Public-Private Roundtable for the early reirement of CPP, with civil society participation**	**SUB COMPONENT 1.3B: Gender and Inclusion Roundtable (and M&R mechanism)**	**SUB COMPONENT 2.1: Socioeconomic mitigation measures for the CPP workers and contractors, considering aspects of gender and diversity**	**SUB COMPONENT 2.2: Socioeconomic mitigation measures for the communities and indirect workforce impacted by the transition, considering the aspects of gender**	**SUB COMPONENT 2.3: Mitigation projects in adjacent municipalities for the social welfare of vulnerable communities impacted by the transition, with a gender approach.**	**SUB COMPONENT 3.1: Cessation of operations and decommissioning of CPP Itabo 1+2**	**SUB COMPONENT 3.2: Cessation of operations and decommissioning of CPP Barahona Carbón**	**SUB COMPONENT 3.3: Coal Transition Credits Support Mechanism**	**SUB COMPONENT 3.4: Replacement or reconversion of CPP with renewable energy and BESS projects**	**SUB COMPONENT 3.5: Transmission System enhancements to improve resilience and flexibility**
	Regulations and Standards created to facilitate the just and inclusive transition to the gradual elimination of coal and the insertion of non-conventional renewable energies.	Dominican Government, institutions of the electricity sector, strengthened in their capacities for the formulation and execution of transition plans and strategies, developed a regulatory framework and capacities for the country's participation in the international carbon market as a possible coadjuvant business model.	The Dominican Republic has established a strong public-private and civil society partnership for the transition.	Creation of a Gender Roundtable to follow up on the gender action and social inclusion plan.	Social plans for the incorporation of direct workers and contractors implemented, with a focus on gender and respect for the rights of diversity.	Social plans for the incorporation of indirect workers affected by the closure of implemented CPP, with a focus on gender and respect for diversity rights.	Initiatives of adjacent municipalities are supported by the transition strategy for the social welfare of their affected communities with a gender focus.	Coal-fired operations of Itabo replaced and or reconverted. CPP decommissioned and site reconditioned.	Coal-fired operations of Barahona Coal replaced and/or reconverted. CPP dismantled and site reconditioned.	Combined Financing Mechanism created and allowing for financing the transition.	Renewable energy generation projects installed and operating, providing secure electricity supply coverage in the SENI.	Resilient and flexible transmission system functioning adequately with the closure of the Itabo and Barahona Coal CPP and the incorporation of renewable energy sources.

GOVERNANCE				
PILLAR 1	**Creation of regulations and standards for coal transition and insertion of renewable energy sources**	**Support to the Government of the Dominican Republic for participation in carbon markets**	**Public-Private Roundtable for the early reirement of CPP, with civil society participation**	**Gender and Inclusion Roundtable and M&R mechanism**
PRODUCTS	Public policies adapted through Regulations and Norms of the National Electric System (SENI) in accordance with the requirements of the transition to renewable energies. Public policies adapted with a gender and social inclusion perspective and through Regulations and Norms of the National Electricity System in accordance with the requirements of the transition to renewable energies.	Clear transition plans and strategies. Demonstrated leadership and implementation capacity of Dominican electricity sector institutions. Business model (blended financing of international carbon trading and proposed use to finance accelerated retirement of CPP. Mechanism for Monitoring, Reporting and Verification of GHG emission reductions due to the closure of functional and operational CPP.	Public-Private Working Table with Civil Society representative of all sectors, directly or indirectly working and participating in the transition.	Gender Working Group
ACTIVITIES	Development of the Planning Regulation (to be done in parallel with ACT). Standards for the closure and physical decommissioning of generation plants. Definition of requirements for the closure of units. Update of marginal cost regulation for renewables, storage and operation of thermal plants, discharge allocation. Storage update (BESS): management (OC, ETED) and technical criteria (SIE). Update on regulation of ancillary services. Update of Verification Methodologies for Verification of Operating Restrictions Parameters (VEROPE). Competitive framework for new infrastructure: improvement of energy purchase requirements, particularly wind; improvement of requirements for complementary services in the grid, regulation, voltage, frequency, response to events, etc.) to evaluate grid strength. Adaptation of objectives, requirements and needs of the service replacement plan.	Effective functioning of the SENI Coordinating Agency Council. Strengthening of SENI's short- and long-term planning techniques and methods. Effective short and long term planning exercises. Strengthening of skills and operational competencies of the Dominican Electricity Transmission Company (ETED) in compliance with ACT objectives and expansion of renewables. Generation and transmission expansion planning (operating reserve) in compliance with ACT and renewable expansion objectives, improving the concession allocation process. Development of the electricity generation abatement curve for the country. Evaluation of the carbon market mechanism to co-finance the transition strategy. Institutional arrangements for the operation of the Carbon Transition Fund, for monitoring the evolution of the price of carbon credits in the voluntary and regulated markets and for the international transfer of mitigation results.	Diagnosis shared with the owners of the Itabo and Barahona coal-fired power plants on the situation and ACT objectives. Preparation and presentation of incentive mechanisms for the transition and changes in operations (social actions and economic regeneration, recognition of gender rights and female participation, protection of the rights of diversity and vulnerable groups and the environment in the communities). Review of strategic reserve aspects and presentation to the Public-Private Alliance Roundtable and civil society. Definition and presentation of compensation procedures and schedule.	Studies that reflect the relationship between just energy transition and the gender perspective and social inclusion in the Dominican Republic. Develop and propose energy policies that integrate the gender perspective, establishing advocacy mechanisms through south-south and triangular cooperation, among other implementation strategies. Organize training and workshops for decision makers on the importance of gender equality in energy policies.

GOVERNANCE				
PILLAR 1	**Creation of regulations and standards for coal transition and insertion of renewable energy sources**	**Support to the Government of the Dominican Republic for participation in carbon markets**	**Public-Private Roundtable for the early reirement of CPP, with civil society participation**	**Gender and Inclusion Roundtable and M&R mechanism**
INPUTS	Regulations and Standards in force.Technical and legal assistance for review and drafting, validation with stakeholders of proposed regulations and standards in accordance with the transition to renewables.	Development plans for the Dominican electricity sector. Standards and manuals of institutional operational processes of the OC and other institutions of the electricity sector. Technical assistance in strategic and operative planning of the electric sector. Emissions baseline, theoretical closing date of CPP, proposed closing date to ACT and estimated price of avoided emissions. Ex-ante calculation of the SENI emission factor, latest national GHG inventory and updated NDC.	Regulations creating the Board and its functions and organizational regulations. Diagnostic reports on operations and production records of the Itabo and Barahona Plants. Strategies for transition to renewables, required investments and business model options for the transition. Compensation and incentive procedures and implementation schedule. Social plans for the incorporation of direct and indirect workers, contractors, economic regeneration, mitigation of impact on communities and initiatives in adjacent municipalities. Safeguarding women's rights and gender focus.	Regulations creating the Gender Roundtable and its functions and organizational regulations. Social plans for the incorporation of women for economic regeneration, impact mitigation in communities and initiatives of adjacent municipalities. Safeguarding women's rights and the gender approach.

PEOPLE AND COMMUNITIES			
PILLAR 2	**Social projects for the incorporation of direct workers and contractors**	**Social projects for the incorporation of communities and indirect workers affected by transition**	**Mitigation projects in adjacent municipalities for the social welfare of vulnerable communities affected by the transition with a gender approach**
PRODUCTS	Social plans for the incorporation of direct employees with a gender perspective and respect for diversity rights. Plans for the incorporation of contractors with a gender approach and respect for the rights of diversity. Evaluation and follow-up reports on social plans for the incorporation of direct workers and contractors.	Social and professional training plans for the incorporation of indirect workers with a gender focus and respect for the rights of diversity.	Proposals of initiatives from adjacent municipalities to mitigate the impact on vulnerable affected communities (age groups, gender, economic sectors). Participatory and inclusive processes of programs and projects in the communities. Education and communication on the importance of gender equality and social inclusion in relation to a just energy transition. Leadership positions for women and diverse groups. Funding for programs that promote women's economic empowerment in communities.

PEOPLE AND COMMUNITIES			
PILLAR 2	**Social projects for the incorporation of direct workers and contractors**	**Social projects for the incorporation of communities and indirect workers affected by transition**	**Mitigation projects in adjacent municipalities for the social welfare of vulnerable communities affected by the transition with a gender approach**
ACTIVITIES	Characterization of human resources needs at the time of changes (and eventually cessation of) in the operation of the CPP. Dissemination of possible labor reconversion plans. Allocation of resources to the needs: early retirements, labor reconversion, study vouchers...	Establishment of mechanisms, procedures and training for access to information and financial resources through workshops and counseling for target groups. Creation of specific funds and financing programs for women entrepreneurs in renewable energy. Provision of technical skills and competencies to access markets and business opportunities for women owned businesses. Organization and development of scholarship programs for technical training in sustainable energy specifically targeted at women. Establishing partnerships with educational and technical institutions to promote the inclusion of women in sustainable energy programs. Establish gender-balanced community advisory committees. Develop transparent mechanisms for community consultations. Implement training programs (upskilling/ reskilling). Develop and distribute educational materials on gender equality and its intersection with just energy transition. Conduct workshops and seminars in communities. Use various media channels to disseminate information on gender equality. Promote gender mainstreaming in the value chains of entities in the Dominican energy sector. Establish sources of financing for projects led by women. Provide training in financial literacy and business management. Form alliances with financial institutions to improve access to credit.	Establish gender-balanced community advisory committees. Develop transparent mechanisms for community consultations. Implement training programs for women and men leaders in the communities. Develop and distribute educational materials on gender equality and its intersection with just energy transition. Conduct workshops and seminars in communities. Use various media channels to disseminate information on gender equality. Promote gender mainstreaming in the value chains of entities in the Dominican energy sector. Establish sources of financing for projects led by women. Provide training in financial literacy and business management. Form alliances with financial institutions to improve access to credit.
INPUTS	Characterization of the labor force in each CPP. Labor Reconversion Plans Financial resources to cover labor reconversion costs, early retirements, retraining studies.	Diagnosis of the impact of the transition on indirect workers, with a focus on gender and diversity rights. Funds for financing business initiatives of indirect workers. Technical assistance for market and or marketing strategies to support the economic initiatives of indirect workers affected by the closure of CPP.	Diagnosis of the impact of the transition on communities in municipalities adjacent to the CPP. Proposed documents of municipal initiatives of vulnerable communities affected by the transition, in adjacent municipalities. Technical assistance in identification of initiatives to authorities of adjacent municipalities with communities affected by the transition.

INFRASTRUCTURE					
PILLAR 3	**Cessation of operations and dismantling of Itabo 1+2 CPP**	**Cessation of operations and dismantling of the Barahona Carbón CPP**	**Transitional Credit Support Mechanism**	**Replacement assets Renewable Energy + BESS**	**Transmission System Resilience and Flexibility**
PRODUCTS	Report/report verifying the enabling conditions for the closure of coal-fired operations at the Itabo Plant and verification of the strength of the SENI. Report of substitution and/or reconversion of Itabo 1+2 -fired Power Generation Plant (Closure of coal-fired operations and new electricity generation activities or reuse of Assets).	Report/report verifying the enabling conditions for the closure of coal operations at the Barahona Carbón plant and verifying the strength of the SENI. Report of substitution and/or reconversion of Barahona Carbón Power Generation Plant (Closure of coal-fired operations and new power generation activities or reuse of Assets).	Validated methodology. Proven baseline values. Validated CO_{2eq} price. Guarantee established. Purchase contracts for mitigation and CO_{2eq} emission results. Validated project documents.	Strategy for the expansion of the SENI Procurement Processes (RFPs) and/or awarding of concessions for renewable energy projects. Commercial operations (COD) of renewable energy projects (Plant Factor, participation in supply, dispatch by merit of supply in the grid, etc.). Commercial operations (COD of energy storage projects (BESS).	Investment project documents for the improvement and modernization of the Transmission System (RFPs and Project Awards). Periodic reports on the functionality of the Transmission System with emphasis on the participation of renewable energy. Maintenance reports and improvement actions or adjustments to the Transmission System.
ACTIVITIES	Design and execution of Itabo Plant replacement strategy, specifying the options and selection of investments to be developed. Definition of auxiliary services to be provided to SENI at the Itabo S/E and sizing of BESS and/ or additional SFV capacity to be located at the site (including synchronous condenser). ETED network impact study in Itabo area (and recommendations for auxiliary services additions). Verification report of enabling conditions and verification of SENI's strength. Closure and cleaning of the coal and ash transport and storage chain at the Itabo industrial plant. Final closure report approved.	Design and execution of Barahona Carbón replacement strategy, specifying the options and selection of investments to be developed. Definition of auxiliary services to be provided to SENI at the Barahona S/E and sizing of SFV and BESS plant to be located at the site (including synchronous condenser). ETED network impact study in Barahona Coal area (and recommendations for auxiliary services additions). Verification report of enabling conditions and verification of SENI's strength. Closure and cleaning of coal and ash transport and storage chain at Barahona Coal industrial plant. Final closure report approved.	Financial and legal structuring of the price guarantee mechanism (PGM): Fixed price confirmation process. Design, negotiation and subscription of contracts per asset. Development of the MADD per asset and validation: Verification of reductions per asset.	SENI expansion strategy with renewable energy projects, including their expansion diagnosis and enabling conditions for their incorporation to SENI. Carrying out RFPs of RE plants by capacity and by year to strengthen SENI's renewable mix. Emphasis on wind and emphasis on high demand nodes. Conduct BESS RFPs by capacity and by year to strengthen SENI's renewable mix. Emphasis on private asset coordination, and defining BESS for direct use of ETED for arbitrage, curtailment or congestion management, and regulation services.	ETED network impact study in Itabo area (and recommendations for auxiliary services additions). ETED network impact study in Barahona area (and recommendations for auxiliary services additions). Carrying out RFPs for new high-capacity lines to SW and NW sectors. Reinforcement of the system's operating capacity with auxiliary service equipment at critical points. Reinforcement of system flexibility with BESS and opening devices.

	INFRASTRUCTURE				
PILLAR 3	**Cessation of operations and dismantling of Itabo 1+2 CPP**	**Cessation of operations and dismantling of the Barahona Carbón CPP**	**Transitional Credit Support Mechanism**	**Replacement assets Renewable Energy + BESS**	**Transmission System Resilience and Flexibility**
INPUTS	Consensus strategy for the replacement and/or reconversion of the Itabo Plant (Studies of options for replacement/reuse of assets, specialized studies on frequency and voltage control in the area of operations, supply conditions in SD, review of conditions in various areas of the zonal transmission system, other studies of the impact on the operation of the system with the retirement of both units, storage, etc.). Strategies and social plans for the incorporation of direct and indirect workers of the Itabo Plant. Strategies and projects on initiatives to support the mitigation of the impact of vulnerable communities in municipalities adjacent to the Itabo Plant site.	Agreed strategy for replacement and/or reconversion of the Barahona Carbón Plant. Documented investments in new generation projects and/or auxiliary services. Strategies and social plans for the incorporation of direct and indirect workers of the Barahona Carbón Plant. Strategies and projects on initiatives in support of mitigating the impact of vulnerable communities in municipalities adjacent to the Barahona Carbón site.	Baseline emissions trajectories. Useful life dates of CPP. Retirement dates. Closure costs.	SENI expansion strategy with renewable energy projects under the baseline scenario (BAU), and additional generic plants duly agreed upon within the framework of the public-private partnership with civil society and international multilateral financing agencies. RFP documents for new . RE and BESS projects. RE and BESS project award resolutions.	Results of the impact studies on voltage control in the CPP' operating zones, supply conditions and review of conditions in various zonal transmission areas. Expansion strategy of the Transmission System with renewable energy projects under the baseline scenario (BAU), and additional generic plants duly agreed upon in the framework of the public-private partnership with civil society and international multilateral financing agencies.

ANNEX 2: INTEGRATED RESULTS FRAMEWORK (IRF) OF ACT-IP-DR

ACT IMPACT

Accelerate transition from coal-powered to clean energy while supporting socio-economic goals and environmental remediation

ACT Program Theory of Change: If CIF addresses funding gaps related to the successful implementation of country-level strategies and associated kick-start projects; builds support at the local and regional levels to reconsider the development of new coal plants; and supports policy and investment activity in economic regeneration, social plans and income support for affected employees and communities, then national governments, public sector utilities and private sector operators will act to accelerate the retirement of existing coal assets and their replacement with new sources of renewable energy while ensuring a holistic, integrated, socially inclusive and gender equal just transition away from coal.

DOMINICAN REPUBLIC ACT INVESTMENT PLAN IMPACT

The Dominican Republic will deliver the early retirement of the coal-fired Itabo and Barahona Carbón power plants, substituted by renewable energy and BESS projects, through a just and inclusive transition, agreed by the relevant stakeholders of the public and private sectors, maintaining energy security in the country, without negative effects on the final cost of electricity.

Dominican Republic IP Theory of Change -If the Dominican Republic:

a. Develops a consensual and clear coal-to-renewable energy transition strategy aligned with the PEN 2024-3038 and the NDCs.

b. Establishes a business and financing model to incentivize public, private and international concessional investment and carbon markets to accelerate the gradual replacement and/or reconversion of coal-fired power generation plants (CPP);

c. Prepares policies, regulations and project portfolios to facilitate a rapid expansion of renewable sources through the processes enabled by the CNE;

d. Strengthens its institutional and regulatory capacities to assume the processes of just transition; and

e. Guarantees actions for economic regeneration, social recovery of workers and their families, protection of the rights of vulnerable groups, as well as environmental protection from the effects of the gradual substitution and/or reconversion of the selected CPP;

f. Facilitates the development of investment in associated and related systems necessary (such as improvement and modernization of transmission networks and energy storage solutions) for the timely and cost-efficient integration of RE to the SENI;

g. Verifies that it has met the enabling conditions for the cessation of operations of CPP Itabo and Barahona Carbón and verified the strength of SENI in the face of this change,

Thus, the Dominican Republic will accelerate its transition from coal to renewable energy in a holistic, manageable, integrative, socially inclusive and gender-sensitive manner, respecting the rights of vulnerable groups, while ensuring a stable, reliable and cost-efficient operation of the national grid (SENI), which will allow for the continuity of its robust

MONITORING APPROACH						EVALUATION AND LEARNING APPROACH
RESULT STATEMENT	**INDICATORS**	**BASELINE (Date)**	**TARGET (Date)**	**MEANS OF VERIFICATION**	**NOTES**	**KEY AREAS**
DOMINICAN REPUBLIC INVESTMENT PLAN-LEVEL IMPACTS						
The DR will deliver the early retirement of the CPP Itabo and Barahona Carbón substituted by renewable energy and BESS, through just and inclusive transition, agreed by the relevant stakeholders of the public and private sectors, maintaining energy security in the country, without negative effects on the final cost of electricity.	**Impact Proxies: 1.** Share of Renewable Energy in the electricity matrix (% final consumption)	15% (2023)	30% in 2030 35% in 2035	Greenhouse Gas (GHG) Inventory for the Energy Industries subcategory.	IP-level impacts focus on alignment with pre-existing NDCs, national development priorities, and available statistics at the Investment Plan and/or country level. The prioritization of Renewable Energy plants to face a rapid demand growth (4.7%/year) is a goal of the National Energy Plan (PEN, 2024) The retired coal-fired plants will be substituted by a mix of RE capacity (Wind and Solar PV) and BESS assets.	Signals of transformational change: Signals of transformational change at the program level might focus on more narrowly bounded aspects of energy systems transformation than in the section above (i.e., CIF-level impact). They might cover lower levels of systems transformation and be more closely tied to individual ACT Investments Plans and/or project-level impacts. Gender and just transition elements: The program impact level allows space for further evaluations, assessments, and other approaches to take place as the program evolves in these areas. These activities may be tailored to specific recipient countries or applied more broadly across the program.
	2. Share of RE in SENI's installed capacity (% of total MW)	37% (2024)	>50% in 2035 35% in 2035	**2.** Total installed capacity reports supplied by the OC, and National Energy Commission (CNE) as % of total MW		
	3. Permanent jobs created in the electrical and RE sectors	0 (Baseline TBD)[27].	>2100[28] (2035) Goal: 70% men 30% women, with at least 10% of each group representing diverse groups.	SENI Installed Capacity Report. OC.		

DOMINICAN REPUBLIC INVESTMENT PLAN-LEVEL OUTCOMES						
PILLAR 1: GOVERNANCE						
A. The Dominican Republic will strengthen its institutional framework to support a just coal-to-clean transition, ensuring an approach that is gender-inclusive, participatory, and responsive.	**ACT CORE 1 Policies: Number of policies, regulations, codes, or standards that have been amended or adopted (#)** **1.1 Energy governance** Creation of a new framework of regulations and norms that enable the phase-out of coal and the insertion of renewables	0 (2024)	1 (2027)	Publications in official media of regulations, norms and decrees issued by the DR's authorities. Publication of the approval of the Itabo and Barahona Carbón Transition Strategies and respective phase-out plans.	Under **Subcomponent 1.1,** the DR will seek to adapt its existing regulations to clarify the step-by-step approach for the early retirement of a generation asset, as well as promote a robust planning process for the stable penetration of higher shares of renewable energy.	Changes in policies, plans, and institutional capabilities may also be incorporated in analyses of signals of transformational change, which contribute toward the fundamental systems change: Updated Public Policies of the Electricity System, in accordance with the requirements for the transition to RE, through Regulations and/or Norms: - Grid Planning process - Marginal cost for renewables - System level storage (BESS) technical criteria - Auxiliary Grid services - Verification methodologies of operating constraint parameters (VEROPE) - Competitive framework: wind power procurement, regulation, voltage, frequency response, grid strength - Adaptation of objectives, requirements and needs for service replacement plan. - Generation Unit closure requirements.
	1.2 Just Transition	0 (2024)	1 (2028)	National Energy Plan (PEN) discussed, promoted, and revised to incorporate gender perspective.	Under **Subcomponent 1.3.B**, the DR authorities will formalize a Gender and Inclusion Roundtable, implementing a M&E mechanism)	Policy and institutional framework and capacities at the national level for transition Public and private sector capacity building

[27] Baseline will be established in the scope of Subcomponent 1.3.B (Gender Roundtable). Both CPP to be retired have a baseline of <10% female participation.

[28] IEA Capacity Report 2022 (https://www.iea.org/reports/renewables-2023/executive-summary and IRENA RE Jobs Report 2022 data: https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2022/Apr/IRENA_RE_Capacity_Statistics_2022.pdf

						Legal support for the incorporation of the policy framework into national legislation CIF's targeted evaluations and/or sector studies to fill strategic knowledge gaps: Moving down the results chain, the monitoring function becomes increasingly important to capture program outcomes and outputs. Evaluation and learning function will complement core indicators by filling strategic evidence and knowledge gaps. Evaluation and learning activities will be selected based on overall stakeholder demand, evidence gaps, and cross-learning opportunities.
	1.3 Infrastructure	0 (2024)	1 (2027)	Grid expansion plan amended to reflect the early retirement of CPP and accelerated insertion of RE plants, as published by CNE	Under **Subcomponent 3.2**, Barahona (52 MW) will be retired by 2027. Under **Subcomponent 3.1**, Itabo 1 (128 MW) and Itabo 2 (132 MW) will be retired by 2030 and 2035 respectively.	Policy and institutional framework and capacities at the national level for transition Public and private sector capacity building

	ACT CORE 2 Readiness. **2.1** Detailed de-commissioning and repurpo-sing plan for CPP Itabo 1+2	0 (2024)	1 (Itabo 1: 2029) 1 (Itabo 2: 2030)	Ministry of Energy (MEM) Energy Regulator (CNE)	Under **Subcomponent 1.1**, the DR will formalize the early retirement of both CPP, as well as codify the enabling conditions that ensure system stability and strength, while maximizing the reutilization of existing infrastructure.	
	2.3 Creation of a sectoral strategy for the participation of the Ministry of Energy and Mines (MEM) in international carbon markets, strengthening governance and institutional capacity.	0 (2024)	1 (2027)	Approved sectoral strategy for the participation of the MEM in international carbon markets	Under **Subcomponent 1.2**, the DR will develop a sectoral participation strategy, including processes for the implementation and development of institutional capacity for its participation in international carbon markets	Institutional capacities in the public sector for participation in international carbon trading Institutional capacities in the private sector for participation in international carbon trading Policy and institutional framework at the national level to guide participation in international carbon trading
	2.4 Public-Pri-vate Working Group for the early retirement of CPP, with the participation of civil society. **2.5** Gender and Inclusion Wor-king Group	0 (2024) 0 (2024)	1 (2027) 1 (2027)	Negotiated Road map and Action plan, approved by CPP owners and relevant stakeholders for each CPP. Negotiated Road map and Action plan for Gender equality and Inclusion in the coal transition process.	Under **Subcomponent 1.3.A**, the DR authorities will formalize a Public-Private Roundtable for the early retirement of CPP, with civil society participation. Under **Subcomponent 1.3.B**, the DR authorities will formalize a Gender and Inclusion Roundtable, implementing a M&E mechanism)	The working groups should become the core structures of the just transition. All sectors should be represented in them, including authorities of the electricity sector (MEMRD, CNE, OC, SIE, ETED), representatives of the private sector (PGC managers), business investors, international financial institutions, representatives of women, environmental groups, consumer protection groups, civil society of ethnic diversity and others affected. The Committees must be created by Decree and must have their Constitutive Act, their Operating Regulations establishing the competencies and faculties to facilitate the just transition process.

PILLAR 2: PEOPLE						
C. Sources of income created for affected employees through job retention or job creation	**ACT CORE 3 Income security for employees of subset industries Number and percentage of employees of retired coal plants that have access to sustained income (#,%)** **3.1.** Number of directly affected workers redeployed (disaggregated by sex)	0 (2024)	**Barahona:** Employees: Total: 60 * Men 30% of total direct * Women *3% of total direct Contractors: 120 * Men 60% of total direct * Women *7% of total direct **Itabo 1:** Employees: 60 * Men 32% of total direct * Women *6% of total direct Contractors: 100 * Men 56% of total direct * Women *6% of total direct **Itabo 2:** Employees: 60 * Men 32% of total direct * Women *6% of total direct Contractors: 100 * Men 56% of total direct * Women *6% of total direct	Ministry of Labor (MTRD) MDB project financial data	Under **Subcomponent 2.1,** a majority of employees and contractors are expected to maintain employment within the same corporate groups or affiliated companies. The repositioning plans (which may involve upskilling and reskilling) will abide by the cross-cutting themes of a rights-based approach such as gender and increased female participation, respect for the rights of vulnerable groups, the environment and community development. They will include and/or reintegration or retraining solutions, according to the needs of the direct workers impacted.	Quality and distribution of jobs: Through both just transition and gender-responsive approaches, further evaluative and learning-oriented analyses may center on the types of jobs created (and lost), and which sub-populations are gaining (and losing) employment opportunities. For example, this might include generating evidence on decent jobs created and plans for addressing jobs lost through skills development and economic diversification activities. Alternatively, it might include analyses of women's access to medium- and high skilled green jobs, STEM-education and vocational training, and school-to-work transitions. Gender-responsive aspects can be studied in more detail through targeted research, evaluations, and/or case studies. These will seek to understand the program's impacts in reducing gender imbalances and expanding inclusion, including interventions' relevance and access to the female labor force and the inclusion and viability of female owned enterprises in economic regeneration programs, driven by potential activities such as: a. Coal plant retirement/re-purposing phase: Gender and social policy and strategy preparedness
	3.2. Number of indirectly affected workers redeployed (disaggregated by sex)	0 (2024)	800 indirect %[30] (2030)	Ministry of Labor (MTRD) MDB project financial data	Under **Subcomponent 2.2**, similar plans will be developed with reemployment and/or economic regeneration options, according to the needs of the contractors involved and the nature and requirements of the projects considered.	

[30] Baseline of gender proportions in the indirect labor force will be established in the scope of Subcomponent 1.3.B (Gender Roundtable).

	ACT CORE 4 Social Plans and Economic Regeneration Packages: Number of direct beneficiaries of implemented social plans and economic regeneration activities **4.1** Number of direct beneficiaries of implemented social plans and economic regeneration activities in the neighboring municipalities	0 (2024)	>500 (2030) Ensuring that 70% of beneficiaries are men and 30% are women, with at least 10% of each group representing diverse groups	Ministry of Labor (MTRD) MDB project financial data	Under **Subcomponent 2.3**, Upskilling and reskilling plans will be developed, and key initiatives (jointly promoted by adjacent municipalities) will be supported by the transition strategy for the social welfare of their affected communities with a gender focus.	b. Post-coal regional transformation phase: Social protection assessment of readiness and completeness of short and long-term social assistance programs, active labor market programs, and education and reskilling programs targeting jobs of the future including gender assessments of gaps between women and men in education, skills, employment, and participation rates in new or similar jobs-related programs; and measures to reduce gender imbalances in impact of proposed interventions. c. Additionally, special attention will be given to empowering women and diverse groups in communities, fostering their active participation in planning processes, leadership roles, and access to tailored financing programs that support long-term economic sustainability.
PILLAR 3: INFRASTRUCTURE						
E. Reduce GHG emissions	**ACT CORE 5 Mitigation:** GHG emissions reduced or avoided (MtCO2eq) – direct/indirect.	0 (2024)	Direct: 0.1 to 2 yearly MtCO2eq (depending on project progress) 9.9 MtCO2eq cumulated over the 2025-2040 period[31]	Annual and lifetime reporting by projects Greenhouse Gas Inventory for the Energy Industries subcategory, as supplied by GoDR and OC dispatch reports.	Under **Subcomponent 3.1**, Itabo 1+2 will be retired by 2030 and 2035 respectively and will contribute by avoiding 9.4 $MtCO_{2eq}$ (1 to 2 $MtCO_{2eq}$/yr) Under **Subcomponent 3.2**, Barahona will be retired by 2027 and will contribute by avoiding 0.5 $MtCO_{2eq}$	MDBs are encouraged to undertake "whole of energy systems" analyses as baselines during the Investment Plans and project appraisal process and to fully incorporate MEL aspects into such analyses. Integrated, systems-levels analyses can be used to build a theoretical model and reference scenario for how interventions will affect multiple results areas: renewable energy installation,

[31] See PLEXOS scenarios for CPP dispatched generation projections, and eligible emissions as calculated with MEM Emissions factors for the 2024 – 2040 timeframe.

					(0.1 to 0.2 MtCO2eq/yr) Under **Subcomponent 3.2**, Barahona will be retired by 2027 and will contribute by avoiding 0.1 to 0.2 $MtCO_{2eq}$/yr	coal retirement/abatement, asset reclamation and reuse, landscapes restoration, etc. Both estimated and real operational data can also then be consolidated effectively to report across these multiple indicators.
F. Mobilize private sector financing	**ACT CORE 6 Co-Finance:** Volume of co-finance leveraged (USD), total	0 (2024)	Total 1147 MUSD (2035)	MDB project financial data Ministry of Finance (MHRD)	Total of non-CIF resources leveraged: Under **Subcomponents 3.1 and 3.2**, the CPP owners will contribute to decommissioning costs up to 28 MUSD.	
	Disaggregation: Volume of co-finance leveraged, MDB (USD)	0 (2024)	Total 171[32] MUSD (2035)		Under **Subcomponent 3.4**, the MDBs will co-finance 171 MUSD to the transition.	
	Disaggregation: Volume of co-finance leveraged, Commercial (USD)	0 (2024)	Total 468[5] MUSD (2035)		Under **Subcomponent 3.4**, private sector financing will support substitution projects (RE plants and BESS)	
	GoDR	0 (2024)	Total GoDR[33] 508 MUSD		Under **Subcomponent 3.5**, the GoDR will add 508 MUSD to the ACT plan in transmission infrastructure	

[32] MDB contribution and private sector contribution will depend on the final selection of replacement projects and assets, as described in the ANNEX 8

[33] GoDR will contribute to the overall ACT plan, however its contribution is not accounted for in the co-financing.

G. Cleaner Energy sources	**ACT CORE 7 Plant decommissioning:** Capacity of existing coal power generation assets accelerated for retirement (MW)	0 (2024)	312 MW (2035)[34]	Annual and lifetime reporting by projects	Under **Subcomponent 3.2**, Barahona (52 MW) will be retired by 2027. Under **Subcomponent 3.1**, Itabo 1 (128 MW) and Itabo 2 (132 MW) will be retired by 2030 and 2035, respectively.	
	ACT CORE 8 Repowering **Installed capacity of renewable energy (MW)**	0 (2024)	>450 MW (if wind power) 2035 Or: >650 MW (if solar PV) 2035	Annual and lifetime reporting by projects	NCRE capacity operationalized as a result of ACT interventions Disaggregation: - Renewable energy type (solar, wind, etc.) - Grid-connected	
	GESP 2 - Energy storage capacity installed (GW/ GWh)	0 (2024)	Up to 300 MW / 1.2 GWh (2035)	Annual and lifetime reporting by projects	Under **Subcomponent 3.4**, Replacement BESS assets (Li-ion LFP) will be studied and procured where applicable up to a possible contribution of 300 MW (4h duration)	
	ACT CORE 9 Coal Abatement: Amount of coal diverted (MT)	0 (2024)	0.3 Mt/year average 2.4 Mt (cumulated) 2035[35]	Annual and lifetime reporting by projects Dispatch reports from the OC	Under **Subcomponent 3.2**, Barahona (52 MW) will be retired by 2027. Under Subcomponent 3.1, Itabo 1 (128 MW) and Itabo 2 (132 MW) will be retired by 2030 and 2035 respectively	

[34] Intermediary values: 52 MW in 2027, and 180 MW (=52+128) in 2030.

[35] See Coal consumption table, considering 0.44 ton/MWh efficiency in Barahona and Itabo combined.

MONITORING APPROACH						EVALUATION AND LEARNING APPROACH
RESULT STATEMENT	**INDICATORS**	**BASELINE (Date)**	**TARGET (Date)**	**MEANS OF VERIFICATION**	**NOTES**	**KEY AREAS**
DOMINICAN REPUBLIC INVESTMENT PLAN-LEVEL CO-BENEFITS						
I. Social, Economic, and Environmental Development Co-Benefits	**CO-BENEFIT 1. Pollutants Atmospheric Pollution:** **1.1** PM2.5 savings (tons/year) 1.2.SO2 savings (tons/year)	15% (2023)	TBD (2035)	Global satellite data or related Project appraisal data National health data	With CPP de-commissioning and repurpo-sing, under **Subcompo-nent 3.1** (Itabo), and **Subcom-ponent 3.2** (Ba-rahona Carbón), atmospheric pollution will decrease due to replacement of coal assets with RES Under **Subcompo-nent 3.4**, the addition of RE and BESS assets will help phase-out other fossil fuels thermal plants (HFO, etc..) thus reducing air pollution and related health costs.	
	Terrestrial Pollution: **1.3** Reduction in volume of contaminants discharged	15% (2023)	TBD (2035)			
	Health Benefits **1.4** Value of avoided health costs due to reductions in pollutants (USD)	15% (2023)	TBD (2035)			
	CO-BENEFIT 2. Just Transition: Social Inclusion and Distributional Impacts **2.1**. Number and type of market relevant training Programs developed	15% (2023)	>3 (2035)	MDB project data	Under **Sub-component 2.1**, upskilling and reskilling plans will be develo-ped and have the potential to be replicated throughout the electrical indus-try actors. Under **Sub-component 2.2**, additional plans will be developed with reemployment and/or econo-mic regene-ration options and have the potential to be replicated throughout the electrical indus-try actors.	Just transition-framed analyses: • Procedural Justice: may examine the enhance-ment of social inclusion processes and procedu-res, such as stakeholder engagement at local and national levels, the extent to which vulnera-ble groups in impacted areas have been repre-sented, gender inclu-sion, and the scope of social partners involved, i.e., government, labor, business, civil society, race, etc. • Distributional impacts: with focus on specific subpopulations, such as ethnic, religious, and racial minorities, fema-le-headed households, indigenous People and local communities, migrants, youth, and persons with disabilities.

	CO-BENEFIT 3. Enhanced Energy Access National RISE Scores (ESMAP)	0 (2024)	N/A	N/A	Energy Access is not an applicable indicator for the DR ACT Plan since no Access-specific projects have been selected.	Special attention will be given to empowering women and diverse groups in communities, fostering their active participation in planning processes, leadership roles, and access to tailored financing programs that support long-term economic sustainability.
	CO-BENEFIT 4. Gender- and vulnerable groups-specific co-benefits **4.1** Number of participatory consultations conducted to ensure inclusivity in energy sector planning.	0 (2024)	10 (2035)	Ministry of Women's Affair (MMujer) Ministry of Labor (MT) Project information data	Under **Subcomponent 1.3**.B, the DR authorities will formalize a Gender and Inclusion Roundtable, implementing a M&E mechanism. Under **Subcomponent 2.1**, upskilling and reskilling plans will be developed and will must respect the cross-cutting themes of a rights-based approach such as gender and increased female participation, respect for the rights of vulnerable groups, the environment and community development.	
	4.2 # of community members trained on gender equality and its role in a just energy transition.	0 (2024)	200 (2035)			
	4.3 # of newly recruited women and diverse groups holding leadership positions in the energy sector.	0 (2024)	5 (2035)			
	4.4 Number of financing programs tailored for women and diverse groups in the energy sector.	0 (2024)	10 (2035)			

	CO-BENEFIT 5. Energy planning and policy development is gender inclusive, participatory and responsive **5.1** Number of energy policies and plans discussed, promoted, adopted or revised to incorporate gender perspective.	0 (2024)	1 (2035)	Ministry of Women's Affairs (MMUJER) Ministry of Labor (MT) Project information data	5.1 Under **Subcomponent 1.3**.B, the DR authorities will formalize a Gender and Inclusion Roundtable, implementing a M&E mechanism	
	5.2 Number of government and relevant lawmakers reform discriminatory laws and policies that perpetuate gender-based discrimination.	0 (2024)	1 (2035)			
	5.3 Number of women and diverse groups involved in designing energy plans and policies.	0 (2024)	1 (2035)			

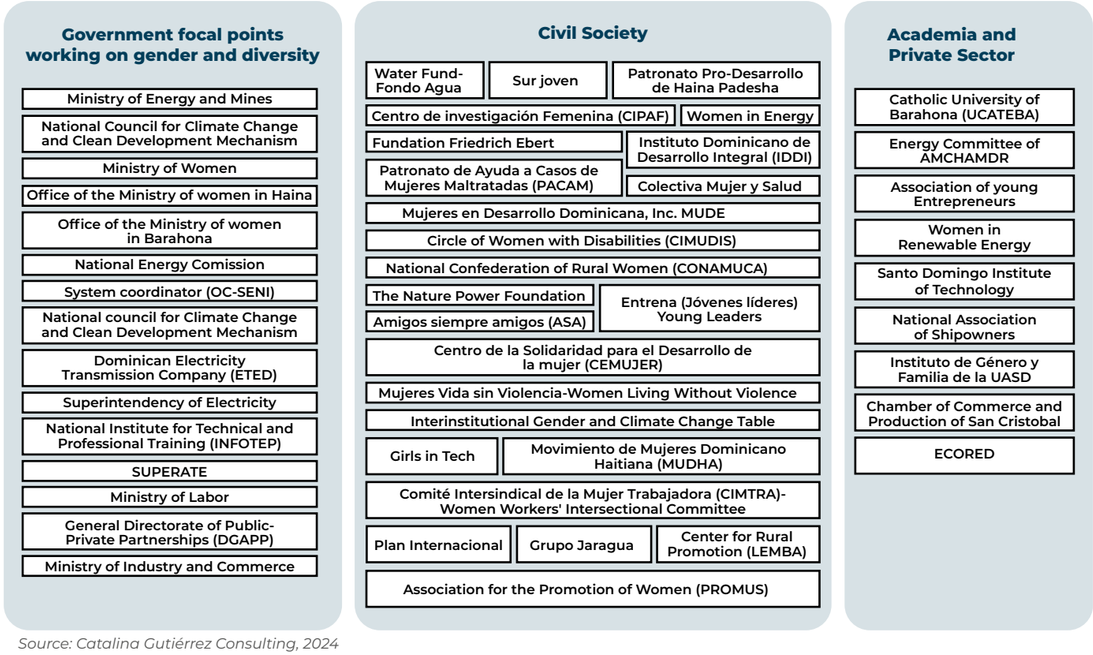
ANNEX 3: STAKEHOLDER CONSULTATIONS

Gender and social inclusion consultations

During the preparation of the IP, the Barahona Carbón and Itabo plants were visited, interviews were conducted with stakeholders in the communities, a participatory workshop was implemented, and inputs were received from various private and public sector entities and civil society on the Women's Climate Leadership survey, designed by the CIF.

Specifically, key stakeholders were mapped (see Table 1), and this mapping was socialized with the Ministry of Energy and Mines (MEM) and the Ministry of Women (MMUJER), ensuring that all relevant stakeholders were informed and aligned with the process. Likewise, the Women's Climate Leadership questionnaire established by the CIF was socialized with stakeholders to gather their perceptions and experiences, ensuring a proper understanding and application of climate leadership principles from a gender and diversity perspective. In addition, interviews were conducted with stakeholders in the communities of Villa Central, in Barahona, and Haina, in San Cristóbal. These interviews provided detailed insight into the specific experiences and needs of women and other diverse groups in these communities, providing valuable data for analysis. Finally, an invitation to a national multisectoral workshop was issued to identify gender and diversity gaps in the CIF/ACT Investment Plan. This workshop brought together diverse sectors and allowed for a broad and enriching discussion on the challenges and opportunities related to gender equity and diversity in the energy sector.

Figure 7. | Initial stakeholder mapping



Source: Catalina Gutiérrez Consulting, 2024

Findings from the Women's Climate Leadership questionnaires

Gaps in the representation of women in leadership positions: public sector

- Almost all entities recognize the Ministry of Women's Affairs as the mechanism for the advancement of women.

- Sectors such as construction and mining have work cultures that can be exclusionary and hostile to women, and the lack of labor flexibility exacerbates this situation.

- To move toward greater equity, it is crucial to promote measures that encourage co-responsibility in the home, expand access to care services and establish equal parental leave. These actions will help reduce barriers and promote a fairer and more equitable environment for all people.

Analysis of barriers faced by women: intersectionality and access to resources

- Women face barriers due to lack of recognition of rights and resources. The CNE highlights that the lack of titling and rights makes women vulnerable to displacement and limits their economic opportunities, affecting their professional preparation and ability to generate income. The American Chamber of Commerce's (AMCHAMDR) Energy Committee notes that although women have access to land through the Dominican Agrarian Institute (IAD), inequalities in access and ownership limit their ability to earn autonomous income, participate in community groups and access financial services, underscoring the need for greater access to microcredit. MEM highlights the "compound exclusion" faced by women from minority groups or with specific social status, such as indigenous women, women with disabilities, migrants and youth, which exacerbates their discrimination and marginalization in the climate sector.

- These exclusions significantly limit their ability to contribute to climate action efforts and perpetuate gender inequalities. Taken together, these findings indicate the need to address structural barriers and implement inclusive and equitable policies to improve women's access to resources and opportunities in the climate sector.

Enabling environment analysis: public sector

- The enabling environment mentioned by the entities highlights a commitment to gender equality and inclusion in the context of climate change and energy, although significant challenges remain.

- The National Plan for Gender Equality and Equity (PLANEG III) and the National Development Strategy Law 1-12 (END) are key documents that recognize the relationship between gender and climate change. These documents highlight the need to empower women in natural resource management and climate change adaptation, although PLANEG III does not elaborate on the specific risks faced by women and girls in this context.

- Mechanisms have been implemented to ensure the application of gender-sensitive policies, such as Gender Responsive Budgeting (GRB), which is applied through the National Budget Directorate and each government agency. However, the collection and use of gender-sensitive data still faces significant challenges, and machismo and discrimination remain major barriers.

- To promote women's entrepreneurship, initiatives such as the Single Window for Women's Employment and the Solidarity Banking Program for Women have been implemented, offering guidance, training and microcredits. These initiatives seek to facilitate access to financing and resources for women's business leadership.

- Key sectoral policies and strategies for the energy sector, such as the National Electrification Plan and the National Strategy for the Transition to Renewable Energy and Energy Efficiency, highlight the need to diversify the energy matrix and promote energy efficiency. However, the main challenge is the lack of public dissemination of these policies and strategies, which limits knowledge of them and their effective implementation.

- Existing energy policies in the country do not include gender considerations; only one gender planning instrument addresses energy. In addition to gender gaps, it is important to recognize and transform existing legal, technical and institutional barriers to ensure that the gender perspective is integrated into regulations, making equality and social inclusion a fundamental element in energy policies.

Enabling environment analysis: private sector

- Entities that have mentioned various initiatives to promote gender equality and women's leadership in the private sector are the Energy Committee of AMCHAMDR, which highlights the implementation of fair-wage policies, and the financing of projects by small-businesses promotion agency PROMIPYME.

- Together with MEM, UNDP and IDB, the private sector promotes initiatives such as the Equalizing DR Seal and the Gender Parity Initiative, which seek to close labor gaps and promote coresponsibility. These actions include mentoring programs, measures against harassment and discrimination, and equitable remuneration policies.

Enabling environment analysis: civil society

- Entity responses highlight the role of civil society organizations in promoting gender equality and women's leadership. While some key initiatives and organizations are mentioned, there is a clear need for more specific data on the actions and impact of these organizations to better understand their contributions and areas for improvement.

Interview findings: Haina, San Cristóbal, Villa Central Barahona and Women in Energy

The in-depth questionnaire designed for the interviews in the communities of Villa Central and Haina seeks to explore various dimensions related to gender equality and just energy transition. Its questions are structured to capture perceptions, identify barriers and explore possible solutions from the perspective of community stakeholders.

The initial questions address perceptions of barriers to gender equality by identifying women's organizations and projects working in this area within the community. These questions seek to map the local context and existing initiatives that promote gender equality.

The survey also includes specific questions on the role of women in the community in relation to a just energy transition, highlighting the importance of a transition that is equitable and beneficial for all. Specific challenges and barriers—regulatory, technical and financial—that hinder the integration of a gender perspective in the energy sector are explored.
In addition, the questions address training and education issues to assess the accessibility of these programs for women and other underrepresented groups. They seek to identify gaps in skills and knowledge and propose measures to improve the training and participation of women in the energy sector.

Finally, the questionnaire focuses on strategies and solutions, soliciting suggestions for implementing a gender-sensitive energy transition and highlighting the role of local governments and public policies. It also explores successful initiatives and the representation of women in leadership roles within the energy sector, seeking to identify measures to increase their participation and leadership.

In summary, the questions are designed to obtain a comprehensive and detailed view of the perceptions, challenges and possible solutions to promote gender equality and a just energy transition in the communities of Villa Central and Haina.

Interview Haina, San Cristóbal

Ms. Anyélica de la Cruz is the representative of the provincial office of the Ministry of Women in Haina. The ACT consulting team talked with her extensively about gender equality in the region where the Itabo coal plant is located.

She told the team that one of the main barriers to equality lies in the lack of recognition of women's value and ability due to the patriarchal culture. The community's industrial history, centered on the sugar mill, has perpetuated this inequality, with men dominating leadership positions and women relegated to support roles.

In this regard, the municipal office of the Ministry of Women's is working on gender and violence prevention training, in addition to promoting the economic autonomy of women through an agreement with the National Institute for Technical Professional Training (INFOTEP). We also collaborate with the Mamá Tingó Women's Board and other neighborhood groups that have women's organizations.

However, there are no energy training programs accessible to women in Haina. Existing initiatives, such as electricity EDESUR's energy-saving initiatives, are not sufficient. It is crucial to implement programs that include women and provide them with the necessary skills to participate in the energy sector.

The LGBTQ+ community does not face major discrimination problems, but people with disabilities and migrants, especially Haitians, do face significant challenges. There is a need to work on raising awareness and integrating these groups into the formal sector.

To improve gender inclusion in the energy transition, specific training programs should be implemented for women and encourage their participation in technical and leadership roles. In addition, it is important to collaborate with local and community organizations to ensure that women have access to these opportunities.

Haina's economy is marked by high participation of women in the informal sector, especially in the municipal market and the Free Trade Zones. Ms. de la Cruz noted that 90% of the businesses in the municipal market are led by women, although many of these roles do not offer social security, pensions or other labor benefits. In addition, women make up more than 50% of the workforce in the Free Trade Zones, where, although they have access to certain benefits, they continue to face inequalities in wages and representation in leadership roles.

Interview Barahona

Ms. Veronica Feliz is in charge of the provincial office of the Ministry of Women in Barahona. She tells us that there is a lack of interest among women in the area in "rural" or "rough" jobs, i.e., jobs that involve physical strength to cultural perceptions and wage inequalities.

She also mentions the absence of women's organizations dedicated to gender equality in the energy sector in Barahona, although she highlights the work of PROMUS, a non-profit organization that works on issues of teenage pregnancy and violence prevention.

Women in Barahona are not informed or involved in the energy sector, and there is a perception that they cannot take part due to lack of information and training. However, Ms. Feliz highlights the good relationship with the mayor's office, which could facilitate the implementation of inclusion and energy projects.

She suggests the addition of energy-related careers in local universities, workshops and training to increase women's participation. Currently, women in the area are mainly involved in home care and informal activities, although there are also groups of female entrepreneurs who organize trade fairs.

Regarding energy projects, Ms. Feliz suggests the inclusion of women and technologies such as solar panels, as they are of interest to the community. In addition, she points out that the economic empowerment of women can reduce gender violence, as it allows them to take on non-traditional roles and show their capabilities in various areas.

Interview with Women in Energy

A meeting with the membership of Women in Energy, one of the few women's organizations related to the energy sector, facilitated an analysis of the energy sector in the Dominican Republic, with a particular focus on gender equity. The comments provided insight into the persistent challenges and progress in recent years.

Michelle Abreu (representative of Women in Energy) stressed that, despite some advances in multinational companies, the Dominican energy sector is still dominated by traditional practices and a conservative mentality. The historically masculine nature of this sector is reflected in the corporate structures and cultures of many local companies, which are still mostly family and nationally owned. Ms. Abreu explained that these companies operate within a framework of rigidly defined gender roles and expectations, contributing to the lack of inclusive policies and certification programs that encourage the participation of women in technical roles.

She also noted that most women in the Dominican energy sector occupy administrative or consulting positions, rather than technical roles. She cited a recent statistic that revealed more than 70% of women in the sector are in administrative activities, and within this group, about 40% are lawyers. This unequal distribution of roles limits women's opportunities for advancement in the sector and perpetuates the gender gap in technical areas.

Ms. Nathalie Abreu (representative of Women in Energy) noted that the COVID-19 pandemic brought with it some unexpected advantages, such as the widespread adoption of remote-

work schemes and work flexibility. However, she noted that these measures were not specifically designed to address the needs of women, who often face disproportionate burdens of unpaid work and domestic responsibilities. Despite these advances, she emphasized that there is still a long way to go for these flexibilities to translate into real opportunities for women in the energy sector.

On the other hand, Ms. Michelle Abreu highlighted that, although there have been discussions on gender equity in the public and private sectors, no formal policies or specific programs have been developed to promote the inclusion of women in technical roles. She commented that the sector is composed of professionals who have been in their roles for decades and that younger generations, although more aware of the need for gender equity, have not yet reached sufficient leadership positions to enact significant changes.

Ms. Paola Pimentel (representative of Women in Energy) also emphasized the importance of using inclusive language in job descriptions. She shared an example where a woman in her network got a scholarship to earn certification as a drone pilot and subsequently became the underwater inspections manager. Initially, the job description was written in masculine terms, which deterred many women from applying. By adopting more inclusive language, new opportunities opened up. This simple but powerful change demonstrates how words can influence the perception of the skills and aptitudes needed for a job.

In line with this inclusive approach, Ms. Pimentel proposes developing technical programs in rural areas where renewable energy projects are being implemented. This would facilitate the training of women in renewable-energyrelated tasks and improve their job opportunities. The importance of mentoring programs to develop technical and leadership skills in women has been deemed key by all participants. In addition, it is suggested that vocational development for girls in mathematics and engineering should be encouraged in order to break gender stereotypes.

General findings of the participatory gender and diversity workshop

MEM, with support from the IDB, organized the details of the gender and diversity consultation workshop. MMUJER supports the entire process with its participation in meetings and on the day of the event, as well as with direct contact with its provincial managers, who develop relationships in the territories and ensure the participation of the impacted communities.

The in-person workshop was held on June 12, 2024, with the participation of electricity generation, transmission and distribution companies, as well as the regulatory entity of the electricity subsector. Among the attendees were representatives of the Punta Catalina Power plant. Around 70 people participated. Also in attendance were representatives of academia in Barahona, union groups, organizations of women with disabilities, the LGBTQ+ community, Women in Energy, the Energy Committee of the American Chamber of Commerce, ECORED, women's organizations in Barahona PROMUS and civil society organizations with programs and projects in Barahona and San Cristóbal. From the government, INFOTEP, MMUJER, representatives of the MMUJER in Barahona and San Cristóbal, representatives of the National Council for Climate Change and Clean Development Mechanism (CNCCMDL), the Ministry of Education and the Mayor's Office of Barahona participated.

Figure 8 | Participatory workshop on gender and diversity - June 12, 2024

Source: Catalina Gutiérrez Consulting 2024

Survey of problems

Problems and/or difficulties were identified at various levels, covering both strategic and practical aspects:

- **Lack of gender mainstreaming in energy standards and policies:** Workshop participants commented on the absence of a gender perspective in energy policies, as well as the lack of participatory processes in this area.

- **Lack of participatory and inclusive program and project processes in communities to achieve a just energy transition:** The set of ideas put forward highlights the importance of including the community in decision making to ensure that these reflect the perspectives of all. The exclusion of relevant stakeholders in decision making can perpetuate inequalities and omit important needs; therefore, inclusive participation is fundamental to achieving effective social justice in the energy sector.

- **Social norms and harmful stereotypes about gender roles in the energy sector:** The workshop recognized that there are "cultural and social barriers" that limit diverse groups and women from developing their full potential. It also addressed the importance of "no longer delimiting male professions or activities," especially in a sector as masculinized as the energy sector. This reflection seeks to foster a more inclusive and equitable environment, where women and other diverse groups can access and fully develop in all areas of the energy sector.

- **Lack of comprehensive education and communication on the importance of gender equality and social inclusion in relation to a just energy transition:** Workshop participants commented that it is of utmost importance to know what gender is and how it intersects with the area of just energy transition. It is critical to ensure that both men and women are equally involved in energy efficiency awareness and training processes. Also, related to this gap, the importance of expanding enrollment in STEM careers was discussed. The lack of formal education and of knowledge in these areas, especially among women, limits their participation. It is essential to make technical careers attractive to women, provide guidance and motivation to enroll in academies, particularly in energy subjects, which would allow them access to better salaries and family growth.

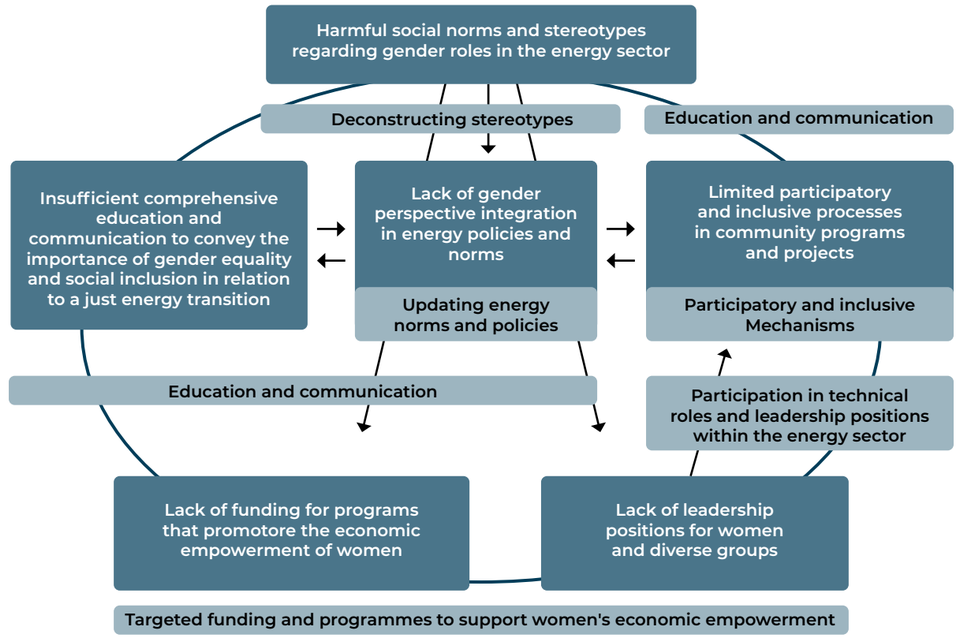
- **Lack of leadership positions for women and other diverse groups for just energy transition:** The general analysis of the ideas highlights several aspects to achieve greater inclusion and gender equity in the energy sector. First, there is a need to increase the presence of women in leadership positions, including those with disabilities and non-heterosexuals, to ensure diverse representation. In addition, the participation of women in energy transition processes should be encouraged and spaces should be created where they can lead and make important decisions.

- **Lack of funding for programs that promote women's economic empowerment in communities to achieve a just energy transition:** Discussions at the workshop highlighted economic inequality and the need for gender equity in leadership positions. Economic inequality persists, disproportionately affecting women, who often face barriers to accessing leadership positions. It is critical to recognize women's competence and ensure that they occupy leadership positions with equal pay. Promoting inclusion and equity in the workplace is not only fair but essential for the sustainable and equitable development of organizations and communities. This lack of financial support prevents women from accessing the opportunities necessary to hold leadership positions and achieve equal pay. Without adequate funding, initiatives that could close the economic inequality gap and promote gender equity in the energy sector are limited. This perpetuates the exclusion of women and diverse groups from decision making and leadership in the energy transition.

Interconnection of gaps and solution finding

There is an interconnection between the gaps found during the participatory analysis process. The diagram below is a visual interpretation of these connections, showing how harmful social norms and stereotypes directly affect the lack of a gender perspective in energy norms and policies, as well as the lack of participatory and inclusive processes in communities. In turn, these shortcomings result in a lack of leadership positions for women and other diverse groups and a lack of funding for economic empowerment programs, which reinforces the aforementioned inequalities and solutions.

Figure 9 | Gaps and solutions identified during the workshop



Source: Catalina Gutiérrez Consulting 2024

The solutions established by the group of participants were as follows:

- Review and update energy standards and policies to effectively incorporate the gender perspective, ensuring the equitable representation of women and diverse groups in decision making.

- Develop participatory and inclusive mechanisms in the planning and execution of energy programs and projects, promoting a fair and equitable energy transition.

- Implement awareness and education campaigns aimed at deconstructing harmful stereotypes and social norms about gender roles in the energy sector, promoting a culture of equality and respect.

- Establish comprehensive training and communication programs that inform and educate on the importance of gender equality and social inclusion in the energy transition, strengthening knowledge and awareness in communities and among energy sector stakeholders.

- Promote leadership opportunities for women and diverse groups, ensuring their participation in technical and leadership roles within the energy sector.

- Create and promote specific funds and finance programs aimed at supporting the economic empowerment of women in the communities.

Figure 10 | Participatory workshop on gender and diversity - June 12, 2024

Source: Catalina Gutiérrez Consulting 2024

Summary and conclusions

The Women's Climate Leadership questionnaire revealed findings on gender representation and the integration of gender equality in climate and energy policies in the Dominican Republic. Although the country has a broad legal framework that supports the definition and implementation of public policies for gender equality and non-discrimination toward women and girls, it is crucial to recognize and transform existing barriers to ensure that the gender perspective is fully integrated into regulations, making equality and social inclusion a fundamental pillar in energy policies.

Regarding the private sector, a growing commitment to improving gender equality was observed, but gaps persist in the representation of women in leadership roles and in specific data to address these inequalities. In the analysis of barriers, it was identified that social and cultural norms, along with lack of access to resources and opportunities, remain critical obstacles limiting women's participation in the labor market and in leadership positions in climate-related sectors. Community interviews revealed that in Haina, San Cristobal, women face significant barriers due to an ingrained patriarchal culture influenced by the industrial history of the region. Although efforts are being made to boost women's economic autonomy through gender trainings and agreements with different entities, the lack of accessible energy training programs for women remains a critical challenge. In addition, high participation of women in the informal sector, especially in the municipal market and Free Trade Zones, highlights the need to improve working conditions and inclusion in leadership roles within the energy sector. It also highlights the importance of integrating the LGBTQ+ community and people with disabilities in labor inclusion initiatives.

In Barahona, Villa Central, despite the absence of organizations dedicated to gender equality in the energy sector, efforts by women's organizations to support issues related to the prevention of teenage pregnancy and violence are recognized. The lack of information and training limits women's participation in the energy sector, although there is fertile ground for establishing cross-sectoral initiatives to facilitate gender and inclusion projects. It was suggested that energy-related careers be introduced in local universities and that training workshops be conducted to increase women's participation, especially in technologies such as solar panels, which are of interest to the community. In addition, it was noted that the economic empowerment of women could contribute to reducing gender-based violence by enabling them to take on non-traditional roles.

Based on this analysis, the Gender and Inclusion Action Plan has been formulated. It is articulated around two strategic objectives. The first seeks to integrate the gender perspective in the governance of the energy sector, developing policies that favor gender equality and social inclusion while working to transform the social norms and gender stereotypes that still persist. To achieve this goal, several actions will be carried out, such as policy reviews and analyses to identify gender gaps, the development of new inclusive energy policies and the organization of trainings and workshops for decision-makers on the importance of gender equality. In addition, South-South and triangular cooperation will be promoted to share good practices and successful experiences. A baseline diagnosis of existing social norms will be conducted, followed by the design and implementation of a behavioral change program that will be evaluated and communicated to ensure its effectiveness.

The second strategic objective of the plan focuses on creating opportunities for the integration of women and diverse groups in leadership, financing and education within the energy sector. Results are expected to include the implementation of participatory and inclusive processes in community programs and projects, as well as a series of key activities beginning with the creation of gender-balanced community advisory committees and transparent mechanisms for community consultation. These committees will be strengthened through the implementation of training programs for female and male community leaders. In addition, educational materials on gender equality and its intersection with the energy transition will be distributed, complemented by workshops and seminars in the communities to ensure a deep and local understanding of these issues. The training of women in new technologies and the development of programs for retention, redistribution and social and economic regeneration will be fundamental. Further, gender mainstreaming will be promoted in the energy sector value chains, encouraging the participation of women-led businesses and other diverse groups.

To support these initiatives, sources of financing will be established for projects led by women, pilot initiatives will be facilitated for access to financing and training in the green economy, and training will be provided in financial literacy and business management. Finally, partnerships will be formed with financial institutions to improve access to credit, ensuring that women and other underrepresented groups can actively participate in the green economy and energy sector.

In conclusion, the process was broadly participatory, involving key stakeholders from different sectors. This plan seeks to address inequalities by integrating a gender perspective in the governance of the energy sector and creating opportunities for women and other diverse groups in leadership, education and financing roles. With its implementation, it is expected to promote more equitable and sustainable development, ensuring that all sectors of society benefit from advances in the just energy transition.

ANNEX 4: DEVELOPMENT CO-BENEFITS

Public health

The closure of the Itabo and Barahona Carbón coal-fired power generation plants (CPP) will immediately stop the emission of greenhouse gases (GHG), particulate matter, sulfur dioxide and nitrogen. Therefore, the source of emissions of these gases disappears, generating the following benefits:

- Reduction of GHG contributed by the Dominican Republic's electricity sector.
- The sources of emissions from the power plants, which cause respiratory disease morbidities in the residents of the communities surrounding the Haina Industrial Zone (HIZ), disappear, improving the quality of breathable air.
- There will be no particulate matter from the coal and ash storage pits, a condition that will improve the breathing quality of the residents of the communities surrounding both power plants, mainly in the HIZ, where the Itabo generation plant is located.

Environmental protection (ash, gray water, industrial operations)

With the closure of the thermal power plants, the generation of ash and slag from the boilers will cease, as will the discharge of gray water and cooling system water, and the open-air coal storage pits will cease to percolate heavy metals and sulfur associated with this type of material. The short-term benefits are:

- The coastal marine ecosystem, mainly the reef platforms impacted by the effect of cooling waters, will recover in the medium term. This benefit applies to the HIZ (Itabo plant).
- The nutrient-rich graywater inputs (phosphorus and nitrogen) will disappear, raising the quality of marine waters near the power plants.
- For the houses near the Itabo CPP, the noise impact of the plant operation will disappear, as in Barahona.

Employment

The opportunities that open up are quite beneficial for the groups of people involved in the Reconversion (upskilling/reskilling) Plan. Although the work linked to the thermoelectric plants is no longer in demand, the exit and change mechanisms present a variety of opportunities given by new employment alternatives, either in the same electricity sector (even in the same companies) or in other economic sectors.

For all alternatives, it is proposed to improve people's skills through the acquisition of new tools linked to industrial upgrading (industry 4.0), as well as the possibility of entrepreneurship in a new business, promoted with the management of finances. Similarly, specialization through vouchers for the professional staff establishes good mechanisms for professional upskilling and reskilling.

Emission reductions and climate action

The early closure of CPP is part of the measures related to the fight against climate change, in accordance with national policies, strategies and planning.
Indicator: Total GHG emissions per year
Law 1-12: National Development Strategy 2030
National indicator: Carbon dioxide emissions (ton/capita)
National target: 2.8 by 2030 (compared to 3.6 in 2010)

ANNEX 5: EXISTING ACTIVITIES IN THE CONTEXT OF COAL TRANSITION

Table 9 | List of current projects

Partner	Project/ Program	Amount (MUSD)	Status	Description
CIF	Women-led Coal Transition (WOLCOT)	To 0.45M	Tentative	The Women-Led Coal Transition (WOLCOT) grant mechanism under the ACT program aims to promote women's climate leadership and encourage their effective participation in the design and decision making related to energy transitions. This program is part of Canada's efforts to mitigate climate impacts on a significant scale. The ACT-DR Plan can claim up to $450K in support for the Just Transition Project.
IDB	Support for the third stage of the Sustainability and Efficiency Program for the Electricity Sector	0.3M	2021... in implementation	Technical cooperation
	Support for the implementation of the Energy Efficiency Program of the Dominican Republic	0.4M	2021... in implementation	Technical cooperation
	Implementation of the Energy Efficiency Program of the Dominican Republic	75M	2018... in implementation	Loan
	Electricity Network Expansion Program and the reduction of technical losses in the distribution systems	155M	2018... in implementation	Loan
WB	Program for the improvement of medium and low voltage networks and normalization of customers of electricity distribution companies at the national level	225M	12/13/2023 First investment. Subscription 05/20/2024	Loan First investment (of a total of 3) totaling $505k
	Second Reform of the Electricity Sector for Sustainable Development and Growth	400M	05/26/2023. Ended June 2024.	Development policy loan
	Energy Efficiency and Rooftop Solar Panels Project	150M	In preparation. Tentative Approval Date: 5/12/2024	Loan

Partner	Project/ Program	Amount (MUSD)	Status	Description
IFC	Feasibility Analysis of Storage Systems with LAC Batteries	1.4M	2022-2025	Technical cooperation
	PECASA: Project financing for a 50 MW wind power plant in Montecristi developed by Parques Eólicos del Caribe S.A. (PECASA).	18.5M	2018-2035	IFC arranged a financing package of US$80M, including US$18.5M from IFC's own balance sheet, US$17M of blended finance from IFC and US$44.M in additional senior and subordinated debt for the project mobilized from DEG, FMO and Proparco.
	PECASA Interest rate swap	2M	2017-2035	Derivative instrument
IDB Invest	AES Warehouse for renewable projects (14542-01)	42M	In progress	Loan to Consorcio Energético Punta Cana Macao S.A (CEPM) to finance the expansion of an existing solar PV power plant from 7.2 MW to 24.6 MW and the installation of a battery energy storage system
	AES Warehouse for renewable projects (14542-01)	125M	In progress	Loan to AES Dominicana to finance the design, construction, operation and maintenance of several NCRE projects
	Enertur Solar (14676-01)	33.9M	In progress	Loan to InterEnergy Group to finance the design, development, construction, operation and maintenance of a PV plant with an installed capacity of up to 50 MW + BESS
GIZ	Energy Transition Project (regulatory framework, financing, climate change, re and pilot projects)	6.3 M€	2017-2024	German Agency for International Cooperation donation and technical cooperation

Source: various

ANNEX 6: GOVERNANCE PROJECT CONCEPT NOTE

Subcomponent 1.1: Creation of regulations and norms

This project focuses on the creation of regulations and standards to facilitate a just and inclusive transition in the phase-out of coal and the implementation of renewables.

Problem statement

The retirement of coal plants requires several enabling conditions in order to be implemented:

- Improving transmission planning practices
- Regulating the allocation of discharge
- Improving (dispatching) marginal cost regulation to provide an adequate signal for renewables, storage and operation of thermal plants.
- Improving methodologies for verification of operating constraint parameters
- Regulating the provision of low-emission reserves (inertia, frequency control, voltage control and network resiliency)
- Regulating energy storage (remuneration, operation)
- Adapting the objectives, requirements and needs of the service replenishment plan
- Regulating the provision of black start and restoration support services
- Defining requirements for approval of unit closings

Proposed contribution to initiate the transformation

To initiate the transformation, it is necessary to provide specialized technical assistance, in coordination with the international partners of the Government of the Dominican Republic, in order to meet the policy and regulatory challenges identified. This technical assistance is essential to meet the enabling conditions corresponding to the legal framework.

Implementation readiness

Priority will be given to the drafting and/or updating of the regulatory body that must give way and support to the transition process in a comprehensive manner. Public authorities, representatives of the private sector and civil society will work, in accordance with established legal procedures, in the preparation, validation and approval of regulations, standards and public policies that will channel the efforts of infrastructure investments and social plans for an inclusive and fair transition for the country. The validation should take care of the interest of civil society and vulnerable groups, such as the participatory approach to gender and diverse populations. This will include a planning regulation; rules for the closure and definitive physical withdrawal of generation plants, especially coal-fired, as well as the requirements for the closure of units (related to enabling conditions); the update of regulations that facilitate the management of and management of marginal costs for RE, storage and operation of thermal plants and storage (BESS); and the update of complementary services, verification methodologies, competitive framework for new infrastructure, adaptation of objectives,

requirements and needs of the service replacement plan, among other needs.

An important aspect to consider is that the dynamics of the transition may require prior approval of regulations or provisions before the implementation of activities and projects. This should be considered in programming, but the Plan's approach is to avoid bureaucratic delays as much as possible and, rather, to promote the development of parallel actions, to the extent possible, so as not to delay or bog down progress where approved regulations are not required. This should be the spirit in which the component is managed, which should be a function of facilitating the other components and ensuring their good management.

Rationale for ACT financing

Concessional and non-reimbursable financial support from the CIF/ACT is needed under this subcomponent to address the current barriers in the legal framework through a programmatic approach, addressing the barriers described above. CTF/ACT financing will help overcome the costs of clearing the way for plant retirements, build trust among stakeholders (plant owners, their operators and communities) and accelerate the participation of private developers and commercial lenders throughout the process.

Results indicators

- Consensus on a new expansion plan (generation and transmission) that considers the retirement of the CPP Itabo and Barahona Carbón
- A legal framework for discharge allocation published
- Publication of the legal framework to regulate the dispatch marginal cost
- Improved flexibility methodology for thermal power plants in operation
- Legal framework for the provision of low-emission stockpile services, black start and restoration support issued
- Legal framework for energy storage with stand-alone BESS systems published
- Requirements for the approval of the CPP closing defined

Subcomponent 1.1 Financing Plan

COMPONENTS / SUBCOMPONENTS	Financing (MUSD)								
	ACT		Multilateral Banking				PS	GDR	Total
	R	Non-R	IDB	II	WB	IFC			
COMPONENT I: STRENGTHENING THE INSTITUTIONAL AND REGULATORY FRAMEWORK									
SUBCOMPONENT 1.1.A: Creation of regulations and norms that facilitate a fair and inclusive transition toward the gradual elimination of coal and the insertion of renewables	0	1							**1**
1.1.B: Other facilitating activities at the initiative of the GDR	0	0.5							**0.5**
Subtotal Component 1.1	0	1.5							**1.5**

(Note: Non-R = non-reimbursable, R= reimbursable, II = IDB Invest, PS= private sector)

Project preparation schedule

The proposed schedule for this subcomponent for the first two years of ACT Plan implementation is detailed below:

Component / Activity	Execution schedule									
	Year 1				Year 2				...	
	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	...	X
Improving the regulatory framework										
Legal framework for discharge allocation										
Legal framework for Marginal Cost (MG) regulation										
Legal framework for the provision of SENI's auxiliary services										
Legal framework for energy storage with stand-alone BESS systems										
Improving the planning framework										
Improve OC/ETED/CNE planning capacity										
Generation expansion plan that considers the retirement of CPP Itabo and Barahona Carbón										
Transmission expansion plan that considers the retirement of the Itabo and Barahona Carbón CPP										
Flexibilization methodology for thermal power plants in operation										

Subcomponent 1.2: Strengthening institutional capacity for carbon markets

Problem statement

This subcomponent assesses the readiness of the Dominican Republic to participate in carbon transaction mechanisms within the energy sector. The country faces challenges in integrating into regulated (Article 6 of the Paris Agreement) and voluntary carbon markets due to gaps in policy frameworks, institutional capacity, and technical implementation readiness. The reliance on fossil fuels (84% of electricity generation) and the need for substantial investments (over $5.3 billion) to meet climate targets highlight the need for a structured approach to carbon transactions.

Proposed contribution to initiate the transformation

This subcomponent focuses on preparing the Dominican Republic to participate in carbon market mechanisms through mitigation initiatives in the energy sector that fall within the Ministry of Energy and Mines (MEM) areas of competence. Institutional strengthening activities should be carried out to close existing gaps and needs and to design a strategy for participation in carbon credit transaction mechanisms and the necessary processes to operationalize it. The activities of this subcomponent will be committed to just transition principles and conducive to gender equality and social inclusion.

Implementation readiness

Using the World Bank's Mitigation Activity Assessment Protocol (MAAP) tool, the country's preparedness in terms of actions, policies and institutions has been qualitatively assessed in four key areas:

- Strategy and NDC: Alignment of climate policies with mitigation targets, monitoring mechanisms, and emissions accounting.

- Policy Framework and Activity Cycle: Strategies and governance mechanisms for identifying and managing carbon market activities.
- Institutional Capacity: Readiness of national institutions to oversee carbon credit transactions and compliance.
- Reporting and Infrastructure: Systems for tracking carbon credit generation, preventing double counting, and ensuring transparency.

While progress has been made in strategic planning (e.g., NDC updates and emissions tracking), significant gaps remain in policy implementation, institutional coordination, and technical capacity.

Rationale for ACT financing

The development of a sectoral strategy for the participation of the energy sector in carbon markets is an enabling condition for piloting coal transition credits as an asset class in the country through Component 3 and create capacity within the Dominican Republic government to enter into international agreements across regulated markets (Article 6.2, 6.4 or CORSIA) or incentivize the participation of the private sector in voluntary mechanisms (jurisdictionalbased such as the Energy Transition Accelerator or asset-based such as the Coal to Clean Initiative). This subcomponent is designed to be additional and complementary to existing efforts within the country.

On the basis of the readiness assessment, the plan proposes four actions to be addressed through this subcomponent 1.2 of the ACT Investment Plan with concessional/non-reimbursable financing to promote a viable participation of the Dominican energy sector in international carbon markets:

1) design a sectoral participation strategy;

2) design processes that can be led internally by the MEM;

3) design an internal institutional structure that establishes responsibilities for the execution of the aforementioned processes; and

4) build capacity to facilitate the design and implementation of the three previous steps.

Results indicators

The indicators associated with this subcomponent reflected in Annex 2 are the following:

- Approval of a sectoral strategy for the participation of the MEM in international carbon markets
- Capacity building in the public and private sectors

Financing plan for Subcomponent 1.2:

The financing plan includes three clearly differentiated stages:

1) Design of a policy and institutional framework at the national level to guide participation in international carbon trading. Includes:

a. Design of processes for the operationalization of the national policy framework

b. Identification of priority activities (opportunity cost estimation)

c. Support for the negotiation of cooperative agreements and project mapping

d. Legal support for the incorporation of the policy framework and its components into national legislation

2) Capacity building:

a. Capacity building at the ministerial level for managing participation in international carbon markets

b. Capacity building in the private sector for the development of activities for participation in international carbon markets

The approximate budget and corresponding schedule is detailed below:

- Design of a national policy and institutional framework, including its components: USD 500,000
- Legal support for the incorporation of the policy framework into national legislation: USD 200,000
- Capacity building in the public sector: USD 150,000
- Capacity building in the private sector: USD 300,000

Components / Subcomponents	Financing (MUSD)								
	ACT		Multilateral Banking				PS	GDR	Total
	R	Non-R	IDB	II	WB	IFC			
COMPONENT I: STRENGTHENING THE INSTITUTIONAL AND REGULATORY FRAMEWORK									
SUBCOMPONENT 1.2.A: Support to the Government of the Dominican Republic in the development of transition plans, valuation of a carbon market mechanism, strengthening governance and institutional capacity - carbon markets component	0	1.15							**1.15**
1.2.B: Other facilitating activities at the initiative of the GRD	0	0.35							**0.35**
Subtotal Component 1.2	0	**1.5**							**1.5**

(Note: Non-R = non-reimbursable, R= reimbursable, II = IDB Invest, PS= private sector)

Project preparation schedule

A proposed timeline of the activities required for project preparation is shown below:

Component / Activity	Execution schedule									
	Year 1				Year 2				...	
	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	...	X
Designing a policy and institutional framework at the national level										
Design of processes for the operationalization of the national policy framework										
Identification of priority activities (opportunity cost estimation)										
Support for the negotiation of cooperative agreements and project mapping										
Legal support for the incorporation of the policy framework into national legislation										
Capacity building										
Capacity building at ministerial level										
Capacity building in the private sector										

Requests, if any, for financing for the preparation of investments: N/A

Subcomponent 1.3A: Public-private working group for the transition

This outlines the formation of a public-private working group for the gradual replacement and/or reconversion of CPP, with the participation of civil society.

Problem statement

There is a risk that the private actors participating in the SENI electricity market, shareholders or owners of the assets of the CPP may not be interested in closing their plants before the end of their useful life, in the framework of the modernization investments made and described in Section 1 of this report. However, the clear commitment of the Dominican Republic toward decarbonization of its electricity matrix and its commitment to the CIF-ACT program contradict these interests. The expansion plans made in the framework of the preparation of the Initiative, as well as the possible compensation mechanisms identified during this process, should be shared in order to achieve a shared and consensual diagnosis, and identify a common roadmap for the fulfillment of the country's objectives.

Proposed contribution to initiate the transformation

The formation of a public-private working group for the gradual replacement and/or reconversion of CPP, with the participation of civil society, is the guarantee of a participatory transition, where a diversity of interests and positions converge for a holistic and integrated approach to the strategies for closing coal operations in CPP and managing their financial and technical, economic-business, economic-social, labor and rights aspects of the communities and vulnerable groups affected, as well as safeguarding gender rights and increasing the participation of women.

It is a long-term ad-hoc organization, which must have a flexible, non-bureaucratized operation and organization in order to be dynamic and participatory. Its members should be selected according to the level of responsibilities and powers it would have for decision making as agreed upon. The board should be operative in the decisions of consensus and validation of proposals for strategies, plans and projects, preliminary drafts of rules or regulations and financing mechanisms for the transition. It should be a filter for the legitimacy of the process and for action. In consensus building, the representatives of the same take responsibilities and act individually from their institutions or organizations to fulfill their commitments to a just and inclusive transition. If cohesion and harmonious coordination are achieved, the process will advance gradually but steadily.

Preparation for implementation

The working group must be formalized and given a level of authority and powers of an inter-institutional nature, without detriment to the powers and prerogatives of law enjoyed by each institution of the electricity sector. It will be made up of the authorities of the electricity sector, led by the MEM and its attached bodies, representatives of the private sector, the CPP, the affected communities, women and other diverse groups, representatives of civil society and environmental defenders.

Rationale for ACT financing

The ACT process calls for a fair, transparent and inclusive transition. The formation of a multistakeholder working group aims to achieve a shared diagnosis of the situation and solutions agreed upon by all. The concessional and non-reimbursable financing of the IFC-ACT is crucial to have a complete and successful dialogue, integrated in the governance processes of the Dominican Republic's energy sector.

Results indicators

- Decree or official act of creation of the bureau
- ACT Plan presented to all stakeholders (Round-table participants)
- Number of meetings held by the Round-table Working Group
- Signing of the Itabo 1 unit retirement agreement and the agreed compensation mechanisms
- Signing of the Itabo 2 unit retirement agreement and the agreed compensation mechanisms
- Signing of the Barahona Carbón CPP withdrawal agreement and the agreed compensation mechanisms

Subcomponent 1.3A financing plan:

Strategic Objective	Expected Results	Strategic Actions	Budget in US
1. Reach a consensus on the country's energy diagnosis and the CPP's retirement plan.	**1.1 Binding agreement for withdrawal of CPP**	**1.1.1** Present the results of the Dominican Republic's energy planning and NDC objectives.	$ 150,000
		1.1.2 Agree on the diagnosis of CPP withdrawal and agree on dates and modalities	$ 150,000
		1.1.3 Negotiating CPP withdrawal agreements	$ 100,000
	1.2 Compensation mechanism contracts signed	**1.2.1** Present offset options that will include carbon fund, substitution projects and RE allowance allocation	$ 150,000
		1.2.2 Negotiating compensation arrangements	$ 250,000
	Subtotal		**$800,000**

Project preparation schedule 1.3:

Activities	Schedule (semesters)			
	S 1	S 2	S 3	S 4
Present the results of the Dominican Republic's energy planning and NDC objectives.	■			
Agree on the diagnosis of the withdrawal of CPP and agree on dates and modalities.	■	■		
Negotiate CPP withdrawal agreements.	■	■	■	
Present offset options that will include carbon fund, substitution projects and allocation of RE allowances.		■		
Negotiate compensation agreements.		■	■	
Sign the final closing agreement.				■

Requests, if any, for financing for the preparation of investments: N/A

Subcomponent 1.3B: Gender and Inclusion Roundtable

Problem statement

Current energy regulations and policies in the Dominican Republic present a limited gender and social inclusion perspective, which restricts the equitable participation of all people in the energy sector. This situation is exacerbated by social norms and gender stereotypes that limit the inclusion of women in the sector.

Proposed contribution to initiate the transformation

The goal is to integrate the gender perspective in the governance of the energy sector, developing policies that favor gender equality and social inclusion while working to transform social norms and gender stereotypes that still persist. To achieve this goal, several actions will be carried out, such as policy reviews and analyses to identify gender gaps, the development of new inclusive energy policies and the organization of trainings and workshops for decision makers on the importance of gender equality. In addition, South-South and triangular cooperation will be promoted to share good practices and successful experiences. A baseline diagnosis of existing social norms will be conducted, followed by the design and implementation of a behavioral change program that will be evaluated and communicated to ensure its effectiveness in the energy sector.

Preparation for implementation

The Gender and Social Inclusion Roundtable will have a focal point to lead the process. The mapping of factors that participated in the national workshop will be used and complemented with additional actors designated by the authorities. Consequently, the gender and social inclusion work plan will be approved to integrate the gender perspective in the governance processes of the energy sector in the Dominican Republic. This plan aims to ensure that by 2030 energy policies reflect and promote gender equality and social inclusion, transforming harmful social norms and gender stereotypes, and creating a more equitable and inclusive environment for all people.

Rationale for ACT financing

IFC funding for the ACT project is crucial for integrating the gender perspective into the governance processes of the Dominican Republic's energy sector. Based on the analysis of studies that reflect the relationship between just energy transition and this perspective, energy policies that promote equality will be developed and proposed.

In addition, stereotypes and social norms that limit women's participation in the energy sector will be identified. As women become involved in the delivery of energy solutions, they will assume more active roles in their communities, thus facilitating a gradual change in the social and cultural norms that previously acted as barriers to their empowerment. Based on these findings, information, education and communication actions will be developed to promote behavioral change, involving multiple sectors. This comprehensive approach will not only contribute to a more equitable energy transition but will foster a more inclusive and sustainable environment, benefiting the entire population.

Results indicators

- Percentage of energy policies that include specific provisions for gender equality and social inclusion
- Number of training programs on gender equality and social inclusion conducted for personnel involved in governance processes
- Proportion of women and people from diverse groups in committees and decision-making bodies in the energy sector
- Number of reviews and audits of inclusion policies and practices in the energy sector
- Results of surveys measuring the perception of change in social norms and gender stereotypes in the energy sector
- Number of awareness and education campaigns on gender equality and social inclusion carried out in the energy sector

Subcomponent 1.3B financing plan:

Strategic Objective	Expected Results	Strategic Actions	Budget in US
1. Integrate the gender perspective in the governance processes of the energy sector in the Dominican Republic, ensuring that by 2030 energy policies reflect and promote gender equality and social inclusion, and that harmful social norms and gender stereotypes are transformed, creating a more equitable and inclusive environment for all people.	**1.1 Energy policies that reflect and promote gender equality and social inclusion**	**1.1.1** Conduct a series of studies reflecting the relationship between just energy transition and the gender and social inclusion perspective in the Dominican Republic.	$105,000
		1.1.2 Develop and propose energy policies that integrate the gender perspective, establishing advocacy mechanisms through South-South and triangular cooperation, among other implementation strategies.	$105,000
		1.1.3 Organize trainings and workshops for decision makers on the importance of gender equality in energy policy.	$82,000
	1.2 Transformation of social norms and harmful gender stereotypes in the energy sector	**1.2.1** Establish studies to identify stereotypes and social norms that limit women's participation in the energy sector.	$ 76,000
		1.2.2 Develop information, education and communication actions for behavioral change with multisectoral participation.	$155,000
		Subtotal	**$523,000**

Project preparation schedule 1.3:

Activities	Schedule by Year				
	1	2	3	4	5
Conduct a series of studies reflecting the relationship between just energy transition and the gender and social inclusion perspective in the Dominican Republic.					
Develop and propose energy policies that integrate the gender perspective, establishing advocacy mechanisms through South-South and triangular cooperation, among other implementation strategies.					
Organize training and workshops for decision makers on the importance of gender equality in energy policies.					
Establish studies to identify stereotypes and social norms that limit women's participation in the energy sector.					
Develop information, education and communication actions for behavioral change with multisectoral participation.					

Project preparation schedule 1.3:

Components / Subcomponents	Financing (MUSD)								
	ACT		Multilateral Banking				PS	GDR	Total
	R	Non-R	IDB	II	WB	IFC			
COMPONENT I: STRENGTHENING OF THE REGULATORY AND INSTITUTIONAL FRAMEWORK									
SUBCOMPONENT 1.3.A: Public-private working group for the gradual substitution and/or reconversion of CPP, with the participation of civil society	0	0.8							**0.8**
1.3.B: Gender and Inclusion Roundtable		0.5							**0.5**
1.3.C: Other facilitating activities at the initiative of the GDR		0.2							**0.2**
Subtotal Component 1.3		**1.5**							**1.5**

(Note: Non-R = non-reimbursable, R= reimbursable, II = IDB Invest, PS= private sector)

ANNEX 7: JUST TRANSITION PROJECT CONCEPT NOTE

Subcomponent 2.1: Social projects for direct workers and contractors

This portion examines social projects for the incorporation of direct workers and contractors, considering gender and diversity aspects.

Problem statement

With the transformation of the Itabo and Barahona thermoelectric plants, both workers hired directly by the companies and related contractors will see their economic activity and income affected; therefore, employment alternatives (through labor reconversion by *upskilling or reskilling*) are needed.

To address this, various forms of mitigation have been included in the Action Plan, promoting, in the first instance, the relocation of workers to the companies' other plants (or contracts in other plants or companies, as appropriate). Strengthening workers' skills by updating them to 4.0 technologies (in operation and maintenance) has been arranged, along with open-source tools according to specific interests through vouchers.

In the instance of deciding on an early exit (meeting the defined requirements), compensation mechanisms have been proposed. The initial diagnosis proposed is expected to determine the precise number of people in each of these pathways, as well as other factors of the proposal.

In addition, the lack of knowledge about the importance of gender equality in achieving an energy transition, together with gender stereotypes, discourages women from entering and remaining in the sector, which is reflected in a wide participation gap between men and women in the plants. At Itabo, 90% of the workforce is made up of men, while women are mostly found in administrative areas. Similarly, at Barahona Carbón, 86% of the workforce is male, and although there are some women in technical areas, most work in administrative areas.

Proposed contribution to initiate the transformation

The proposal establishes mechanisms for the gradual incorporation of groups of workers involved with the power plants, from different perspectives. In the first instance, it is necessary to confirm in detail the characteristics and size of these groups, as well as their interests. This given the execution of a specific diagnosis for each of the cases. The definition of this socio-labor diagnosis will give an account of the characteristics of the specific interest groups and the commitment mechanisms to be considered between workers' organizations and companies. In addition, it should establish communication safeguards to be taken strategically and, finally, the step-by-step implementation of the transformation plan.

Preparation for implementation

The initial phase is key for good development of the transformation process, or just transition, since this should include a space for dialogue, review and validation of the proposals presented in the Investment Plan by the organizations and groups of workers involved. Likewise, the execution of the initial diagnosis and the development of the Communications Plan should highlight key aspects and the necessary contents and communication strategies to be considered. Finally, clarifications and new aspects may arise as relevant elements of the implementation. An important factor is the empirical definition of the number of people to be considered in each of the categories defined in the lines of action. This is a by-product of the diagnosis.

It is equally important to establish an operational framework based on indicators and milestones that mark the progress and achievements/failures of the implementation process and, finally, labor reconversion in accordance with the times, budgets, objectives and in coordination with the companies and the other lines of work established in the general plan.

Rationale for ACT financing

Because thermoelectric plants have been installed for many years in the area as sources of local employment, defining different means within reconversion as a basic support package to strengthen workers' skills is necessary from the point of view of the deep rupture that the cessation of their operations may have. The workers have probably planned their working life and source of income with a direct link to these companies, a situation that will be impacted. This transition can be schematized via moving from their occupations in a traditional scheme toward industry 4.0, joining new labor alternatives with a higher or updated technological status—which is why, even if the alternatives are in the same company or another company in the same position, it is necessary to update skills.

On the other hand, the location of new job openings, both within the companies themselves and in the labor market in general, must be supported and guided so that it becomes a successful example of just transition. This necessitates a diagnosis of interests and skills, reinforced in training and accompanied in finding new jobs, as well as the reinforcement of skills for the management of finances and the projection of new productive ideas, to promote their permanence and economic viability.
Results indicators

A list of indicators is proposed in order to monitor the process and evaluate it gradually:

- Number of workers covered by the restructuring plan/total number of workers
- Number of direct employees of the companies who have taken early retirement
- Number of people relocated within the same companies
- Number of people enrolled in I4.0 training processes
- Number of people enrolled in entrepreneurship and finance training processes
- Number of people in line for training vouchers
- Number of people re-employed in other companies in the industry after the accompaniment process
- Number of people re-employed in other sectors after the accompaniment process

The disaggregation between the permanent and contractual workforce and the percentage of these workers as a share of the total number of workers under permanent and contractual employment (disaggregated between the three CPP) is:

Table 10 | Direct workforce impacted by the transition plan

	Employees					Contractors					Total Direct (Employees +Contractors)				
	M	%	W	%	Sub total	M	%	W	%	Sub total	M	%	W	%	Sub total
Barahona Carbón	54	30%	6	3%	60	108	60%	12	7%	120	162	90%	18	180	33%
Itabo 1	51	32%	9	6%	60	90	56%	10	6%	100	141	88%	19	160	38%
Itabo 2	51	32%	9	6%	60	90	56%	10	6%	100	141	88%	19	160	38%
Total	156		24		180	288		32		320	444		56	500	
%	87%		13%		100%	90%		10%		100%	89%		11%	100%	

Note: M (men), W (women) – Source: Upskills ACT-DR consultancy, 2024[37]

Subcomponent 2.1 financing plan

The financing plan for this annex includes a budget defined by lines of action:

Item	Assumptions	Cost unit. U$	Own direct U$	Direct outsourced U$	Total
Early withdrawal	10% meet the requirements and adhere to the offered plan Estimated at 24 monthly salaries to US$1,000 **other conditions must be validated*	$24,000	18	-	$432,000
Conversion plan	Massive, personalized service for technical personnel, from start to finish 360h training in 3 months in skills upgrading with 4.0 technology within the same sector, or related sector Employability and productivity training	$6,500	130	80*	$1,365,000
Study VOUCHER	for professionals 18% of the total endowment Voucher for professional development, for free-use micro financing Training courses (suggested e-learning modality, synchronous or asynchronous)	$5,000	32	-	$160,000
Training in transversal competencies	Entrepreneurship and financial management topics) Employability and productivity training Scope can be extended to more groups	$600		240*[38]	$144,000
				Subtotal	**$2,101,000**

[38] consultants' estimation of the subgroup of outsourced workers linked to the main value chain and those who provide service and support in a more contextual way to the company's activity.

Components / Subcomponents	Financing (MUSD)								
	ACT		Multilateral Banking				PS	GDR	Total
	R	Non-R	IDB	II	WB	IFC			
COMPONENT II: FAIR AND INCLUSIVE TRANSITION FOR AFFECTED COMMUNITIES AND WORKFORCE									
SUBCOMPONENT 2.1.A: Social projects for the incorporation of direct workers and contractors, considering gender and diversity aspects	0	2.1	0						**2.1**
2.1.B: Preparation activities		0.2							**0.2**
2.1.C: Other facilitating activities at the initiative of the GRD		0.2							**0.2**
Subtotal Component 2.1		**2.5**							**2.5**

(Note: Non-R = non-reimbursable, R= reimbursable, II = IDB Invest, PS= private sector)

Project preparation schedule

Activities	Year 0	Year 1															Schedule by Year
Months		-4	-3	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12
Start diagnosis Local multidimensional diagnostic study																	
					Cessation of operations												
Reconversion Plan																	
Dialogue with workers' organizations																	
Plan review and validation																	
Development of early retirement line																	
Development of reconversion line																	
Diagnosis of personal interests																	
Diagnostic skills inventory																	
Target profile selection/gap analysis																	
Training and gap closure																	
Labor intermediation																	
Development study voucher																	

Investment preparation funding

Within the line of approach of labor reconversion for a fair transition for workers, two actions have been defined as necessary for a good result:

a) The need to make a diagnosis with first source information (with empirical basis) regarding the characteristics and conditions of the workers involved, as well as aspects of associativity and mechanisms or instruments that may influence the implementation of the proposed plan. This diagnosis has been defined as a precondition once the technical alternative has been defined and the decision regarding the plants has been made. This diagnosis has been defined with a budget:

Item	Assumptions	Unit cost U$	Indirect	Total
LOCAL MULTIDIMENSIONAL DIAGNOSTIC STUDY	1Definition of specific characteristics: - Labor force (direct and indirect) - Local economic aspects - Local environmental aspects - Consider gender focus It should include quantitative and qualitative aspects. It should consider the collection of information in the field. Other factors	$50,000	2	$100,000

b) Another line has identified the need to create a Communications Plan that strategically addresses the entire management of messages and content, as well as the communication channels, identification of stakeholders and timeliness of messages. This plan has been defined as a prerequisite for the start-up, once the technical alternative has been defined and the decision regarding the plants has been made. This plan has been considered to be carried out with the budget detailed below:

Item	Assumptions	Unit cost U$	Indirect	
COMMUNICATION PLAN	Must encompass multiple stakeholders Define messages, media, spokespersons, calendars, etc. Definition of strategy and contingency plan Other factors	$50,000	2	$100,000

Additionally, it is worth noting that a list of potential academic institutions to articulate ACT efforts has been provided to the MBDs in the preparatory phase of this Investment Plan, considering the conceptual status of the project.

Regarding youth and other groups of interest, there was no baseline information that could be used.

As for jobs losses and creation, the central thesis of the report is that there is no destruction of employment in the general sectoral panorama, and even specifically in the companies involved, but rather a necessary growth that makes possible the relocation of personnel to new plants or to existing plants that will not be intervened. Without further consideration, the calculation was estimated at 100% of current workers with different avenues for reconversion.

It has been pointed out that it is necessary to carry out an analysis regarding the stock and variety of skills of each worker in order to make a reconversion plan adjusted to real expectations and possibilities. This should be done as part of the development of the action plan and should be based on real information from each person. It is neither possible nor desirable to establish theoretical possibilities in advance.

Subcomponent 2.2: Social projects for communities and indirect workers

This portion examines social projects for the incorporation of communities and indirect workers affected by the transition, considering gender and diversity aspects.

Problem statement

As a result of the transformation of the thermoelectric plants, it is expected that both companies and individuals who have linked their economic activity by providing services and products to the companies will be impacted due to the loss of clients and opportunities. “Indirect”

Additionally, it is worth noting that a list of potential academic institutions to articulate ACT efforts has been provided to the MBDs in the preparatory phase of this Investment Plan, considering the conceptual status of the project. Regarding youth and other groups of interest, there was no baseline information that could be used.

As for jobs losses and creation, the central thesis of the report is that there is no destruction of employment in the general sectoral panorama, and even specifically in the companies involved, but rather a necessary growth that makes possible the relocation of personnel to new plants or to existing plants that will not be intervened. Without further consideration, the calculation was estimated at 100% of current workers with different avenues for reconversion.

It has been pointed out that it is necessary to carry out an analysis regarding the stock and variety of skills of each worker in order to make a reconversion plan adjusted to real expectations and possibilities. This should be done as part of the development of the action plan and should be based on real information from each person. It is neither possible nor desirable to establish theoretical possibilities in advance.

Proposed contribution to initiate the transformation

The proposal establishes mechanisms that incorporate indirect workers who are affected by the cessation of generating plants. Although these groups must be defined empirically, their magnitude has been estimated as a reference. For this group of workers, a specific line of coverage has been established for the following actions.

Incorporating indirect workers to the reconversion plan has been considered an aspect that highlights the interest and intention to carry out an integral process for positive externalities for all the actors involved from the labor perspective, within the framework of what is understood as a just transition. Specifically, there is the opportunity to train in three areas of high importance for any labor context: soft skills, entrepreneurship and financial management.

Preparation for implementation

An important factor is the empirical definition of the number of people to be considered in each of the categories defined in the lines of action. This is a by-product of the diagnosis. It is necessary to find out who, how many, where and the characteristics of the indirect workers in order to establish criteria for their inclusion and to define those who are outside the scope of this plan.

It is to establish an operational framework based on indicators and milestones that mark the progress and achievements/failures of the process in relation to the coverage of the actions within the budgeted times, objectives and in coordination with the companies and the other lines of work established in the general plan.

Rationale for ACT financing

Because thermoelectric plants have been installed for many years in the area as sources of local employment, defining different means within reconversion as a basic support package to strengthen workers' skills is necessary from the point of view of the deep rupture that the cessation of their operations may have. The workers have probably projected their working life and source of income with a direct link to these companies, a situation that will be impacted.

On the other hand, outplacement, both within the companies themselves and in the labor market in general, as well as the opening of new business opportunities, should be supported and guided to become a successful example of just transition. This should be underpinned by the reinforcement of money management skills and the projection of new productive ideas, to promote their permanence and economic viability.

Results indicators

A list of indicators is proposed in order to monitor the process and evaluate it gradually:

- Number of people enrolled in entrepreneurship and finance training processes
- Number of people graduated from entrepreneurship and finance training processes

Subcomponent 2.2 financing plan:

Item	Assumptions	Unit cost U$	Indirect	Total
TRAINING IN TRANSVERSAL COMPETENCIES	Training courses (suggested e-learning modality, synchronous or asynchronous)	$600	800[39]	$480,000
	Entrepreneurship and financial management topics			
	Employability and productivity training			
	Scope can be extended to more groups			
		Subtotal		**$480,000**

Components / Subcomponents	Financing (MUSD)								
	ACT		Multilateral Banking				PS	GDR	Total
	R	Non-R	IDB	II	WB	IFC			
COMPONENT II: FAIR AND INCLUSIVE TRANSITION FOR AFFECTED COMMUNITIES AND WORKFORCE									
SUBCOMPONENT 2.2.A: Social projects for the incorporation of communities and indirect workers affected by the transition, considering gender and diversity aspects	0	0.5							**0.5**
2.2.B: Other facilitating activities at the initiative of the GDR	0	0.5							**0.5**
Subtotal Component 2.2	0	**1**							**1**

(Note: Non-R = non-reimbursable, R= reimbursable, II = IDB Invest, PS= private sector)

Activities	Year 0				Year 1											
Months	-4	-3	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12
Online development Training in transversal competencies																

Subcomponent 2.3: Projects in adjacent municipalities

This portion examines projects in adjacent municipalities for the social welfare of vulnerable communities affected by the transition with a gender focus.

Problem statement

Underlying municipalities face significant challenges related to just energy transition. The lack of participatory and inclusive processes in the implementation of energy programs and projects hinders the sustainability of the initiatives' results. In addition, the lack of comprehensive education and communication on the importance of gender equality limits the awareness and commitment needed for change. Insufficient representation and leadership of women and other diverse groups in decision making results in strategies that do not adequately reflect the needs and perspectives of the entire population. Likewise, the scarcity of programs that respond to women's financial demands for economic empowerment restricts their opportunities to play a meaningful role in this process.

[39] Estimate of the consultants with respect to the subgroup of outsourced workers linked to the main value chain and those who provide service and support in a more contextual way to the company's activity.

Proposed contribution to initiate the transformation

Creating opportunities for the integration of women and other diverse groups in leadership, financing and education within the energy sector is expected. Results should include the implementation of participatory and inclusive processes in community programs and projects, as well as a series of key activities beginning with the creation of gender-balanced community advisory committees and the development of transparent mechanisms for community consultations. These committees will be strengthened through the implementation of training programs for female and male community leaders. In addition, educational materials on gender equality and its intersection with the energy transition will be distributed, complemented by workshops and seminars in the communities to ensure a deep and local understanding of these issues. The training of women in new technologies and the development of programs for retention, redistribution and social and economic regeneration will be fundamental.

In addition, gender mainstreaming will be promoted in the value chains of the energy sector, encouraging the participation of companies led by women and other diverse groups. To support these initiatives, sources of financing will be established for projects led by women, pilot initiatives will be facilitated for access to financing and training in the green economy, and training will be provided in financial literacy and business management. Finally, partnerships will be formed with financial institutions to improve access to credit, ensuring that women and other underrepresented groups can actively participate in the green economy and energy sector.

Preparation for implementation

In preparing the initiative, it is essential that the processes remain transparent and participatory and ensure that the gender-aware approach is present throughout the program. To this end, a gender expert must be available to support and guide the actions established in the work plan.
Rationale for ACT financing

CIF funding for the ACT program is very important to address the needs identified during national consultations with various stakeholders, including the public sector, private sector, women's organizations, civil society and academia. These stakeholders highlighted the lack of participatory and inclusive processes in energy programs and projects, as well as the need for comprehensive education and communication on gender equality and social inclusion in the context of a just energy transition. In addition, they highlighted the scarcity of leadership opportunities for women and other diverse groups and the lack of funding for programs that promote women's economic empowerment in communities.

The ACT work plan is specifically designed to address these challenges. Through targeted activities, the initiative will seek to implement practices that promote an equitable and inclusive energy transition, ensuring that all voices are heard, and that leadership and economic empowerment opportunities are fostered for women and other diverse groups. The planned actions include community advisory committees, training and community leadership programs, support for energy sector entities to mainstream gender into the value chain and funding sources that promote women's economic empowerment. This comprehensive approach will not only help achieve a more just energy transition but will foster a more inclusive and sustainable environment.

Results indicators

- Percentage of women and other diverse groups participating in community energy project decision-making processes
- Number of educational programs and communication campaigns on gender equality and social inclusion in the energy sector
- Number of financing programs aimed at the economic empowerment of women and diverse groups in the communities

Subcomponent 2.3 financing plan:

Strategic Objective	Expected Results	Strategic Actions	Budget in US
Facilitate the equitable participation of women and diverse groups in the Dominican Republic's energy sector, ensuring inclusive processes, gender equality education, access to leadership and financing for their economic empowerment as part of a just energy transition by 2030.	**2.1 Participatory and inclusive processes of programs and projects in the communities**	2.1.1 Establish gender-balanced community advisory committees.	$29,000
		2.1.2 Develop transparent mechanisms for community consultation.	$30,000
		2.1.3 Implement training programs for women and men leaders in the communities.	$50,000
	2.2 Education and communication to learn about the importance of gender equality and social inclusion in relation to a just energy transition	2.2.1 Develop and distribute educational materials on gender equality and its intersection with just energy transition.	$40,000
		2.2.2 Conduct workshops and seminars in communities.	$105,000
		2.2.3 Use various media channels to disseminate information on gender equality.	
		2.2.4 Train women in the use of new technologies and develop programs for retention, redistribution and social and economic regeneration.	$206,000
	2.3 Leadership positions for women and diverse groups	2.3.1 Promote gender mainstreaming in the value chains of entities in the Dominican energy sector.	$108,000
	2.4 Financing of programs that promote the economic	2.4.1 Establish sources of funding for women-led projects.	$370,000
		2.4.2 Facilitate pilot initiatives for access to financing and training in the green economy.	$100,000
		2.4.3 Provide training in financial literacy and business management.	$88,000
		2.4.4 Form alliances with financial institutions to improve access to credit.	$90,000
		Subtotal	**$ 1,301,000**

Components / Subcomponents	Financing (MUSD)								
	ACT		Multilateral Banking				PS	GDR	Total
	R	Non-R	IDB	II	WB	IFC			
COMPONENT II: FAIR AND INCLUSIVE TRANSITION FOR AFFECTED COMMUNITIES AND WORKFORCE									
SUBCOMPONENT 2.3.A: Projects in adjacent municipalities for the social welfare of vulnerable communities affected by the transition with a gender focus	0	1.3							**1.3**
2.3.B: Other facilitating activities at the initiative of the GDR	0	0.2							**0.2**
Subtotal Component 2.3	0	1.5							**1.5**

(Note: Non-R = non-reimbursable, R= reimbursable, II = IDB Invest, PS= private sector)

Project preparation schedule

Activities	Schedule by Year				
	1	2	3	4	5
Establish gender-balanced community advisory committees.		■			
Develop transparent mechanisms for community consultation.		■			
Implement training programs for community leaders.		■			
Develop and distribute educational materials on gender equality and its intersection with just energy transition.	■				
Conduct workshops and seminars in communities.	■	■	■		
Use various media channels to disseminate information on gender equality.	■	■	■	■	■
Promote gender mainstreaming in the value chains of entities in the Dominican energy sector.		■	■		
Establish sources of funding for women-led projects.		■	■		
Provide financial literacy and business management training.	■				
Form alliances with financial institutions to improve access to credit.	■	■	■	■	■

ANNEX 8: INFRASTRUCTURE PROGRAM CONCEPT NOTE

Problem statement

The three coal-fired power generation units (CPP) eligible under Component III of the Investment Plan are **Itabo 1** (132 MW), **Itabo 2** (128 MW) and **Barahona Carbón** (52 MW).

Both Itabo 1 and Itabo 2 belong to Empresa Generadora de Electricidad Itabo (EGE Itabo), which is a joint venture between the Dominican State, represented by the Fondo Patrimonial de Empresas Reformadas (FONPER) — which owns 49.97%, while 0.03% is in the hands of former employees of the former Corporación Dominicana de Empresas Eléctricas Estatales (CDEEE) — and the remaining 50% is controlled by Grupo Linda (private sector). Both plants are operated by AES Dominicana.

Barahona Carbón belongs to Empresa Generadora Haina, S.A. (**EGE Haina**), which is 49.993% owned by FONPER and 0.007% by former CDEEE employees, and the remaining 50% is controlled by the Investment Fund for Energy Infrastructure Development I (FICDIE I), controlled in turn by Haina Investment Co. Ltd. (private sector).

Since these three coal-fired power generation units are controlled by private sector entities and their potential replacement assets are developed in a competitive market environment, concessional funds under Component III of this Investment Plan will be channeled equally by the IDB Group's private sector arm, **IDB Invest**, and the International Finance Corporation (**IFC**).

The core activities of this component are designed to (a) **incentivize the voluntary early retirement** (through decommissioning or reconversion) of the three eligible assets and (b) **finance their replacement** with renewable energy and energy storage assets.

In the context of the coal transition, there are four main areas that can be subsidized with CIF concessional funds throughout the development of this project:

- First, **the loss of profit** from the economic activity of the three eligible plants, provided that the viability of their business under normal conditions (Business as Usual) can be demonstrated.
- Second, the **costs of decommissioning and closure** of eligible plants.
- Third, **incremental costs in replacement assets**, especially for the use of energy storage systems (BESS) depending on the market conditions at the time of replacement.
- Finally, the costs derived from the social impacts linked to the early retirement of eligible plants and which, in the context of this Investment Plan, are conveyed through Component II of the plan.

Proposed contribution to initiate the transformation

ACT reimbursable funds for Component III will be used through two windows with specific criteria:

- A window to encourage voluntary early retirement of plants with coal transition credits (**"Window #1,"** which corresponds to subcomponent 3.3 of the Investment Plan).

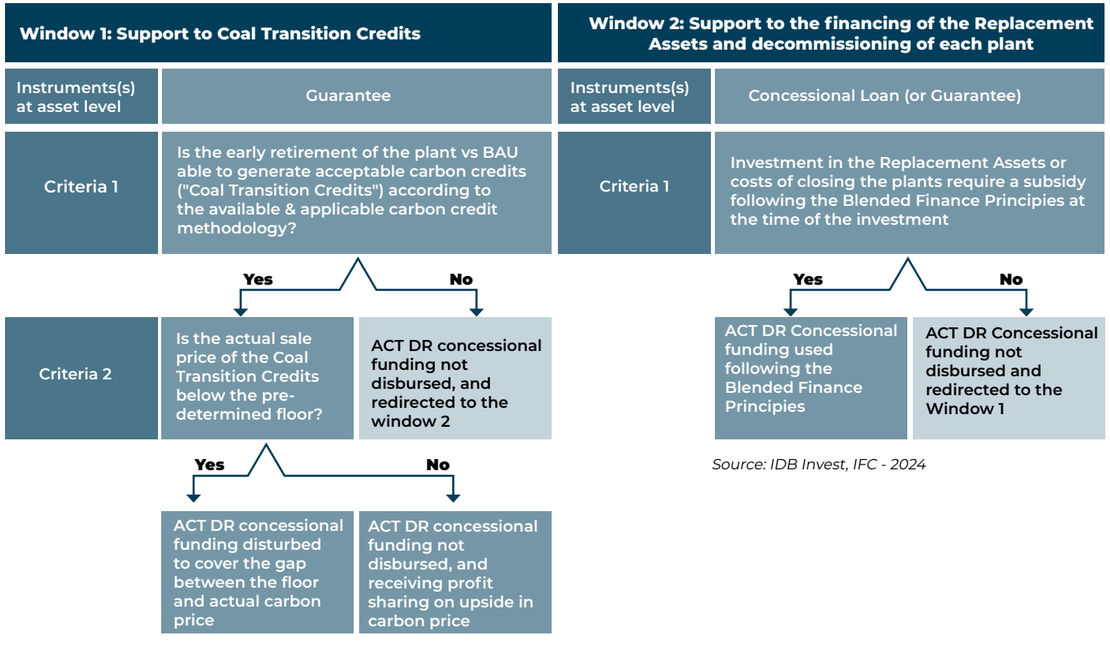
A window to support the financing of the replacement of coal-fired plants with renewable energy generation and energy storage assets (**"Window #2,"** which corresponds to subcomponent 3.4 of the Investment Plan).

The purpose of **Window #1** is to provide a financial incentive for plant owners to absorb the financial impact of early retirement, replacement or conversion of their coal assets. Owners will seek to monetize the tons of CO2eq avoided resulting from the early retirement of their plants and their replacement with renewables with high-quality, high-integrity coal transition credits following the eligibility criteria of robust methodologies. Subject to the principles for the use of Blended Finance in the private sector[40], funds from the ACT program would be used as a firm price guarantee to facilitate the decision making of plant owners and to optimize their negotiating position in an eventual carbon transition credit transaction.

The purpose of **Window #2** is to support the financing of replacement assets and plant decommissioning costs by the owners. Concessional debt may be required depending on, among other things, the technology of the new assets (e.g., incremental costs associated with energy storage technology) or financial market conditions at the time these investments are made. Subject to the principles for the use of Blended Finance in the private sector, funds from the ACT program would be used as concessional debt.

Each of the eligible plants can access each of the windows depending on its situation at the time of the early retirement and replacement or reconversion decision. The following chart describes the criteria for the use of concessionary resources between the two windows:

Figure 11 | Flowchart of infrastructure project financing windows



Source: IDB Invest, IFC - 2024

[39] https://publications.iadb.org/en/dfi-working-group-blended-concessional-finance-private-sector-projects-summary-report.

Preparation for implementation

The Dominican Republic submitted its Expression of Interest to access ACT funds in August 2021 and was invited to submit its Investment Plan in February 2023. In December 2023, the country announced two important commitments in the coal transition. First, it joined the **Powering Past Coal Alliance** (PPCA) initiative[41], committing not to incorporate new coal-fired generation plants and to prepare strategies for the accelerated retirement of existing assets. Second, it became a pilot country for the U.S. government-sponsored **Energy Transition Accelerator** (ETA)[42], an innovative jurisdictional carbon finance platform aimed at catalyzing private capital to support ambitious just energy transition strategies in emerging economies.

In the context of this Investment Plan, the elements included in Component I are enabling conditions for the development of Component III. Specifically, the subcomponents of this pillar include (a) the enabling of a **Public-Private Partnership Roundtable** for the coordination of the transition process, (b) **regulatory development** for the incorporation at scale of renewable generation plants and energy storage systems and (c) the preparation of the country to generate a regulatory framework for the transaction of carbon credits from the energy sector under the parameters of **Article 6 of the Paris Agreement.**

Likewise, the activities related to Component II of the Investment Plan are enabling for the early retirement of coal-fired generation plants and must anticipate the impacts derived under the principles of just transition.

Finally, subcomponent 3.5, linked to the deployment of transmission infrastructure by ETED to accommodate the growth of non-conventional renewable energies in the country, should precede the execution of replacement assets in some areas. This subcomponent will not be financed with ACT concessional funds.

Rationale for ACT financing

According to the International Monetary Fund (IMF) study "The Great Carbon Arbitrage,[43]" the net social return from the early retirement of the global fleet of coal plants and their replacement by renewable energies is $85 trillion, or the equivalent of $60 per ton of CO_{2eq} avoided. The study quantifies the social benefit of early closure at about $80 per ton of CO_{2eq} and the costs of retirement at about $20 per ton of CO_{2eq}.

Despite the marginal impact of the cessation of coal plant operations, the market does not compensate the private sector, to date and in emerging markets, for generating this return to society by absorbing the incremental costs associated with the change in business model. This Component III proposal seeks to promote a market solution to this problem through the use of concessional funds on a temporary basis.

The development of coal transition credits as an asset class would provide a permanent solution to this problem while minimizing the need for subsidy for this agenda, applying the principles for the use of Blended Finance in the private sector. In other words, if the value of this new asset class in terms of price per ton of CO_{2eq} avoided were greater than the abatement cost or early retirement cost, there would be no need to use the subsidy. If, on the other hand, the value of these credits was lower than the abatement cost, the differential would indicate precisely the amount of subsidy needed to make this transition.

[41] https://poweringpastcoal.org/news/cop28-opens-with-remarkable-international-actions-on-coal-phase-out/.
[42] https://www.state.gov/united-states-and-partners-announce-energy-transition-accelerator-framework/.
[43] "The Great Carbon Arbitrage" (Adrian, Bolton, Kleinnijenhuis 2022) IMF Working Paper - Monetary and Capital Market Department.

The presence of a firm price guarantee endowed with concessional funds makes it possible to anticipate coal plant ownership decisions as well as to improve the negotiating position of the country receiving the concessional funds vis-à-vis potential buyers interested in high-quality and high-integrity carbon credits.

In the absence of a functioning market for the transaction of coal transition credits, ACT concessional resources would be directed toward traditional concessional debt models to support subsidy-eligible areas at the time this funding is executed.

The early retirement of the Barahona Carbón, Itabo 1 and Itabo 2 units could result in between 9.9 million and 12.2 million tons of CO_{2eq} in the central scenarios of the modeling developed for the purposes of this plan.

This approach is consistent with the call for innovation and private capital mobilization through the ACT Program expressed in Sections 43 to 46 of the ACT Design Document.[44]

Results indicators

The indicators proposed in the Integrated Results Framework (IRF) for this component are as follows:

ACT **CORE** **5** Mitigation: GHG emissions reduced or avoided ($MtCO_{2eq}$) – direct/indirect.	Direct: 9.9 $MtCO_{2eq}$ cumulated over the 2025-2040 period
ACT **CORE** **6** Co-Finance: Volume of co-finance leveraged (USD), total	Total 1,147 MUSD (2035)
ACT **CORE** **7** Plant decommissioning: Capacity of existing coal power generation assets accelerated for retirement (MW)	52 MW (2027); 180 MW (=52+128) (2030); 312 MW (=52+128+132)(2035)
ACT **CORE** **8** Repowering Installed capacity of renewable energy (MW)	>450 MW (if wind power) 2035 or >650 MW (if solar PV) 2035
GESP 2 - Energy storage capacity installed (GW/ GWh)	Up to 300 MW / 1.2 GWh (2035)
ACT CORE 9 Coal Abatement: Amount of coal diverted (MT)	0.3 Mt/year average and 2.4 Mt (cumulated) 2035

Financing plan for subcomponents 3.1 to 3.4:

Subcomponents 3.1, 3.2, 3.3 and 3.4 will be financed with **$75.5M** of ACT program reimbursable concessional funds channeled equally between IDB Invest and IFC, either through first loss guarantees or concessional loans, for a total investment amount of **$714.3M** ($75.5M + $638.8M) of projects with a mobilization ratio greater than 1:8.

Cofinancing is also expected from IDB Invest, IFC and the private sector (commercial banks and investors) in subcomponent 3.4 to finance the replacement assets, as shown in the table below.

[44] https://www.cif.org/sites/cif_enc/files/meeting-documents/act_investment_program_-_design_document.pdf.

Components / Subcomponents	Financing (MUSD)								
	ACT		Multilateral Banking				PS	GDR	Total
	R	Non-R	IDB	II	WB	IFC			
COMPONENT III: PLANT REPLACEMENT AND/OR RECONVERSION AND SYSTEM IMPROVEMENTS									
Subcomponent 3.1 - Cessation of operations and decommissioning of Itabo 1 + 2 plants	75.5						22.2		**22.2**
Subcomponent 3.2 – Cessation of operations and decommissioning of the Barahona Carbón plant							5.6		**5.6**
Subcomponent 3.3 - Mechanism to support coal transition credits									
Subcomponent 3.4 - Replacement of Itabo and Barahona Carbón CPP with renewable energy generation and BESS plants				85.5		85.5	440		**611**
Subtotal Components 3.1 to 3.4	**75.5**	**0**		**85.5**		**85.5**	**467.8**		**638.8**

(Note: Non-R = non-reimbursable, R= reimbursable, II = IDB Invest, PS= private sector)

The plan also includes a **subcomponent 3.5** for the adequacy of the Transmission System, resilience and flexibility. An investment in the order of US$ 508M is foreseen by the state-owned transmission company ETED as enabling infrastructure for the transition from coal.

Project preparation schedule

The preparation schedule is projected in **18 months**, which is the maximum timeframe allowed by the CIF rules[45]. This timeframe allows for the parallel development of Component I and II activities, such as the regulatory frameworks for the development of the replacement assets, the Public-Private Partnership Table, the regulation of Article 6 of the Paris Agreement or the preparation of just transition strategies to accommodate the project design to the development of the program as a whole.

Investment preparation funding

For the preparation of the project, with a particular focus on Pillar 3 activities, the following activities will be required to be covered with non-reimbursable resources. This is a non-exhaustive list and could have additions, depending on additional gaps to be identified for each CCP to be replaced according to the dialogue with their owners. The estimated amount of these actions is US$ 265,000, which is in addition to the non-reimbursable funds of the Investment Plan used in Components I and II.

[45] CIF Pipeline Management and Cancellation Policy.
(https://www.cif.org/sites/cif_enc/files/meeting-documents/joint_ctf-scf_tfc.23_4_cif_pipeline_management_and_cancellation_policy.pdf).

Detail of costs:

Figure 12 | Summary of preparatory investment requirements for Subcomponent 3.3

Preparation Activity	Description	Estimated Amount (USD)
Detailed study of the replacement alternatives for Barahona Carbón, Itabo 1 + 2	While technically and economically viable options for CPP replacement were identified as part of the IP preparation, detailed studies of the prioritized replacement options, as well as the impact and contribution to the system of the replacement assets to be implemented, will be required.	100,000 (70,000 for Itabo 1 + 2, 30,000 for Barahona)
Study of the early retirement and replacement costs of Barahona Carbón, Itabo 1 + 2	Estimate the cost of reducing GHG emissions (in CO2eq) of the GWPs to be replaced to assess the economic viability of different mitigation strategies and support the carbon credit program.	40,000
Study for the definition of the technical useful life and residual value of Barahona Carbón, Itabo 1 + 2	Detailed analysis of the investments and repowering made in the CPPs, the technical condition of the asset and the cost-competitiveness of its operation to determine in more detail its technical useful life and the depreciated value at the end of its useful life.	60,000 (30,000 for Itabo 1 + 2 and 30,000 for Barahona Carbón)
Preparation of the Mitigation Activity Design Document (MADD) for the early retirement and replacement of Barahona Carbón, Itabo 1 + 2	Document required to implement the mechanism for the sale of credits for the coal transition.	25,000
Legal support in the development of the coal transition credit purchase and sale agreements for Barahona Carbón, Itabo 1 + 2 — Emission Reductions Payment Agreement (ERPA)	Legal advisory activities to be contracted on an ad-hoc basis for each of the interventions.	40,000

Source: IDB Invest, IFC - 2024

ANNEX 9: ADDITIONAL INFORMATION ON INFRASTRUCTURE OPTIONS

Subcomponent 3.1: Cessation of operations and decommissioning of CPP Itabo

This part of the Plan is central to the fulfillment of the coal transition strategy and is dedicated to the retirement and possible replacement of the Itabo CPP with BESS 300 MW/1200 MWh and its potential conversion to a synchronous condenser (with or without flywheel).

The combined alternative of stand-alone battery storage in the coalfield area, together with the conversion of the power plant to a synchronous condenser, would make it possible to take advantage of most of the power plants' land and infrastructure. In addition, this combination would allow delivery of power when it is required and provides inertia, grid resilience and voltage control services in the SENI.

Closing activities

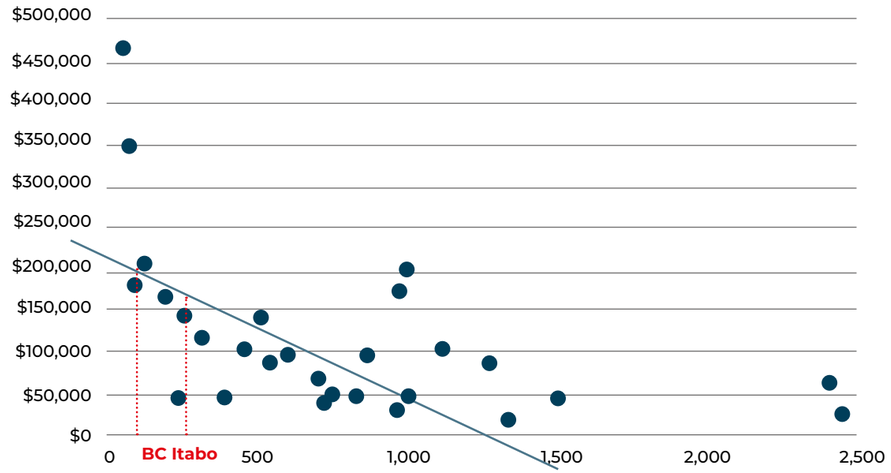
In order to execute this component, the following steps must be taken:

- Technical studies of enabling conditions for the cessation of operations of the Itabo plant, covering the following transient aspects: a) frequency control, b) voltage control, c) grid strength and inertia, and at the subsystem level d) transmission availability to respond to demand at affected nodes (Santo Domingo ring: Julio Sauri substation transformers (2x600 MVA), the 138 kV line between Julio Sauri and Itabo substations, the 138 kV ring7 between Itabo, Herrera, Los Prados, Embajador, Matadero and Haina substations and the 138 kV section of Itabo, UASD, CNP, Timbeque 2, Los Mina and Hainamosa substations)
- Shutdown and cleanup activities (feed, coal and ash pits, and power plant)
- Technical-economic study for the installation of a stand-alone 300 MW battery (4 h, 1200 MWh)
- Optional: installation of a stand-alone 300 MW battery (4 h, 1200 MWh), which can be installed after cleaning of the coalfield
- Technical-economic study for the installation of a synchronous condenser (with/without flywheel)
- Optional: installation of a synchronous condenser (with/without flywheel)

Closure and decommissioning costs

Dismantling the thermal power plant first requires the mandatory administrative authorization. This next step is called *phaseout* or progressive disconnection. At that moment, when the plant has been freed of pressure, voltage and temperature, the power company hands it over to the contractor in charge of the dismantling. It is estimated that 180 workers will be mobilized for 48 months. To estimate the economic effort, the authors have taken as a reference the decommissioning costs in the USA, with a 50% reduction in labor costs in the Dominican Republic (OECD Library, 2023 and WB databank, 2024).

Figure 13 | Costs (2016) of demolition of coal plants in the US by power (MW)



Source: Decommissioning US Power Plants (D. Raimi), 2017

With a CPI update from U$2016 to U$2024 value, the costs should be increased by 33%.

Table 11 | Itabo 1+2 plant retirement cost estimate

Summary of closing	/MW		UNIT.	
DEMOLITION COST OF PLANT US 2016	$ 175,000			
US CPI 2024 vs 2016		1.33	**ITABO I**	**ITABO II**
COST OF LABOR DR VS. USA		-50%	128	132
DEMOLITION COST OF PLANT RD 2024	$ 116,375		$15,128,750	$15,128,750
DEMOLITION COST OF PORT ANNEXES		$500,000	$500,000	
Material recovery value	$ 46,550	40%	$ 5,958,400	$ 6,144,600
Net value	**$ 69,825**		$ 8,937,600	$ 9,216,900
INDIRECT COSTS (PERMITS, ENG, ETC.)		3%	$ 268,128	$ 276,507
Fixed project management costs		2%	$ 178,752	$ 184,338
				$ 19,562,225

Detail of costs:

Table 12 | Itabo 1+2 plant removal cost details

Itabo 1+2 plants	
Months of work	48
Workers	160
Men-days	192,000
Hourly wage	$5
Total salaries + supervision (30%)	$9,984,000
Daily cost of heavy machinery	450 / day
Large cranes, telehandler 10t	6
Machine-days	7,200
Total machinery + supervision (30%)	$4,212,000
Daily cost of light machinery	200 / day
Small cranes, forklifts, trucks	10
Machine-days	12,000
Total machinery + supervision	$3,120,000
Studies	$1,000,000
Logistics	$800,000
Total Itabo 1+2	**$19,116,000**
$/MW	$83,113

This cost takes into account the removal of all equipment and materials from the site and their cleanup and restoration for other uses.

Control and mitigation measures

With the closure of the Itabo thermoelectric plant , it is expected that some environmental impacts that are currently occurring will cease. However, others will continue if control and mitigation measures are not implemented. These are:

i. Contaminated soils associated with ash and coal storage pits.

ii. Contamination of the water table below the ash and coal storage pits.

In order to control and clean up these environmental liabilities, it is necessary to:

i. Develop an Environmental Audit (EA) that quantifies the magnitude of the environmental liabilities found and formulates a Closure Plan (specific guidelines for soil and groundwater remediation[47]) and decommissioning adjusted to the reality of the Itabo thermoelectric plant.

ii. Obtain the corresponding permits from the Ministry of Energy and Mines (MEM) and other state agencies related to the electricity sector in the Dominican Republic.

iii. Execute the Closure and Decommissioning

[47] The EA must determine the levels of soil and water contamination. In the event of abnormal levels above the quality standard determined to be acceptable, a soil and water table remediation plan should be formulated. Depending on the available funds, the possibility of encapsulation of these soils can be explored and, in the aqueous phase, the precipitation of bioavailable heavy metals through the change of pH and oxy-reduction conditions.

Plan with the corresponding remediation of environmental liabilities, dismantling of infrastructure and safe final disposal of the waste generated.

iv. Submit to the MEM the Environmental Compliance Report documenting the tasks performed in the Closure Plan.

v. Issue a resolution or settlement by the MEM regarding compliance with the Closure and Decommissioning Plan for the Itabo thermoelectric plant.

Summary of estimated costs

The following table shows the budget required to comply with the environmental activities inherent to the replacement of the Itabo power plant.

Technical part:

N°	Strategic Actions/Activities	Costs (U$)
1	**Technical studies of enabling conditions**	
1.1	Transient study for frequency control	25,000
1.2	Transient study for voltage control, network strength and inertia, and at subsystem level and transmission availability to respond to demand at affected nodes (Santo Domingo Transmission loop)	25,000
1.3	Transient study for network strength and inertia	25,000
1.4	Transmission availability study to respond to demand in affected nodes (Santo Domingo Transmission loop)	100,000
2	Closing and cleaning activities	100,000
2.1	Disassembly of power infrastructure	500,000
2.2	Cleaning of coal and ash pits	500,000
2.3	Itabo 1+2 power plant site disassembly	16.5M
2.4	Conditioning of the Itabo 1+2 power plant site	2M
3	**Technical-economic study for the installation of a stand-alone 300 MW battery (4 h, 1200 MWh)**	
3.1	Preparation of Terms of Reference (TOR) for procurement	75,000
3.2	Consulting service procurement process	
3.3	Cost/benefit study	
3.4	Preparation of TOR for request for quotations	75,000
3	**Technical-economic study for the installation of a synchronous condenser (with/without flywheel)**	
4.1	Preparation of TOR for procurement	
4.2	Consulting service procurement process	75,000
4.3	Cost/benefit study Preparation of TOR for request for quotations	75,000
5	**(Optional) Installation of a stand-alone 300 MW battery (4 h, 1200 MWh)**	(216M)
6	**(Optional) Installation of a synchronous condenser (with/without flywheel)**	(216M)
	SUBTOTAL STUDIES AND ACTIVITIES	**22M**

Note: Total amount doesn't refelect the costs of optional investments.

Environmental part:

N°	Strategic Actions/Activities	Costs (U$)
1	**Environmental Audits (EA) of Itabo's Thermoelectric Power Plants**	
1.1	Preparation of terms of reference (TOR) for the contracting of the EAs	5,000
1.2	Consulting service procurement process	25,000
1.3	Development of EAs	
1.4	Delivery of the results to MARENA and the MDBs	
2	**Remediation of environmental liabilities encountered**	
2.1	Preparation of TOR for the execution of the Environmental Adequacy and Management Program (EAMP)	500,000
2.2	Manage environmental permits before MARENA	
2.3	Implementation of the EAMP	2,000,000
2.4	Delivery of the results to MARENA and the MDBs	
3	**Development of prioritized projects**	
3.1	Preparation of TOR for contracting of EAs	
3.2	Consulting service procurement process	75,000
3.3	Manage environmental permits before MARENA	
3.4	Delivery of the results to MARENA and the MDBs	
4	**Supervision and monitoring of Environmental and Social Management Specialist (ESMS) activities**	
4.1	Approve management plans prepared by contractors and verify compliance, evaluate and report on the environmental performance of projects	
4.2	Supervise the environmental management of projects, ensuring compliance with environmental, social, legal and contractual requirements of its contracted activities	
4.3	Elaborate, supervise and execute the environmental management plans during the construction, provisioning and operation phase, until the end of the construction contract. This task is subsequently carried out by whoever is in charge of the operation of the facilities.	
5	**Professional fees for ESMS ($5,000/month/36 months)**	**180,000**
	SUBTOTAL	**2,260,000**

Note: Total amount doesn't refelect the costs of optional investments.

Activity planning

The operational closure and decommissioning schedule for Itabo 1+2 will be updated once approval is obtained for the proposed CIF/ACT program. The schedule for the decommissioning of each unit will be defined in 2025, as part of the updates to the PEN and OC Expansion Plan, through a robust model to ensure careful planning for energy security.

It is estimated that operations may take up to 48 months for closure, complete dismantling of both units, recovery of materials and equipment, and reconditioning of the site.

For the environmental part, the following schedule of activities is foreseen:

N°	Strategic Actions/Activities	Schedule					
		Year					
		1		2		3	
		Semester					
		1	2	3	4	5	6
1	**Environmental Audits (EA) of the CPP of Itabo 1+2**						
1.1	Preparation of TOR for the contracting of the EAs	X					
1.2	Consulting service procurement process	X	X				
1.3	Development of EAs	X	X				
1.4	Delivery of results to MARENA and the MDBs		X				
2	**Remediation of environmental liabilities encountered**						
2.1	Preparation of TOR for the execution of the EAMP		X				
2.2	Manage environmental permits before MARENA		X				
2.3	Implementation of the EAMP			X	X	X	X
2.4	Delivery of results to MARENA and the MDBs				X	X	X
3	**Development of prioritized projects**						
3.1	Preparation of TOR for EA contracting	X					
3.2	Consulting service procurement process	X					
3.3	Manage environmental permits before MARENA		X				
3.4	Delivery of results to MARENA and the MDBs						
4	**Supervision and monitoring of ESMS activities**		X		X		X
4.1	Approve management plans prepared by contractors and verify compliance, evaluate and report on the environmental performance of projects			X			
4.2	Supervise the environmental management of projects, ensuring compliance with environmental, social, legal and contractual requirements of its contracted activities	X	X	X	X	X	X
4.3	Elaborate, supervise and execute the environmental management plans during the construction, provisioning and operation phase, until the end of the construction contract. This task is subsequently carried out by whoever is in charge of the operation of the facilities.	X	X	X	X	X	X

Subcomponent 3.2: Cessation of operations and decommissioning of Barahona Carbón

Closing activities

In order to execute this component, the following steps must be taken:

- Technical studies of enabling conditions for the cessation of operations of the Barahona Carbón plant, covering the following transitory aspects: a) frequency control, b) voltage control, c) network strength and inertia, and at the subsystem level, d) availability of transmission to respond to demand at the affected node (Substation Barahona)
- Optional: Technical-economic study to continue operating partially or totally the plant based on biofuel (to be carried out by the company that owns the plant)
- Shutdown and cleanup activities (feed, coal and ash pits, and power plant)
- Technical-economic study for the installation of a 100 MW stand-alone battery (4 h, 400 MWh)

- Optional: installation of a stand-alone 100 MW battery (4 h, 400 MWh), which can be installed after the cleaning of the coalfield
- Technical-economic study for the installation of a synchronous condenser (with/without flywheel)
- Optional: installation of a synchronous condenser (with/without flywheel)

Closure and decommissioning costs

Costs associated with the removal of all equipment and materials from the site and their cleanup and restoration for other uses are taken into account.

Table 13 | Estimated retirement cost of Barahona Carbón plant

SUMMARY OF CLOSING COSTS	/MW		PER UNIT
DEMOLITION COST OF PLANT US 2016	$ 200,000		
US CPI 2024 VS 2016		1.33	**Barahona Carbón**
COST DR VS. USA		-50%	52
DEMOLITION COST OF PLANT RD 2024	$ 133,000		$ 7,049,000
DEMOLITION COST OF PORT ANNEXES		$300,000	$300,000
MATERIAL RECOVERY VALUE	$ 39,900	30%	$ 4,934,300
NET VALUE	**$ 93,100**		$ 4,934,300
INDIRECT COSTS (PERMITS, ENG, ETC.)		3%	$ 148,029
FIXED PROJECT MANAGEMENT COSTS		2%	$ 98,686
			$ 5,481,015

Detail of costs:

Table 14 | Detail of plant retirement costs for Barahona Carbón plant

Barahona Carbón plant	
Months of work	36
Workers	60
Men-days	54,000
Hourly wage	$5
Total salaries + supervision (30%)	$2,808,000
Daily cost of heavy machinery	$450 / day
Large cranes, telehandler 10t	2
Machine-days	1,800
Total machinery + supervision (30%)	$1,053,000
Daily cost of light machinery	$200 / day
Small cranes, forklifts, trucks	6
Machine-days	5,400
Total machinery + supervision	$1,404,000
Studies	$400,000
Logistics	$200,000
Total Barahona Carbón	**$5,865,000**
$/MW	$110,660

Other possible uses of the site:

As of the date of writing this Investment Plan, it has not been possible to gather sufficient information to validate the feasibility and provide an economic cost/benefit model of the following potential technical solutions:

a) BESS stand-alone located at the Barahona industrial site and connected to the existing electrical substation

b) Insertion of a synchronous condenser and/or flywheel plant conversion

c) Partial plant conversion to replace coal with biofuel

Control and mitigation measures

With the conversion process of the Barahona thermoelectric plant[48] to generate electricity from biomass, it will continue to produce the following environmental impacts:

i. Thermal stress in coastal marine ecosystems adjacent to the refrigeration system discharge site

ii. Deterioration of air quality in neighboring communities

iii. Contaminated soils associated with ash storage pits

iv. Contamination of the water table below the ash storage pits

In order to control and clean up these environmental liabilities, it is necessary to:

i. Develop an Environmental Audit (EA) that quantifies the magnitude of the environmental liabilities found. This EA must contain an Environmental Adequacy Management Plan (EAMP) containing specific guidelines for control, prevention and mitigation of the findings[49].

ii. Obtain the corresponding permits from the MEM and other state agencies related to the electricity sector in the Dominican Republic.

iii. Execute the EAMP for the remediation of environmental liabilities and improvement of the Barahona power plant.

iv. Submit to the MEM the Environmental Compliance Report documenting the tasks carried out in the EAMP.

v. Issue a resolution or settlement by the MEM for the cleanup of environmental liabilities of soils and groundwater for the thermoelectric plant in Barahona.

[48] The scenario of not dismantling the generation plant was taken into consideration.

[49] Install an electrostatic filter to control particulate matter in gaseous emissions. This measure will need to be applied if the results of the environmental audit so require.

As part of the activities of the EA of the Barahona plant, the following should be carried out:

i. Simulate with different atmospheric scenarios the behavior of the dispersed gases coming from the chimney.

ii. Determine whether the height of the chimney is correct to create the right effect of dispersion of polluting gases that can affect the health of the population.

iii. Determine the incidence of chronic respiratory diseases in the community of Barahona. The EA must determine soil and water contamination levels. In the event of anomalous levels above the quality standard determined to be acceptable, a soil and water table remediation plan should be formulated. Depending on the available funds, the possibility of encapsulation of these soils can be explored and in the aqueous phase the precipitation of bioavailable heavy metals through the change of pH and oxy-reduction conditions. As part of the work of the EA, a mapping of the reef platforms should be carried out to determine the degree of influence of the thermal plume from the cooling waters. From the results of the mapping, it will be possible to assess whether it is pertinent to explore other options to improve the cooling system.

For the Barahona plant, it will be necessary to perform due diligence if the generation license was issued to be able to burn biomass; otherwise, the developer will have to start the process of requesting the corresponding permits from the different government entities involved in their issuance. For specific permits of an environmental nature, they encompass applying to the Ministry of the Environment and Natural Resources (MARENA) for approval of the Environmental Impact Study or an Environmental Impact Statement.

Summary of estimated costs

Technical part:

N°	Strategic Actions/Activities	Costs (U$)
1	**Technical studies of enabling conditions**	
1.1	Transient study for frequency control	25,000
1.2	Transient study for voltage control, Network strength and inertia, and at the subsystem level, transmission availability to respond to demand at the affected node (Substation Barahona)	25,000
1.3	Transient study for network strength and inertia	25,000
1.4	Transmission availability study to respond to demand at the affected node (Substation Barahona)	25,000
2	**Closing and cleaning activities**	
2.1	Disassembly of power infrastructure	200,000
2.2	Cleaning of coal and ash pits	200,000
2.3	Dismantling of the Barahona Carbon power plant site	4.1M
2.4	Conditioning of the Barahona Carbon plant site	1M
3	**Technical-economic study for the installation of a 100 MW stand-alone battery (4 h, 400 MWh)**	
3.1	Preparation of TOR for procurement	
3.2	Consulting service procurement process	75,000
3.3	Cost/benefit study	
3.4	Preparation of TOR for request for quotations	75,000
3	**Technical-economic study for the installation of a synchronous condenser (with/without flywheel)**	
4.1	Preparation of TOR for procurement	
4.2	Consulting service procurement process	75,000
4.3	Cost/benefit study Preparation of TOR for request for quotations	75,000
	SUBTOTAL STUDIES AND ACTIVITIES	**5,750,000**

Detail of costs:

N°	Strategic Actions/Activities	Costs (U$)
1	**EAs of Barahona's thermoelectric power stations**	
1.1	Preparation of TOR for the contracting of the EAs	5,000
1.2	Consulting service procurement process	
1.3	EA development	
1.4	Delivery of results to MARENA and the MDBs	
2	**Remediation of environmental liabilities encountered**	
2.1	Preparation of the TOR for the execution of the EAMP	
2.2	Manage environmental permits before MARENA	
2.3	Implementation of the EAMP	2,000,000
2.4	Delivery of the results to MARENA and the MDBs	
3	**Development of prioritized projects**	
3.1	Preparation of TOR for contracting of EAs	
3.2	Consulting service procurement process	75,000
3.3	Manage environmental permits before MARENA	
3.4	Delivery of the results to MARENA and the MDBs	
4	**Supervision and monitoring of ESMS activities**	
4.1	Approve management plans prepared by contractors and verify compliance, evaluate and report on the environmental performance of projects	
4.2	Supervise the environmental management of projects, ensuring compliance with environmental, social, legal and contractual requirements of its contracted activities	
4.3	Elaborate, supervise and execute the environmental management plans during the construction, provisioning and operation phase, until the end of the construction contract. This task is subsequently carried out by whoever is in charge of the operation of the facilities.	
5	**Professional fees for ESMS ($5,000/month/36 months)**	180,000
	SUBTOTAL STUDIES AND ACTIVITIES	**2,260,000**

Activity planning

The operational closure and decommissioning schedule for the Barahona Carbón plant will be updated once approval is obtained for the proposed CIF/ACT program. The decommissioning schedule will be defined in 2025, as part of the updates to the PEN and OC Expansion Plan, through a robust model to ensure careful planning for energy security.

It is estimated that operations may take up to 36 months for closure, complete dismantling, recovery of materials and equipment, and site reclamation.

For the environmental part, the following schedule of activities is foreseen:

N°	Strategic Actions/Activities	Schedule					
		Year					
		1		2		3	
		Semester					
		1	2	3	4	5	6
1	**EA of the CPP Barahona Carbón**						
1.1	Preparation of TOR for the contracting of the EAs	X					
1.2	Consulting service procurement process	X	X				
1.3	Development of EAs	X	X				
1.4	Delivery of results to MARENA and the MDBs		X				
2	**Remediation of environmental liabilities encountered**						
2.1	Preparation of TOR for the execution of the EAMP		X				
2.2	Manage environmental permits before MARENA		X				
2.3	Implementation of the EAMP			X	X	X	X
2.4	Delivery of the results to MARENA and the Bank				X	X	X
3	**Development of prioritized projects**						
3.1	Preparation of TOR for contracting of EAs	X					
3.2	Consulting service procurement process	X					
3.3	Manage environmental permits before MARENA		X				
3.4	Delivery of results to MARENA and the MDBs						
4	**Supervision and monitoring of ESMS activities**		X		X		X
4.1	Approve management plans prepared by contractors and verify compliance, evaluate and report on the environmental performance of projects			X			
4.2	Supervise the environmental management of projects, ensuring compliance with environmental, social, legal and contractual requirements of its contracted activities	X	X	X	X	X	X
4.3	Elaborate, supervise and execute the environmental management plans during the construction, provisioning and operation phase, until the end of the construction contract. This task is subsequently carried out by whoever is in charge of the operation of the facilities.	X	X	X	X	X	X

Subcomponent 3.4: Renewable energy generation and storage at the SENI level

Please refer to Annex 8.

Subcomponent 3.5: Transmission System enhancements to improve resilience and flexibility

The preparation and adaptation of the National Transmission System of the Dominican Republic to face the profound change that represents the retirement of two of its three coal-fired power plants in a context of very dynamic growth of its electricity market requires a great effort of sizing, planning, additional capacity projects' timely execution, and monitoring of security indicators and spinning and safety reserves.

This high intensity of change, investment and development cannot be achieved without a massive effort by all stakeholders, under the leadership of GDR and supported by its international partners. The support of the CIF and the ACT program will make the effort visible, offer incentives with attractive rates for infrastructure projects and provide the necessary technical assistance.

As the energy transition process progresses, SENI will require new assets for dynamic system voltage control, as it will become more sensitive to variations that will occur. New ways of controlling voltage may be required, depending on the state of SENI in the period of interest and the mode of operation of the thermal assets that remain in operation. For example, voltage control may be required with inverters of renewable energy plants or BESS for system use, SVC and/or STATCOM, among others.

It is important for the System Coordinator (OC) to understand the current and future grid strength and inertia needs of SENI. These needs will be influenced by the increasing integration of variable renewables, the retirement of thermal units and the modes of operation of the remaining thermal power plants. In addition to determining SENI's future needs, the areas where these resources will be required must be determined. From this it will be possible to check the effectiveness and efficiency of the installation of grid service systems (there could be points in the system more optimal than the Itabo and/or Barahona sites to install BESS and/or synchronous condensers). This can be verified with dynamic studies of the system.

Therefore, also required are:

1) A dynamic (transient events) and prospective study to define the requirements for network services in SENI

2) A SENI-wide study of the insertion of BESS systems for use by the System CoordinaterCoordinator (OC) and other relevant agencies

Estimated investment needed for the baseline scenario

Based on the current transmission network, the expansion model developed in the ACT context considers different capacity additions to the network to interconnect the different regions of the SENI. The following table shows the additional projects in the central region between 2030 and 2031:

Table 15 | Evolution of the transmission system - Central Region

Name	Voltage (kV)	Capacity (MW)	Distance (km)	Date COD	Region
Slaughterhouse - Ambassador	138	316	2	01/01/2031	Central
Timbeque 2 - Villa Duarte	138	317	3	01/01/2030	Central
Hainamosa - Dajao	138	158	8	01/01/2031	Central

The following table shows six 138 kV interconnection projects between the northern and central areas, with expected start-up dates between 2028 and 2034:

Table 16 | Evolution of the transmission system - Northern Region

Name	Voltage (kV)	Capacity (MW)	Distance (km)	Date COD	Region
Salcedo - Moca	138	316	12	01/01/2028	North
SFM - Salcedo	138	158	22	01/01/2028	North
Pimentel - SFM	138	158	25	01/01/2029	North
Clear Water - Navarrete	138	1187	48	01/01/2031	North
Canabacoa - Moca	138	316	21	01/01/2032	Central
Pimentel - Nagua	138	158	40	01/01/2034	North

In the Eastern region, five 138 kV interconnection projects are considered, as detailed in the table below. These projects are expected to be operating between 2028 and 2030:

Table 17 | Evolution of the transmission system - Eastern Region

Name	Voltage (kV)	Capacity (MW)	Distance (km)	Date COD	Region
San Pedro 2 - San Pedro 1	138	136	5	01/01/2028	East
The Origins - San Pedro 1	138	158	1	01/01/2028	East
AES Andres - AES Andres Interconnection	138	500	16	01/01/2030	East
AES Andres - Guerra Interconnection	138	634	18	01/01/2030	East
War - Hainamosa	138	634	9	01/01/2030	East

The evolution of the transmission system in the Southern region considers two 138 kV capacity expansion projects, as detailed in the following table:

Table 18 | Evolution of the transmission system - Southern Region

Name	Voltage (kV)	Capacity (MW)	Distance (km)	Date COD	Region
Valdesia - Pizarrete	138	136	16	01/01/2027	South
Valdesia - Palamara	138	136	55	01/01/2027	South

Estimated investment required to integrate more NCRE capacity

On the foundation of the SENI baseline, the scenario proposed under the ACT Plan contemplates the addition to the Baseline Scenario of wind power plants and new high voltage transmission lines (ACT ETX). In particular, the addition of three 345 kV lines from Punta Catalina to Los Cocos in the Deep South, which allow the transmission of wind generation to the consumption centers, is proposed.

The analysis of line flows shows that a transmission capacity of 2,374 MW, as foreseen in the addition of transmission lines in the Northern Region to interconnect the new CCNG plants to the 345 kV grid is sufficient for the addition of 2 GW wind in the Deep South region. Indeed, the observed peak flow at Los Cocos is 1,200 MW.

Table 19 | Need for additional transmission for ACT - Deep South Region

Name	Voltage (kV)	Capacity (MW)	Distance (km)	Date COD	Region	Estimated investment
Los Cocos - Cruce Cabral 345 kV	345	2374	56	01/01/2030	Deep South	72.5 MUSD
Cabral Crossing - km 15 Azua 345 kV	345	2374	59	01/01/2030	Deep South	74.6 MUSD
						74.6 MUSD
km 15 Azua - Punta Catalina 345 kV	345	2374	80	01/01/2030	Deep South	89.5 MUSD

Summary of estimated costs

The portion corresponding to the financing of the integration of wind capacity to meet the ACT requirement is estimated at:

Table 20 | Summary of ACT investment in transmission

Name	Voltage (kV)	Capacity (MW)	Distance (km)	Estimated investment
HVL 345 kV attributable to ACT	345	N/A	195	166 MUSD
Substation attributable to ACT	N/A	7122	N/A	337 MUSD
Total ACT				**503 MUSD**

Summary financing plan for Subcomponent 3.5

Components / Subcomponents	Financing (MUSD)								
	ACT		Multilateral Banking				PS	GDR	Total
	R	Non-R	IDB	II	WB	IFC			
COMPONENT III: PLANT REPLACEMENT AND/OR RECONVERSION AND SYSTEM IMPROVEMENTS									
3.5.A: Technical studies for the construction of new HVL (345 kV) to Deep South	0	0	0	1	0	1	6	2	10
3.5.B: Construction of 195 km of 345 kV lines	0	0	0	24	0	24	114	40	202
3.5.C: Construction of new 345 kV substation capacity	0	0	0	35	0	35	166	58	294
3.5.D: Other facilitating activities at the initiative of the GDR	0	0	0	0	0	0	0	0	0
Subtotal Component 3.5	**0**	**0**	**0**	**60**	**0**	**60**	**286**	**100**	**506**

(Note: Non-R = non-reimbursable, R= reimbursable, II = IDB Invest, PS= private sector)

These projects can be financed through the tri-partite participation of multilateral banks, the private sector and the public sector. ACT can encourage feasibility studies and selection processes, with the following distribution:

Activity planning

The project schedule will be developed under the supervision of ETED once the approval for the Infrastructure program is obtained and the selected options have been defined. The schedule of possible line and substation capacity increases will be defined between 2025 and 2028 as part of the PEN and OC Expansion Plan updates, taking into account the renewable energy projects that obtain their respective generation concessions in the areas identified by this study.

ANNEX 10: SENI ANALYSIS AND EXPANSION PLAN

To model the Dominican Republic's electricity system, the economic dispatch and long-term investment optimization modeling tool PLEXOS was used. The model has considered a time horizon for the projection from 2024 to 2035.

On an annual basis, the model uses an hourly resolution of 24 blocks per week (one typical day per week). This time resolution of one typical day per week implies an approximation in the hourly values of demand and renewable generation, which may lead to an underestimation of the variability challenges compared to actual operating conditions. The study conducted between March and July 2024, using all data from MEM, CNE, OC, ETED and the Office for National Statistics (ONE) available to date, presents **preliminary results** of possible trajectories corresponding to the evolution of SENI from 2024 to 2035 through a base case called "Baseline" (LB1).

In addition to constructing an evolution of the SENI baseline, five alternatives have been developed and their respective impacts studied. These baseline variants propose options for the cessation of operations and early exit of the Barahona Carbón and Itabo coal-fired power plants.

Table 21 | List of expansion scenarios built in PLEXOS

SCENARIO	NAME	SCOPE
LB1	Baseline	SENI
LB2	Baseline with Barahona and Itabo withdrawal in 2030	Local
BA1	Replacement of Barahona with biomass	Local
BA2	Replacement of Barahona with PV + BESS	Local
ITA1	Replacement of Itabo 1+2 with BESS	Local
ACT ETX	Replacement of Barahona and Itabo 1+2 with SENI level alternatives	SENI

Source: Elaboration of SENI-ACT Model in PLEXOS and Analysis of Scenarios of Interest (Marandin, Chan, 2024)

The main assumptions of the Baseline scenario are as follows:

- Annual demand growth of 4.7%
- Addition of natural gas combined cycle plants in the North (Manzanillo) and East (AES Andres) regions of the system
- Addition of wind, solar and battery power plants based on real future projects for the short and medium term, and generic additions in the long term
- Addition of 138 kV transmission lines for the proper operation of SENI in the long term

The assumptions of the proposed scenarios correspond to sensitivities with respect to the Baseline scenario. The sensitivities propose alternatives to the output of coal generation capacity from Barahona Carbón and Itabo 1+2. The alternatives considered in each scenario are: biomass, solar photovoltaic with batteries, independent batteries and wind with additional transmission capacity.

Each scenario considers the input and output years of these plants:

Table 22 | Important milestones of modeled expansion scenarios

KEY MILESTONES OF THE STUDIED CALENDAR					
Exit from CPP Barahona Carbón	2030	2030	2030	-	2026
Exit of the CPP Itabo 1+2	2030	-	-	2030	2028
Input (possible) biomass capacity (26 MW)	-	2030	-	-	-
Solar PV (15 MW) + BESS (7.5 MW/30 MWh) input at Barahona site	-	-	2030	-	-
BESS intake (250 MW/1,250 MWh) at Itabo site	-	-	-	2030	-
New 345 kV transmission lines at Sur Profundo	-	-	-	-	2031
New wind power capacity entry (3,500 MW)	-	-	-	-	2028-2034

Source: Elaboration of SENI-ACT Model in PLEXOS and Analysis of Scenarios of Interest (Marandin, Chan, 2024)

The following table presents a summary with the details of these sensitivities that characterize each scenario. The results of the simulations show the following impacts on SENI:

Table 23 | Summary of results in terms of investments and emissions

Scenario	Promoted technology	Investment impacts 2024-35	Impact of CO2eq 2024-35	Cost impact (as of 2035)
LB1	n/a	n/a	n/a	n/a
LB2	Fossils (FO6, FO2)	Very low	Moderate	+3.2%
BA1	Biomass	Moderate	Under	-0.2%
BA2	Solar PV + BESS	Under	Under	-0.8%
ITA1	BESS	Moderate	High	+2.8%
ACT ETX	Wind	Very high	Very high	+0.2%

Source: Elaboration of SENI-ACT Model in PLEXOS and Analysis of Scenarios of Interest (Marandin, Chan - 2024)

It should be noted that scenarios with timely substitution of coal-fired generation capacity with renewable technology in similar orders of magnitude have a low impact on interconnected system emissions with moderate to low costs. For example, replacing the Barahona Carbón CPP with solar PV and batteries has a low impact on emissions, although the cost of this is also low.

In contrast, the most significant case of emissions reduction is the reinforced entry of wind capacity but at a very high investment cost. At the other end of the spectrum, the lowest cost to the system within these options is when Barahona and Itabo are taken out of operation, allowing the system to substitute them with the most economical dispatch alternatives, particularly natural gas and solar energy, reducing emissions moderately. With respect to reserve margins in the year 2035, reserve minimums occur at midnight during October, when demand is high and the availability of natural resources is low (zero solar availability and low wind availability).

The Baseline scenario shows a minimum reserve margin of 5%, which corresponds to a limit that should not be exceeded to ensure the quality of service of electricity supply in SENI. In the LB2 scenario, the anticipated exit of coal-fired firm

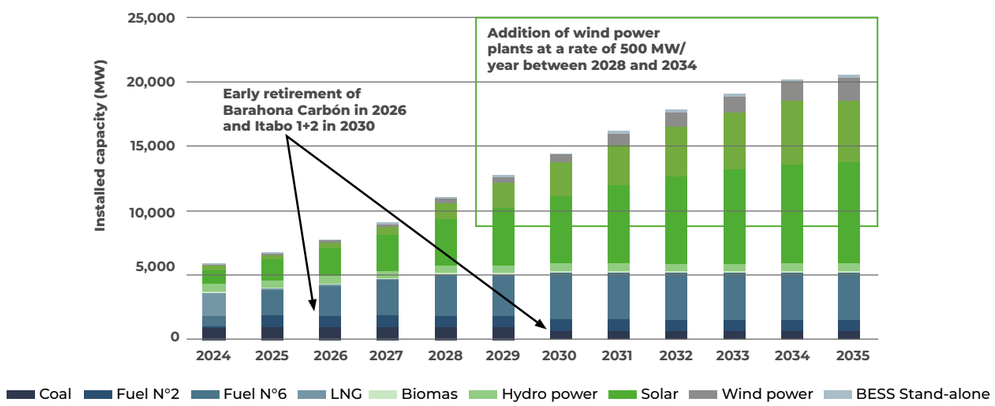
capacity (Barahona Carbón and Itabo 1+2) lowers the minimum reserve margin to 0%, showing the key utility of the plants in SENI in the absence of alternatives. The minimum reserve margins vary between 1% and 4% in the BA1, BA2 and ITA1 scenarios, depending on the proposed alternatives.

Finally, the ACT ETX scenario is the most robust. The massive entry of wind capacity ensures a minimum reserve margin of 10% throughout the year (in 2035), ensuring a more robust and resilient system in the event of contingencies.

		Available Capacity (MWh/h)												
		Renewables			Thermal					Strorage		Reserve margin		Date
Scenarios	Demand (MWh/h)	PV	Wind	Hydro	Biomass	LNG	Coal	HFO	Diesel	BESS		Min (%)	Average (%)	M/D/Y
LB1	5831	0	214	222	83	3447	995	736	90	324	279	5%	84%	10/20/35
LB2	5831	0	41	227	92	3447	729	736	90	258	-12	0%	79%	10/5/35
BA1	5831	0	214	222	109	3447	943	736	90	276	205	4%	83%	10/20/35
BA2	5831	0	214	223	83	3447	943	736	90	324	228	4%	83%	10/5/35
ITA1	5831	0	214	223	83	3447	781	736	90	296	38	1%	84%	10/20/35
ACT ETX	5318	0	94	133	91	3447	729	736	90	519	520	10%	95%	10/5/35

In conclusion, the **proposed scenario for ACT planning** considers the addition of transmission lines to areas of high wind resource, particularly in the Deep South region, and the entry of several new wind farms. The addition of these new evacuation capacities will allow the installation of these new wind power plants in strategic areas of the country such as the North where the growing demand will require a more important electricity supply and in the Deep South to take advantage of the area's important wind resource and bring electricity to the center of the country and Santo Domingo. The following figure shows the years of the retirements of Barahona and Itabo 1+2, indicating the increase in wind capacity of 500 MW per year between 2028 and 2034.

Figure 14 | Evolution of the electricity matrix in the ACT ETX Scenario



Source: Elaboration of SENI-ACT Model in PLEXOS and Analysis of Scenarios of Interest (Marandin, Chan - 2024)

ANNEX 11: ADDITIONAL INFORMATION - ACT-RD PLAN NEEDS ASSESSMENTS

The elaboration of this ACT Plan and needs assessment has been possible through two fundamental dynamics: 1) **interactive** work **in close coordination** with multilateral banks (IDB, WB, IFC, IDB Invest) and government authorities (MEM, Climate Change Council, SIE, OC, CNE, ETED); and 2) a **multidisciplinary** work team that carried out studies in the various dimensions of a just and safe transition. In the case of the second dynamic, at the country level, Study 1 offered a literature review of transition projects and lessons learned, Study 2, **modeling and impact analysis of CPP substitution at the system level (SENI)** and Study 3, a technical, economic and financial feasibility analysis for the creation of a **price guarantee mechanism for carbon transition credits**. And specifically, in the context of the replacement of the CPP Itabo and Barahona:

- **Study 4:** a **substitution feasibility** analysis (technical, economic and financial), including shutdown, addition of BESS or flywheels, other auxiliary functions and cost/ benefit of options).
- **Study 5:** an **environmental and social** analysis for the reconversion of plant sites
- **Study 6:** a **Gender and Diversity** analysis and inclusive stakeholder consultation
- **Study 7:** a **labor market** analysis and stakeholder characterization

These studies were conducted from March to August 2024, with milestones for progress and step-by-step verifications:

- Joint preparatory mission from April 8 to 12, 2024
- Joint progress mission from May 27 to 29, 2024
- Final joint mission from October 8 to 10, 2024

In parallel, stakeholder consultation sessions have been held, with a face-to-face workshop held on June 12, 2024, with the participation of electricity generation, electricity transmission and distribution companies, as well as the electricity subsector regulator.

Comprehensive plan addressing the identified challenges

As elaborated in more detail in the Theory of Change format of the Proposed Investment Plan (see Annex 1), the challenges identified can be related in the following simplified manner to the studies carried out to prepare the plan, based on Study 1 (bibliographic review of transition projects and lessons learned worldwide):

Table 24 | Summary of gaps and needs assessment

CHALLENGE/ STUDIES	STUDY 2	STUDY 3	STUDY 4	STUDY 5	STUDY 6	STUDY 7
ISOLATED AND VULNERABLE ELECTRICAL SYSTEM	Modeling withdrawal of PGSs at SENI level until 2035	N/A	CPP retirement risk assessment	N/A	N/A	N/A
EVALUATION OF NDC PROGRESS	Trajectories	Contributions to the evaluation methodology	N/A	N/A	N/A	N/A
COAL-DEPENDENT MATRIX	NGCC and EERR plants taken into account	Favorable baseline to avoid emissions	N/A	N/A	N/A	N/A
CPP DIFFERENT	Technical minimums are taken into account	Estimated stock of avoided emissions	O&M costs, technical minimums, site potential, auxiliary functions, etc.	Environmen-tal impact at each site	Gender and diversity aspects at each site	Labor impact at each site
REGULATORY FRAMEWORK FOR WITHDRAWAL OF CPP	N/A	N/A		N/A	N/A	N/A
DYNAMIC ELECTRICITY MARKET	Demand growth was modeled according to realistic scenarios and projections of dispatch curves were made.			N/A	N/A	Many job retraining options
LIMITED DRIVE SYSTEM	345kV and Substation line additions		Existing sites were taken into account.	N/A	N/A	N/A
RENEWABLE POTENTIAL	3 GW of new PV and 0.5 GW of wind were taken into account.	Avoided emissions with new RE plants are modeled.	The possibility of replacing with RE on site or at other sites is being analyzed.	N/A	N/A	N/A
JUST TRANSITION	N/A	N/A	N/A	CIF/ACT guidelines were taken into account to mitigate impacts to stakeholders and provide solutions.		

Source: Own research

Summary of findings of preparatory studies for the ACT plan

Study 1: Comparative analysis of international experiences of coal transition through coal-fired power plant phaseout

The international context of the transition from coal to clean renewable energies offers a critical picture and challenges of great dimensions, but at the same time carries hope because there are examples of transition from coal in projects developed in several countries with positive results, with advantages and disadvantages that should be taken into account for future projects of this nature.

Exiting the use of coal as a primary energy source for electricity generation faces four commonly raised difficulties: 1) The coal resource is still very abundant on the planet and is easy and cheap to transport to sites/countries that do not have their own mines; 2) many of the coal-fired generation plants are new or too recent to be retired; 3) local economic balances depend on the use of coal in transportation, storage, electricity use, waste management, etc.; and 4) the coal sector maintains a strong influence in economic and political circles. These barriers can be combated with appropriate incentive mechanisms and business models.

Study 2: Impact analysis of the replacement of CPP at system level (SENI)

This analysis has constructed an evolution of the SENI baseline based on a consensual hypothesis of demand growth. It proposed four alternatives evaluating their respective impacts. Among the challenges of the electricity system, a high integration of solar and wind renewable energies is identified in the future. Between 2024 and 2027, the System Coordinator (OC) reports the potential installation of 71 solar and wind projects, which add up to about 4000 MW. This would imply a total installed capacity of 11.3 GW in the Dominican system by 2027. A high integration of renewables entails certain challenges associated with their variability. These baseline variants propose options for the cessation of operations and early exit of the Barahona Carbón and Itabo (1+2) coal-fired plants.

The alternatives considered in each scenario are: biomass, solar PV with batteries, stand-alone batteries, and wind with additional transmission capacity. All scenarios conclude that it is feasible to retire the Barahona Carbón and Itabo (1+2) plants.

It should be noted that the scenarios with timely substitution of coal-fired generation capacity by renewable technology in similar orders of magnitude have a low impact on the emissions of the interconnected system, with costs ranging from moderate to low. The most significant case of emissions reduction is the reinforced entry of wind capacity but at a very high investment cost. At the other end of the spectrum, the lowest cost within these options is when Barahona and Itabo are taken out of operation, allowing the system to substitute them with the most economical dispatch alternatives, particularly natural gas and solar energy, reducing emissions moderately.

Study 3: Technical, economic and financial feasibility analysis for the creation of a mechanism to support transition credits for coal

The analysis focuses on the readiness of the Dominican Republic to participate in carbon transaction mechanisms through mitigation initiatives in the energy sector, which are within the areas of competence of the Ministry of Energy and Mines (MEM). In the context of the ACT project, carbon transaction mechanisms are understood as independent carbon programs

(voluntary markets), regulated schemes (approaches proposed by Article 6 of the Paris Agreement) and initiatives that support energy transition based on emissions trading. The results of this analysis will enable the development of recommendations to help close potential gaps and existing needs. The findings will also feed into the design of the strategy for participation in carbon credit trading mechanisms and the processes needed to operationalize it.

The evaluation proposes the following steps: 1) designing a sectoral participation strategy is key to guide the MEM on how to leverage its opportunities and make compatible the contributions that can be achieved from the different carbon transaction mechanisms; 2) designing processes that can be led internally by the MEM; 3) designing an internal institutional structure that establishes and delegates responsibilities for the execution of the above-mentioned processes; and 4) fostering the development and building of capacities that facilitate the design and implementation of the three steps.

Study 4: Withdrawal and substitution feasibility analysis (technical, economic and financial)

The ACT plan intends to retire the Itabo and Barahona plants early. This presents challenges, as the system is stressed and doing without the energy delivered by these plants is complex. The Itabo power plant (260 MW) is located in the southern area of the country, adjacent to the port of the municipality of Haina. In 2023, it had a 7.5% share of energy supply (+1.6 TWh). It injects energy into the 138 kV ring of Santo Domingo, the main pole of electricity consumption in the country. The Barahona Carbón power plant (52 MW) is located in the southern part of the country. Although it uses coal as its main fuel, it has the possibility of burning biomass, with minimal adaptations. In 2023, the plant generated about 0.24 TWh. The objective is to achieve an early and safe reconversion of both plants without jeopardizing the security of supply. In order to achieve a safe early retirement, different regulatory and technical aspects of the Dominican electricity system have been analyzed.

The analysis concludes that it is feasible to retire Barahona Carbón and Itabo 1+2 by implementing enabling conditions, adapting public policy and addressing certain needs of the electricity system to guarantee the security and integrity of the SENI and the continuity of supply to users and/or consumers.

Four of the various alternatives evaluated emerge as feasible solutions that allow the output of thermal generation, although none can replace them alone. Therefore, a course of action that considers a combination of the alternatives is suggested. Potential options are the replacement of power with renewable plants and storage (BESS), the installation of stand-alone batteries (BESS) at plant sites, the conversion of plants to synchronous condensers and the installation of STATCOM or SVC equipment at plant sites.

Study 5: Environmental and social analysis for the reconversion of plant sites

The analysis allows feeding the Investment Plan with a document that guides the cost of the different environmental and social activities of the Environmental Management Plan for the orderly closure of the Barahona Carbón and Itabo thermoelectric plants, the obtaining of the necessary permits and the remediation of the environmental liabilities.

The various aspects of the mitigation actions are detailed:

- Assessment and management of environmental and social risks and impacts
- Employment under current working conditions
- Resource efficiency and pollution prevention
- Community health and safety
- Gender equality
- Stakeholder participation and information disclosure

Study 6: Gender and diversity analysis and inclusive stakeholder consultations
This analysis presents a diagnosis of gender and diversity barriers and inequalities in the Investment Plan (IP) of the Climate Investment Fund (CIF) for the Accelerated Coal Transition Investment Program (ACT). To this end, the Barahona Carbón and Itabo plants were visited, interviews were conducted with stakeholders in the communities, a participatory workshop was implemented, and input was received from various private sector, public sector and civil society entities on the Women's Climate Leadership survey designed by the CIF.
The analysis of the information gathered seeks to provide the necessary tools to build a gender and social inclusion action plan. This plan aims to address the gaps identified in conjunction with stakeholders, aligning their perspectives with the CIF-ACT-IP. This ensures that all voices are heard and that the proposed solutions are inclusive and effective.

Study 7: Labor market analysis and stakeholder characterization

The future of the thermoelectric power plants analyzed may lie in the cessation of their operations, their transformation into fuel type or their general transformation into technical assets of the energy sector, a situation that is under technical evaluation.

The demand for personnel and skills in the sector, which is a consequence of what happens with the plants, makes it possible to think about the continuity of employment under different strategies.

This analysis presents five modalities that may constitute reconversion alternatives for all workers linked to thermoelectric plants, whether they are their own workers, contractors or indirect workers. In turn, this is defined both by the type of contractual relationship and by the category in which they are defined. The total number of workers estimated to be impacted by the modification of the thermoelectric plants' operations and reached by the proposed reconversion actions would be 1,300: 180 of their own workers, 320 outsourced contractors and 800 indirect workers. These estimates must be backed up with real baseline information.

Finally, the report establishes a package of differentiated recommendations to authorities, companies, agencies and executors, starting with the clarity of a technical decision, the specific design based on the collection of primary information, coordination through a logical framework matrix and a unified communications plan, among other measures.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The Climate Investment Funds

The Climate Investment Funds (CIF) were established in 2008 to mobilize resources and trigger investments for low carbon, climate resilient development in select middle and low income countries. To date, 14 contributor countries have pledged funds to CIF that have been channeled for mitigation and adaptation interventions at an unprecedented scale in 72 recipient countries. The CIF is the largest active climate finance mechanism in the world.

THE CLIMATE INVESTMENT FUNDS

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