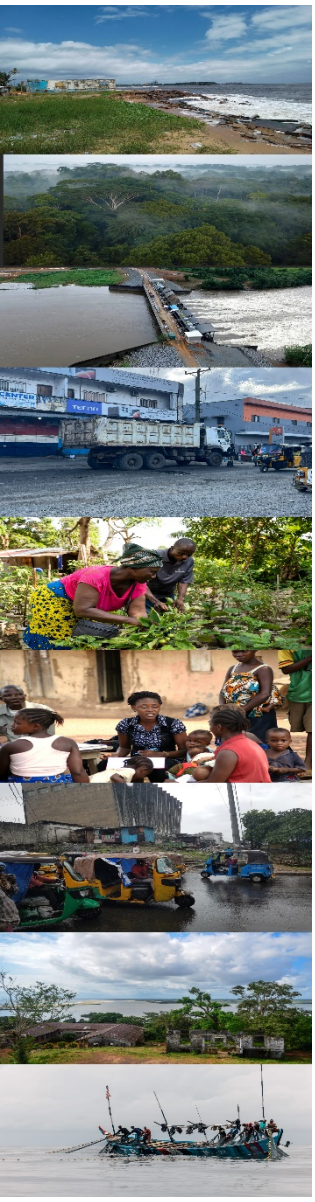
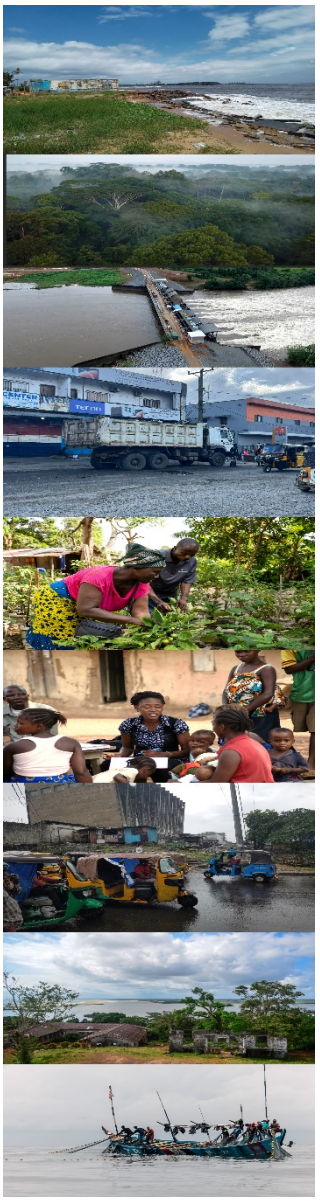
REPUBLIC OF LIBERIA





LIBERIA'S 2035 NATIONALLY DETERMINED CONTRIBUTION (NDC 3.0)

Revised and Enhanced Climate Action Plan under the Paris Agreement

Submitted to the United Nations Framework Convention on Climate Change (UNFCCC)

September 2025

President's Message

I am deeply honored to present Liberia's Nationally Determined Contribution (NDC 3.0). This Contribution demonstrates Liberia's unwavering commitment to sustainable development and global climate leadership. Our current circumstances demand that we offer a plan that encapsulates the cornerstone of our national development vision which is fully aligned with and reinforces the ARREST Agenda for Inclusive Development (AAID).

The AAID is aggressively addressing poverty, inequality, questions of distributive justice and the pressing needs of our people. Through the NDC, we are confronting the climate crisis. Together, these instruments chart a unified course toward a resilient, inclusive, and prosperous Liberia. Though Liberia's emissions remain among the lowest in the world, our record of climate leadership is well established. We were among the earliest ratifiers of the Paris Agreement and we have committed to bold targets.

NDC 3.0 expands our ambition by embedding climate resilience across all sectors such as energy, agriculture, forestry, transport, waste management, and health. It strengthens adaptation programs to shield our people from floods, coastal erosion, and extreme weather events. Our forests, which cover nearly half of Liberia, remain one of the world's most important carbon sinks and by adapting responsible preservation methods as well as investing in renewable energy, Liberia continues to demonstrate that economic growth and environmental stewardship can go hand in hand.

Looking ahead, Liberia has set its sights on achieving net zero emissions by 2050. We envision clean and healthy air in Monrovia and other cities, climate smart farming in Suakoko and across rural Liberia, and strengthened coastlines in Marshall and beyond. We know that this will require deliberate transformative change, yet we embrace the challenge with resolve, not for ourselves alone, but for the generations that will follow. To ensure consistency, I have directed that the implementation of the NDC be fully integrated with the execution of the AAID. This commitment will ensure that public and private institutions, especially our ministries and agencies, integrate climate considerations into our national development planning.

Liberia cannot succeed in isolation. We therefore call upon our international partners to honor their commitments under the Paris Agreement. We must attach urgency to scale up support for renewable energy, resilient infrastructure, and green jobs. Climate finance, technology transfer, and capacity building are not acts of charity; they are investments in a shared future and in achieving the Sustainable Development Goals. With strong and sustained support, Liberia is ready to demonstrate that low income nations can lead boldly in climate resilience.

This NDC is ambitious, inclusive, and achievable. It captures the hopes of our youth, women, persons with disabilities, and children. It reflects our legacy as guardians of one of the world's largest and most endowed rainforests. As the ancient proverb reminds us: ***We did not inherit the earth from our ancestors, it is on loan to us for our children. We must protect it responsibly.***

Let us therefore rise together for Liberia, for Africa, and for our planet.

H. E. Joseph Nyuma Boakai, Sr.
President of the Republic of Liberia

Foreword

Climate change presents both a profound threat and a transformative opportunity for Liberia. I am proud to introduce our Nationally Determined Contribution (NDC 3.0), a strategic, inclusive roadmap for Liberia's climate action and sustainable development.

Liberia has long demonstrated commitment to global climate efforts, from the 2008 National Adaptation Programme of Action to the ongoing National Adaptation Plan process. We have ratified the Paris Agreement and pioneered REDD+ in West Africa. These efforts, while costly, reflect our prioritization of long-term planetary health over short-term economic gains.

This revised NDC was shaped through a country-driven process led by the EPA in collaboration with relevant stakeholders. We engaged ministries, civil society, youth, women's groups, academia, and the private sector, ensuring the NDC reflects Liberia's diverse voices. Notably, inputs from the "Ganta Declaration" helped embed gender, youth, fresh water, and child protection into our climate goals. Compared to our NDC 2.0, this NDC expands sectoral coverage, introduces quantitative adaptation targets across seven sectors, and integrates cross-cutting issues. It aligns with the ARREST Agenda for Inclusive Development (2025–2029) and our SDG commitments, linking climate action with national development priorities. Enhanced transparency mechanisms, including an ICTU annex and strengthened MRV systems, will work towards accountability and effective implementation.

Liberia reaffirms its ambitious 64% emissions reduction target by 2035. However, due to a change in the base year from 2015 to 2022, this target now represents a fourfold increase in absolute emissions reduction. The 2015 base year recorded emissions at 5,695 $GgCO_2e$, while the 2022 inventory based on improved data and methodologies, estimated emissions at 12,471 $GgCO_2e$. As a result, Liberia updated its BAU and mitigation targets. The revised 2035 goals are: Unconditional—5,551 $GgCO_2e$ (10%); Conditional—29,974 $GgCO_2e$ (54%) with international support. Notwithstanding, the stocktake report from the NDC 2.0 revealed that Liberia reduced 2,545 $GgCO_2e$ between 2021-2024.

The new ambition propels Liberia towards a greener future and sets a long-term vision for net-zero by 2050. We are committed to inclusive, resilient development and call on all partners to support the implementation of this NDC. Together, we will build a greener, safer Liberia and contribute meaningfully to global climate solutions.

Emmanuel King Urey Yarkpawolo, PhD
Executive Director
EPA – Republic of Liberia

Acknowledgements

The Environmental Protection Agency (EPA), on behalf of the Government of Liberia, extends heartfelt thanks to all contributors to the revised Nationally Determined Contribution (NDC). Special appreciation goes to the United Nations Development Programme (UNDP) for its technical and financial support through the Climate Promise initiative, which guided expert analysis, stakeholder engagement, and capacity building. Other international partners, such as NDC Partnership, Food & Agriculture Organization of the United Nations (FAO), UN Women, United Nations Children Fund (UNICEF), United Nations Economic Commission For Africa (UNECA), United nations Environmental Programme (UNEP), UNFCCC Regional Collaborating Center, International Land Coalition, World Health Organization (WHO), United Nations Populations Fund (UNFPA), United Nations Capital Development Fund (UNCDF), ActionAid, Medica Liberia, and various bilateral agencies, are acknowledged for their sector-specific expertise and support for inclusive dialogues.

National stakeholders played a vital role, including ministries and agencies like Finance & Development Planning, Agriculture, Mines & Energy, Transport, Health, Gender, Youth & Sports, WASH Commission, Education, Fisheries, and Forestry. Their input ensured alignment with national priorities. Local authorities and traditional leaders from all 15 counties enriched the process with grassroots perspectives and rich indigenous knowledge critical for natural resource management. Academic institutions provided critical data and evidence, while private sector representatives helped shape pathways for green growth.

Civil society organizations, women's groups, youth networks, and environmental NGOs played a crucial role in integrating equity and justice into the NDC. Their advocacy through forums like the National Civil Society Council and Youth Climate Dialogue ensured inclusivity.

Technical teams and consultants contributed analytical work on emissions, economic modelling, and policy assessment. The NDC Technical Working Group and sectoral task forces are commended for their professionalism and timely delivery. The EPA's coordination team and the National Climate Change Steering Committee are recognized for their diligent oversight.

In conclusion, Liberia's revised NDC reflects collective ownership and commitment. The EPA thanks all who supported the process and looks forward to continued collaboration for successful implementation and a resilient future.

Executive Summary

This document presents the Republic of Liberia's third Nationally Determined Contribution (NDC 3.0), a bold and inclusive climate action roadmap that aligns national development priorities with global climate goals under the Paris Agreement. Building on previous submissions, this NDC is informed by the first global stocktake (GST) and is fully integrated with Liberia's national development strategy, the ARREST Agenda for Inclusive Development (AAID).

Liberia is extremely vulnerable to the adverse impacts of climate change, with approximately 60% of its population residing near the coast and a heavy reliance on climate-sensitive sectors. Despite its negligible contribution to global GHG emissions, the nation faces severe risks from sea-level rise, unpredictable rainfall, and flooding. Its 580-km coastline, where about 60% of the population resides, is highly susceptible to sea-level rise, coastal erosion, and storm surges. Key sectors are already experiencing significant climate-related stress. Agriculture sector, which contributes approximately 38% to GDP and employs nearly 70% of the population, is threatened by rising temperatures and unpredictable rainfall, jeopardizing food security. Intense rainfall and flooding regularly damage Liberia's road network, of which about 85% is unpaved, impeding access to markets and essential services. The population faces growing risks from climate-induced diseases such as malaria, cholera, and respiratory infections, which are exacerbated by flooding and heat stress.

Liberia's climate commitments are anchored in a robust suite of national policies and legal frameworks that integrate climate action directly into the country's development agenda. Key among these is the AAID, which establishes environmental sustainability as a core pillar of national development; the foundational Environment Protection and Management Law (EPML), which empowers the EPA to regulate GHG emissions; and the National Adaptation Plan (NAP), which guides resilience efforts across all sectors.

NDC 2.0 Implementation Achievements (2021-2024)

Liberia has made significant progress in the implementation of its NDC 2.0. NDC 2.0, launched in 2021, set a total target to reduce GHG emissions by 64% below business-as-usual (BAU) levels by 2030, comprised of a 10% unconditional reduction to be achieved with the country's own resources and a 54% conditional reduction contingent on receiving international support. A stocktake report revealed that the country achieved a GHG emission reduction of 2,545 GgCO2e between 2021 and 2024, primarily from interventions in the energy, transport, and forestry sectors. In terms of financial mobilization, Liberia secured commitments of approximately US$573 million for NDC implementation, of which US$213 million had been disbursed as of December 2024.

NDC 3.0 Development Process

The development of NDC 3.0 was a comprehensive and participatory process. Following the stocktake of NDC 2.0, the revision process was officially launched on March 14, 2025. It involved extensive stakeholder consultations across Liberia's fifteen counties, targeted dialogues with youth and gender groups, and engagement with the private sector and civil society organizations.

Liberia's Contributions Under NDC 3.0

Mitigation: Liberia reaffirms its ambitious commitment to reduce economy-wide greenhouse gas emissions by 64% by 2035. However, following a change in the base year from 2015 to 2022—where the calculation of emissions rose from 5,695 $GgCO_2e$ to 12,471 $GgCO_2e$ due to improved data and methodologies—this reflects a three-fold increase in GHG emissions. As a result, Liberia updated its Business-As-Usual (BAU) and mitigation scenarios. The revised 2035 targets are: an unconditional reduction of 5,551 $GgCO_2e$ (10%) and a conditional reduction of 29,974 $GgCO_2e$ (54%), contingent on international support. Between 2021 and 2024, Liberia already achieved a reduction of 2,545 $GgCO_2e$.

This emission reduction ambition is further broken down into sectoral targets, including reductions of 48.5% in Energy, 45% in Forestry, 45% in Waste, 40% in Agriculture, and 15% in Transport sectors from interventions such as:

- Energy: Increasing the share of on-grid renewable energy to 75% and installing 150 MW of new renewable energy plants.
- Forestry (LULUCF): Reduce the national deforestation rate by 10% and establish at least four new protected areas covering 200,000 hectares.
- Waste: Recover at least 70% of landfill gas from major sites and develop 50 small-scale composting stations.
- Agriculture: Promoting low-emissions rice cultivation and reducing the use of chemical fertilizers by 60% through the introduction of organic alternatives.
- Transport: Introduce at least 2,000 electric small 3-wheelers (kekehs) and transition 20% of the National Transit Authority bus fleet to cleaner power sources by 2035.

Adaptation: Adaptation is a paramount priority for Liberia. The NDC outlines a number of sectoral targets along with actions and policy measures to build resilience across key sectors, The adaptation targets focus on developing climate-resilient agriculture and infrastructure, establishing early warning systems, protecting coastal zones, and ensuring climate-smart health and WASH services. Key goals include:

- Coastal Zones: Design and implement green-grey infrastructure along 60% of the highly vulnerable coastline and construct revetments and break walls in the most at-risk communities like West Point.
- Agriculture: Establish 100 farmer field schools and train at least 5,000 farmers in conservation agriculture and climate-resilient practices by 2028.
- Health & WASH: Ensure 40% of health facilities and schools have climate-resilient WASH (e.g., flood-proof toilets) and construct 50 climate-smart water systems in vulnerable communities.
- Fisheries: Establish two Marine Protected Areas and support alternative livelihoods by providing 25 aquaculture kits to smallholder fishers by 2028 to reduce pressure on marine fisheries.

Cross-Cutting Priorities: Liberia's NDC 3.0 is grounded in the principles of equity and climate justice, with a core objective to ensure all climate actions are designed in a gender-responsive and socially inclusive manner, empowering vulnerable populations including women, children, youth, and Persons with Disabilities. *The Ganta Declaration*, a key outcome of stakeholder consultations, reaffirms the commitment to prioritize vulnerable groups. This is reflected in dedicated targets for:

- Gender: Establish dedicated climate finance mechanisms to support women-led initiatives and ensure all NDC projects integrate gender-responsive planning and monitoring.
- Youth: Create at least 5,000 new green jobs in sectors like renewable energy and waste management and appoint a youth representative to the National Climate Change Steering Committee (NCCSC) by 2027.
- Children: Integrate climate change into 100% of primary and secondary school curricula and establish a shock-responsive cash transfer system to reach at least 100,000 children during climate emergencies by 2027.

Means of Implementation: The achievement of the NDC targets is contingent upon receiving adequate international support. This includes mobilizing significant investment through mechanisms such as grants, concessional loans, carbon markets under Article 6, and public-private partnerships. A dedicated climate finance window will be established to support initiatives led by women.

Monitoring, Reporting, and Verification (MRV): To ensure transparency and accountability, Liberia is strengthening its MRV framework to track progress across all sectors. The system will be enhanced to align with the UNFCCC's Enhanced Transparency Framework (ETF) and will incorporate gender-disaggregated data to monitor inclusive implementation.

Alignment with International Frameworks: Liberia's NDC 3.0 is designed to be consistent with major international agreements. It integrates the objectives of the Rio Conventions (UNFCCC, CBD, UNCCD), aligns with the Sendai Framework for Disaster Risk Reduction, and directly contributes to achieving multiple Sustainable Development Goals (SDGs), particularly those related to poverty, hunger, gender equality, clean energy, and climate action.

In conclusion, Liberia's NDC 3.0 is both fair and ambitious considering its national circumstances. The contribution is considered fair, acknowledging Liberia's minimal historical responsibility for climate change (less than 0.03% of global emissions) against its high vulnerability to climate impacts. Its ambition is demonstrated by expanding mitigation efforts to new sectors like transport and waste, introducing quantifiable adaptation targets, and setting a conditional long-term goal of achieving net-zero emissions by 2050. By putting forward this enhanced commitment, Liberia demonstrates leadership. However, the full realization of this ambition is highly conditional upon receiving adequate international support in the form of finance, technology transfer, and capacity building, underscoring the critical need for global partnership to bridge the gap between the country's goals and their implementation.

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1. INTRODUCTION

1.1. Background

Nationally Determined Contributions (NDC) encapsulates the country's overall climate change agenda and lays out concrete actions, interventions, and targets for mitigating and adapting to climate change with a focus on reducing emissions or removals in ways that fit local circumstances. Countries are voluntarily encouraged to set targets and goals under their NDC based on capacity, resources, potential, technology, and local conditions. The NDC communicates Liberia's climate goals, actions, and other arrangements for meeting the goals. It is structured under conditional and unconditional mitigation targets, allowing opportunities for emissions reduction based on local/government support and international/external contributions.

The Paris Agreement adopted by 195 nations at COP21[1], came into force on November 4, 2016. The Agreement sets a long-term temperature goal to hold the global temperature increase to well below 2°C, with efforts to limit it to 1.5°C above pre-industrial levels. The Agreement also aims to increase the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions (GHG) development, in a manner that does not threaten food production, and make finance flows consistent with low-carbon and climate-resilient development.[2]

Parties to the Paris Agreement are required to prepare, communicate, and maintain successive NDCs with the mandate to pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions[3]. In this regard, the Government of Liberia produced the first NDC (NDC 1.0), described as its Intended Nationally Determined Contribution in 2015. In the context of Article 4.3 of the Paris Agreement, which requests Parties to communicate enhanced NDCs every five years, reflecting their highest possible ambition, and their Common But Differentiated Responsibilities and Respective Capabilities (CBDR-RC), in the light of different national circumstances, the government produced a detailed, costed, and ambitious NDC 2.0 in 2021. Following the Global Stocktake (GST), which reported that the world is not on track to meet the long-term goals and has a narrowing window of opportunity to get back on track[4], the Government of Liberia evaluated its NDC 2.0 to assess progress, challenges, and the need for adjustment. The NDC 2.0 stocktake demonstrated Liberia's achievement of

[1] The 21st Conference of the Parties (COP) under The United Nations Framework Convention on Climate Change.
[2] UNFCCC. (2015). Paris Agreement. Retrieved from https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_english_.pdf
[3] Article 4.2, Paris Agreement
[4] UNFCCC. (n. d.). Outcome of the first global stocktake. Retrieved from UNFCCC: https://unfccc.int/topics/global-stocktake/about-the-global-stocktake/outcome-of-the-first-global-stocktake

emissions reduction of 848 Gg CO2e per year or 2,545 Gg CO2e from 2021-2024.[5] This is out of the total target of reducing GHG emissions by 64% in 2030.

In 2024, the Government of Liberia embarked on the national process to revise and update its NDC. This NDC 3.0 is informed by the outcomes of the Global Stocktake, changes in national circumstances, the overall development goal of the government as expressed in its ARREST Agenda for Inclusive Development (AAID)[6], and the results of the NDC 2.0 stocktake. This NDC 3.0 is grounded in principles of equity and climate justice. The government recognizes that climate change disproportionately affects the most vulnerable populations, particularly women, children, and people with disabilities. The core objective of this document is therefore to ensure that all climate actions are designed and implemented in a gender-responsive and socially inclusive manner. Liberia aims to not only meet its climate targets but also to foster a more just and equitable society where all citizens, especially women, are empowered as leaders and beneficiaries of climate solutions.

1.2. National Circumstances

1.2.1. Geography

Liberia is located on the West Coast of Africa. It is bordered by Sierra Leone on the west, Guinea on the north, Côte d'Ivoire on the east, and the Atlantic Ocean on the south. It lies between the longitudes of 7˚30 `and 11˚30' west and latitudes of 4°18` and 8°30' north. Topographically, Liberia is diverse, ranging from features of coastal plains, lagoons, and mangrove marshlands to rainforests and plateaus rolling towards the interior. It contains a low-lying plain on the Atlantic Ocean comprised of mangroves, tidal creeks, and shallow lagoons up to 40 km wide and 0–30 meters (m) above sea level; rolling hills, a transitional zone between 60–150 m comprised of hills, valleys, and fast-moving waterways; plateau, the largest zone in area comprising most of Liberia's interior between 200–300m above sea level, characterized by dense forest cover and a sharp change in elevation from the rolling hills; and northern highlands, mountain ridges located near the Guinean border above 300 m altitude, which include the Wologisi Range in Lofa, Gbarpolu, and Bong Counties (up to 1,440 m high), and the Nimba Range in northern Nimba County (up to 1,385 m high on Liberia's side of the border.[7]

[5] NDC 2.0 Stocktake Report, 2025
[6] AAID is the current development plan for the Government of Liberia launched in 2024 covering the period 2025-2029.
[7] AAID, 2025

1.2.2. Demography

The Liberia 2022 National Population and Housing Census (NPHC) puts the country's population at 5,250,187, with an annual growth rate of 3 percent. The population is almost evenly divided between males (50.4%) and females (49.6%). A little over half (54.5%) of the population resides in urban communities, while the remaining (45.5%) reside in rural areas.

According to the Liberia Demographic and Health Survey (LDHS), Liberia is a high-fertility country, where women in the reproductive ages (15-49 years) have, on average, 4.2 children (LDHS, 2019). The population is relatively youthful, with 41.5 percent of its population below 18 years of age, 47 percent between ages 18-60, and 5 percent of the population is age 60 and above.

1.2.3. Economy

Liberia's GDP stood at 4.75 billion USD in 2024. The services sector accounted for 37.5 percent of GDP, highlighting the need for diversification. Fiscal deficits have contributed to rising public debt, with a debt-to-GDP ratio of 55.7 percent in 2023. The monetary sector struggles with inflation, which rose in 2023 to 10.1 percent, despite effective management of a dual currency system.

1.2.4. Socio-economic Development Context

Liberia is listed among the poorest countries in the world. As a result, the country is classified under international development indicators as a low-income and underdeveloped nation. It is ranked 178 out of 191 countries in human development (UNDP, Human Development Report, 2024) and is currently among the 10 poorest countries in Africa (IMF, 2024). The country faces high income inequality with a 35.3 percent Gini Coefficient, and high multidimensional poverty standing at 45 percent. The overall progress towards achieving the desired outcomes for the Sustainable Development Goals (SDGs) is less than satisfactory. Only 20.3 percent of SDG indicators are on track.

At the core of Liberia's development challenges are the interconnected issues of low level of literacy (48.3%, UNESCO, 58.6%, LHPC), high level of vulnerable employment (77.19%, World Bank), and multidimensional poverty (45.0%, LPHC), which are indications of severe deprivation of access to basic services. In 2022, about 31.8% of the population had access to electricity, while only 75% of the household had access to basic drinking water, and just 23% access to basic sanitation (WHO & UNICEF, 2022). The number of health facilities increased by 22 percent between 2015 and 2020, from 656 to 806, resulting in a ratio of health facilities to population of 1 to 5,000 people.

The National Energy Compact for Liberia aims to accelerate the pace of electricity to 100,000 households per year through grid and off-grid options to achieve a national access rate of 75

percent by 2035 and to develop a national clean cooking strategy to identify the baseline and targets for increasing access to clean cooking solutions.

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1.2.5. Climate Profile

Liberia has a predominantly tropical monsoon climate. It is one of the wettest countries in the world and features consistently warm temperatures year-round. The climate of Liberia is divided into two separate regimes: the equatorial climate regime, restricted to the southernmost part of Liberia, where rainfall occurs throughout the year, and the tropical regime dominated by the interaction of the Intertropical Convergence Zone (ITCZ) and the West African Monsoon (Stanturf et al., 2013). Climate change is already being experienced in Liberia (EPA, 2018). The sensitivity of climate change to the biophysical features of Liberia and level of vulnerability of each sector are being felt and observed (EPA, 2018).

Climate change is already being experienced in Liberia (EPA, 2018). The sensitivity of the biophysical features of the country to climate change and vulnerability of the population and the economy are being increasingly felt and observed (EPA, 2018). Over the 50-year period of 1971–2020, some of Liberia's counties experienced significant increases in precipitation per decade while others experienced decreases. Projected precipitation patterns under SSP3-7.0 reflect potentially more intense wet and dry monsoon seasons; however, there is still a wide range of uncertainty. By mid-century, the country is likely to experience extreme precipitation intensities more frequently, with counties further north and inland being at least 2 times more likely to experience events with 25-year, 50-year, and 100-year historical return periods that produce the largest 1-day precipitation volumes under SSP3-7.0 (World Bank, 2024).

Liberia's average temperature generally ranges from 24 °C to 30 °C. Between 1971 and 2020, Liberia's mean temperature increased by 0.13°C per decade, with the Central and southern plateau regions observed the greatest changes over this period during the winter months. Under SSP3-7.0, Liberia's mean temperatures are homogeneously projected to increase from the 1995–2014 reference period by an anomaly of 0.67°C over 2020–2039 and 1.36°C over 2040–2059. By mid-century, the country is likely to experience higher minimum and maximum temperatures (World Bank, 2024).

Climate projections also indicate that sea level rise and coastal inundation will increasingly threaten Liberia's extensive coastal zones and urban areas. The frequency of intense floods and coastal erosion nationwide will likely become more prevalent in the future.

1.2.5.1. Climate Risks, Impacts, and Vulnerability

Climate risk assessment for Liberia has identified detrimental impacts of climate change on the productivity of the agriculture, forestry, and fisheries sectors and their supply chains in Liberia (UNDP 2019, (EPA, 2021), (WHO & EPA, 2021), (NAP, 2020)). Key impacts at sector level are as follows:

- Agriculture contributes approximately 38% to Liberia's GDP and employs nearly 70% of the population, making the sector highly vulnerable to changing climate patterns. Rising temperatures, unpredictable rainfall, and extreme weather threaten crop yields, livestock health, and food security.
- Liberia's 580-km coastline is highly vulnerable to sea-level rise, coastal erosion, and storm surges, especially in urban centers like Monrovia and Buchanan. About 60% of Liberia's population resides within 50 km of the coast, where infrastructure, livelihoods, and ecosystems are at risk.
- The energy sector, primarily reliant on hydropower and biomass, is susceptible to climate-induced changes in water availability and forest degradation. Hydropower generation, particularly from the Mount Coffee Hydro Plant, faces risks from changing rainfall patterns.
- Forests cover about 69% of Liberia's land area and are central to both climate mitigation and adaptation. However, climate change, along with unsustainable logging, mining and shifting agriculture, threatens forest ecosystems and biodiversity.
- Liberia's health system is vulnerable to climate-induced diseases such as malaria, cholera, and respiratory infections. Flooding and heat stress exacerbate public health risks, particularly for children and the elderly.
- Climate risks such as intense rainfall and flooding damage Liberia's limited road infrastructure, impeding access to essential services and markets, especially during the rainy season. About 85% of Liberia's roads are unpaved and highly susceptible to climate impacts.
- Liberia is endowed with substantial freshwater resources, but climate change threatens their availability and quality through erratic rainfall, droughts, and pollution. Vulnerability assessments point to increasing water scarcity in urban and peri-urban areas.

Soil and coastal erosion are major environmental issues in Liberia, particularly in low-lying areas along the coast. Rising sea levels and human activities such as sand mining have accelerated the rate of coastal erosion. As a result, major coastal cities are vulnerable to flooding and land loss; this vulnerability threatens infrastructure, homes, and livelihoods.

Coastal erosion impacts ecosystems such as mangroves, which are crucial spawning sites for fish, habitats for biodiversity, and act as natural buffers against storm surges. Wetland drains in urban areas are prone to flooding, particularly during the rainy season. Inadequate drainage

systems, poor urban planning, and the dumping of waste in waterways have made flooding a recurring issue, resulting in property damage, displacement of people, and health risks for urban residents. Climate change is expected to increase the frequency and severity of flooding events.

1.2.6. Contribution to Global GHG Emissions

Liberia is a low-income country in West Africa with relatively low greenhouse gas emissions (GHG) emissions compared to industrialized nations (WRI, 2023). The country's total GHG emissions accounted for approximately 12,471 GgCO2e in 2022[8]. The total GHG emissions have remained relatively low over the past two decades, reflecting its limited industrialization and energy consumption. The per capita emissions in Liberia are very low, estimated at around 0.5 metric tons CO2e per person per year, compared to the global average of about 6.5 metric tons (World Bank, 2022).

Liberia's share of global GHG emissions is extremely small, accounting for roughly 0.03% or less of total global emissions. The country's emissions profile is dominated by land-use change and forestry, including deforestation, which contributes significantly to its carbon footprint. Energy-related emissions are comparatively low due to limited fossil fuel consumption.

1.2.6.1. Sectoral Emissions

The Liberia's emissions profile is dominated by land-use change and forestry, including deforestation, which contributes significantly to its carbon footprint. Other main sectors contributing to GHG emissions include, in any particular order of significance, Agriculture, Energy, and Waste.

Land Use, Land-Use Change, and Forestry (LULUCF): This sector is the largest source of emissions in Liberia, primarily due to deforestation and forest degradation. Liberia has one of the highest rates of deforestation in West Africa, driven by logging, agriculture expansion, and charcoal production. In 2019, LULUCF accounted for approximately 60-70% of the Country's total emissions (WRI, 2023). Net emissions from this sector are significant because Liberia's forests act as both carbon sinks and sources, depending on the balance of deforestation and reforestation.

Agriculture: Agriculture contributes to methane (CH4) and nitrous oxide (N2O) emissions through livestock, rice cultivation, and fertilizer use. The agriculture sector accounts for about 15-20% of the country's emissions. Small-scale subsistence farming dominates, with limited mechanization.

[8] National GHG inventory report - 2025

Energy: Liberia's energy-related emissions (including electricity generation, transportation, and fuel combustion) contribute roughly 10-15% of total emissions. This is relatively low due to limited fossil fuel use and electricity generation capacity, especially in recent times, when the country has improved its energy production and distribution (EPA, 2025). The country relies heavily on biomass (wood and charcoal) for cooking and heating, which contributes to emissions indirectly through deforestation.

Waste: Waste management is underdeveloped, and methane emissions from landfills and open burning contribute a small share, approximately 5% or less.

1.3. Policy, Legal and Institutional Frameworks

1.3.1. National Development Priorities

Liberia's overall development objective is to transition the country to a lower middle-income status under an economic strategy that is anchored on the principle of sustainable development. The country's growth direction is influenced by the global economic landscape, which focuses on such factors as trade dynamics, technological advancement, and financial stability, all of which affect growth prospects. The macroeconomic framework fosters sustainable economic growth and improves citizens' well-being amid current global and national challenges. Key priorities include economic diversification, infrastructure development, fiscal consolidation, and social protection, with strong emphasis on strengthening governance and enhancing human capital. The country possesses abundant natural resources such as iron ore, gold, and timber, as well as fertile soils for food and cash crops, including cassava, rice, palm oil, rubber, and cocoa, among others.

About 69% of Liberia[9] is covered in forest, which amounts to approximately 6.6 million hectares of tropical rainforest. This carries huge potential as a sink for GHGs. The country is also well situated within the tropics, receiving abundant sunlight, which could potentially generate renewable energy to drive its economic growth. This is in addition to the six (6) major rivers and several tributaries with potential to generate hydroelectricity distributed in rural areas, enabling the country to significantly reduce its emissions from fuelwood, charcoal, and thermal energy.

[9] National Forestry Inventory Report 2018/2019

1.3.2. Policy and Legal Frameworks

Addressing climate change has been a key pillar of the government's overall growth strategy and development agenda. This is reflected in several national policies and strategies, some of which have been listed below:

Liberia Rising Vision 2030: Liberia's Vision 2030 is an overarching vision of the Government of Liberia to achieve middle-income status by 2030. Three (3) successive medium-term national development plans have been designed under the framework of the Vision 2030 to realize this national objective. The latest being the AAID, which has a timespan of five (5) years, concluding in 2029. Liberia's Vision 2030 has a range of Pillars, Sector Goals, Strategic Objectives, and Outcome Indicators, which together support the development of adaptation and mitigation capacity in Liberia.

ARREST Agenda for Inclusive Development: The ARREST Agenda for Inclusive Development (AAID) is a five-year National Development Plan (2025-2029), which, for the first time in the country's history, has a new and stand-alone pillar on "environmental sustainability". The goal of this pillar is to "promote responsible management of natural resources, protect biodiversity, and enhance resilience to environmental and climate changes, while fulfilling the country's Nationally Determined Contributions, supporting economic growth and improving the quality of life for citizens." The pillar has one strategic policy on climate change with the objective to "develop strategies that enhance climate resilience while reducing GHG emissions from all sources, increasing carbon sinks, and promoting sustainable development." The AAID has multiple programs related to this policy in areas such as environmental governance, renewable energy, solid waste management as well as Forestry, Ecosystem Conservation, and Restoration, with several interventions attached to each of these programs.

Environment Protection and Management Law (EPML, 2003): The EPML forms the legal framework for GHG emissions, sustainable development, management and protection of the environment and natural resources by the Environment Protection Agency (EPA) in partnership with relevant ministries, autonomous agencies, and organizations, as well as in a close and responsive relationship with the people of Liberia. It addresses a wide range of environmental issues, including the authority to regulate GHG emissions in Liberia, environmental impact assessment, guidelines and standards, international obligations, education, and awareness.

National Environmental Policy (2003): Liberia formulated a national environmental policy to recognize the severe impact of human activities on all components of the natural environment, especially the influences of population dynamics, high density urbanization, and resource exploitation, as well as recognize the critical importance of restoring and maintaining environmental quality for the welfare and development of the people. The aim of the National

Environmental Policy is to ensure the improvement of the physical environment, the quality of life of the people, and the economic and social living conditions of the entire citizenry. It seeks to ensure reconciliation and coordination between economic development and growth with the sustainable management of natural resources.

National Adaptation Plan (2020-2030): Liberia began the development of the National Adaptation Plan (NAP) in 2015 and finalized it in 2021. Several adaptation strategies proposed in the NAPs are similar or aligned with those provided in the NDC 3.0. This is useful because it reduces the risk of overlapping but promotes complementarity. The NAP recognizes that "adaptation requires adequate information on risks and vulnerabilities to identify needs and appropriate adaptation options to reduce risks and build capacity in framing an approach to transformation."

National Policy and Response Strategy on Climate Change (2018): This national policy is a vehicle developed to support climate change adaptation, disaster risk management, and mitigation capacity in Liberia. It focuses on the implementation of Liberia's commitment to achieving the SDGs, especially Goals 13, 14, and 15, which focus on combating climate change and fostering sustainability. The Climate Change Policy also focuses on achieving Africa's vision for promoting positive socio-economic transformation (Agenda 2063 adopted in 2013) over the next 50 years. The Agenda 2063 recognizes climate change and natural disasters as major threats to Africa's development now and in the future.

Liberia National REDD+ Strategy (2016): The REDD+ Strategy was Liberia's first attempt to demonstrate GHG emissions within the forestry sector through various policy options. The strategy lays out interventions, targets, and activities intended to support the government's efforts in reducing emissions from the forestry sector, promoting forest conservation, enhancing carbon storage, and mitigating forest degradation. The targets in the strategy align with the targets described in this NDC 3.0 for the forestry sector.

National Methane Roadmap Action Plan (2024): Liberia's National Methane Roadmap and Action Plan (M-RAP) represents a significant commitment to address methane emissions as part of the country's broader climate action strategy. While Liberia's methane emissions are relatively low compared to other countries, contributing approximately 0.4 MtCO2e according to recent assessments, the country recognizes the critical importance of taking proactive measures to control emissions from growing sectors such as agriculture, waste, energy, and transportation.

1.3.3. Institutional Framework

The National Climate Change Steering Committee (NCCSC) is the highest institutional body responsible for coordinating and supervising the implementation of Liberia's climate change agenda and other related activities. It comprises a cross-representation of institutions, including:

- Ministry of Finance and Development Planning
- Ministry of Mines and Energy
- Ministry of Agriculture
- Ministry of Information, Culture and Tourism
- Ministry of Internal Affairs
- Ministry of Transport
- Environmental Protection Agency
- Forestry Development Agency
- Liberia Land Authority
- National Disaster Management Agency
- National Civil Society Council of Liberia

The NCCSC is chaired by the office of the President of the Republic of Liberia, or his/her designate, and supported through a National Climate Change Secretariat seated at the Environmental Protection Agency of Liberia (EPA) to ensure the implementation of its daily activities.

The EPA is Liberia's Designated National Authority for the UNFCCC and has the mandate as the national regulatory agency for sustainable environmental management, including climate change. The EPML, in section 36(1)(c), makes specific reference to the EPA, authorizing it to ***"make guidelines to minimize emissions of greenhouse gases and identify appropriate technologies to minimize air pollution***." This authority to regulate GHG emissions and coordinate the country's climate agenda is supported by many other local legislations.

Furthermore, section 5 of the Act Creating the Environment Protection Agency of the Republic of Liberia of 2002 mandates the Agency to:

- collaborate with key line ministries and agencies to coordinate, integrate, harmonize, and monitor the implementation of environmental policy and integrate environmental concerns in overall national development planning.

- Collect, collate, and analyze basic scientific data and other information pertaining to pollution, degradation of ecosystems, environmental quality, and resource use.

- Train and build the capacity of line ministries and agencies.

- Ensure the preservation and promotion of important historic, cultural, and spiritual values of natural resource heritage.

To achieve its statutory mandate and other obligations, the EPA collaborates with several key entities, including the Ministry of Commerce and Industry, which serves as chair of the EPA's Board, Ministry of Finance and Development Planning, Forestry Development Authority, Ministry of Agriculture, National Disaster Management Agency, Ministry of Mines and Energy, and Ministry of Internal Affairs, among others. This collaboration extends to the fulfilment of Liberia's commitment to the Paris Agreement, including the development of the NDC 3.0.

2. NDC 3.0 PROCESS

2.1. NDC 3.0 development

Liberia has had two NDC submissions in 2015 and 2021. Liberia's NDC 2.0 (launched in 2021) outlined the country's commitment to reduce greenhouse gas emissions by 10% unconditionally and up to 54% conditionally by 2030, relative to a business-as-usual scenario. The achievement of the conditional targets was contingent upon receiving international support in the areas of finance, technology, and capacity building (UNFCCC, 2021).

Based on the call from the UNFCCC for parties to submit updated NDCs in third round of NDC submission, the Government of Liberia initiated a national planning process, beginning with a formal request to the NDC Partnership, UNDP and other institutions for assistance in six key areas: NDC facilitation and coordination, updating of NDC 2.0, revision of the NDC implementation plan, updating the NDC investment plan, NDC costing, and strengthening stakeholder engagement and capacity building for effective NDC implementation. Following the development of a comprehensive roadmap, the Government convened a "Partner Roundtable Meeting" in Monrovia to mobilize technical and financial support for the development of NDC 3.0.

With support from the NDC Partnership through the United Nations Development Programme (UNDP), the government, with support from its partners, successfully completed a thorough stocktake of NDC 2.0. The stocktake report underwent validation through both technical reviews and high-level policymaker consultations. Based on the findings of this report, the government officially launched the NDC 3.0 revision process on March 14, 2025.

A technical sectoral workshop was subsequently organized, bringing together representatives from all nine existing NDC sectors as well as new sectors proposed for inclusion in NDC 3.0. In addition to this, a broader workshop was held to present and justify the inclusion of all proposed sectors, supported by the African Climate Policy Centre (ACPC), the Climate Change, Food Security and Natural Resource Division (CFND), and in collaboration with the

United Nations Economic Commission for Africa (UNECA). Furthermore, a dedicated technical workshop was convened to prioritize and validate the new sectors to be incorporated into NDC 3.0.

Complementing these efforts, three regional workshops were conducted with participation from NDC sectoral stakeholders across Liberia's fifteen counties. These workshops took place in geographically diverse locations: Grand Bassa, Bong, and Nimba counties. Throughout the revision process, the government and its partners held weekly meetings to provide updates and coordinate activities related to the NDC 3.0 revision.

2.2. Stakeholder Consultation

Liberia's NDC 3.0 drafting process considered stakeholders from the existing NDC 2.0 sectors as well as from the newly proposed sectors. The stakeholders included: relevant government NDC sector ministries, agencies, and commissions (MACs), Civil Society Organizations (CSOs), Community-Based Organizations (CBOs), Youth Organizations, grade school students, Academic Institutions, women organizations, Children-led Organizations, local County Officials, Private sector, and Development Partners. During the development of the NDC3.0, representatives from the following entities were engaged:

NO	Institutions	NO	Institutions
1	Environmental Protection Agency	28	Liberia Maritime Authority
2	Ministry of Finance & Development Planning	29	Liberia Immigration Services
3	Ministry of Agriculture	30	Liberia's National Water, Sanitation and Hygiene Commission
4	Ministry of Health	31	Liberia Petroleum Refining Company
5	Ministry of Mines & Energy	32	University of Liberia
6	Ministry of Gender, Children & Social Protection	33	United Methodist University
7	Ministry of Internal Affairs	34	Stella Maris Polytechnic University
8	Ministry of Public Works	35	Monrovia Vocational Training Center
9	Ministry of Commerce & Industry	36	Harbel University
10	Ministry of Information Culture & Tourism	37	Nimba University College
11	National Disaster Management Agency	38	Grand Gedeh University College
12	National Fisheries & Aquaculture Authority	39	Lofa University College
13	Liberia Institute for Geo-Information Services	40	Federation of Liberian Youth

14	Liberia Land Authority	41	Liberia National Students Union
15	Liberia Rural Renewable Energy Agency	42	National Civil Society Council of Liberia
16	Forestry Development Authority	43	Sustainable Development Institute
17	Liberia Electricity Corporation	44	Society for the Conservation of Nature Liberia
18	National Investment Commission	45	Nature Compat
19	National Public Health Institute	46	Liberia Endangered Species Association
20	Liberia Chambers of Commerce	47	Firestone Liberia
21	ArcelorMittal Liberia	48	Green Gold-Liberia
22	UNDP	49	UNICEF
23	UN Women	50	WHO
24	UNFPA	51	Liberia Youth for Climate Action
25	Medica Liberia	52	Action Aid Liberia
26	National Union of Organizations for the Disabled	53	Children's Parliament
27	Natural Resource Women Platform	54	Liberia Rural Women Organization for Climate Action

2.2.1. Technical and Regional Consultations

Several technical consultations were held along with three regional consultations during the NDC 3.0 development process. The EPA convened the first technical meeting with technicians, policymakers, and sectoral stakeholders to review progress on NDC 2.0, identify gaps, and propose actionable strategies for NDC 3.0, committing Liberia to reduce greenhouse gas (GHG) emissions by 64% below business-as-usual levels by 2035. Key sectoral presentations on forestry, fisheries, health, freshwater ecosystems, children's rights, and climate integration into national and county development plans highlighted significant achievements, including a 20.47% GHG emission reduction from 2021 to 2024, alongside challenges such as inadequate funding, weak coordination, and limited data systems.

Thereafter, another meeting was conducted with the consultants and a team of GHG data analysts to review national circumstances for adjusting or keeping certain targets that have not been implemented under the previous NDCs.

Some key highlights proposed during the technical meetings included: a call for strengthening governance frameworks, enhancing data-driven reporting through the Biennial Transparency Report (BTR) and Liberia's third National Communication (TNC), and fostering transboundary and international partnerships to unlock climate finance. The participants further

proposed innovative solutions like renewable energy and ecosystem-based adaptation to achieve a low-emission, climate-resilient future.

The roadmap developed during the workshops set a clear path for inclusive stakeholder engagement across all 15 counties, ensuring that NDC 3.0 reflects the aspirations and needs of all Liberians while contributing to global climate goals. To this end, the EPA organized three (3) regional consultations to create awareness on the NDC 3.0 but also to collect feedback from stakeholders on the issues affecting them relating to climate change and what solutions can be adopted. These regional consultations targeted mainly local communities, chiefs, local government authorities, farmers, etc.

2.2.2. Technical/Expert Group Workshops

About four sector-focused technical workshops were held. The first technical expert workshop was held to evaluate land use changes, agricultural practices, deforestation rates, and carbon stock in forests and soils to set new targets in the AFOLU sector for inclusion into NDC 3.0. The second technical workshop focused on assessing the status of freshwater ecosystems (lakes, rivers, wetlands, and aquifers) and gathering baseline data on water quality, quantity, biodiversity, and existing pressure, including pollution, over-extraction, and climate impacts, to inform freshwater targets for NDC 3.0. The third technical expert workshop was organized to consult with stakeholders, including government agencies, private sector entities, and civil society, to determine which sectors should be prioritized for inclusion in NDC 3.0. This workshop identified WASH, Youth, Children, Gender, land rights, and education as cross-cutting issues in NDC. 3.0. At the end of the third technical expert workshop, it was agreed that Liberia present six (6) mitigation sectors for the NDC 3.0. The fourth technical expert workshop was held to identify and prioritize adaptation options for the WASH sector.

2.2.3. Children, Youth and Gender Dialogue

Ensuring that all stakeholders are engaged, a dialogue was held around the identification and prioritization of children, youth, and Gender-led actions to be included in the updated NDC 3.0. This workshop produced the *Ganta Declaration***,** which identified priorities for Children, Youth, and Gender. The Ganta declaration is a reaffirmation of the previous "Ganta Declaration" in NDC 2.0, but this time with a new call to include Children, Youth, Gender, and Persons-Living-With-Disabilities PWDs), and that their inclusive priorities should be considered across key sectors within the NDC 3.0. They categorically emphasized that national investments must focus on scaling up agroecology, ensuring that at least 70 percent of agricultural financing is directed toward initiatives led by women and youth. Additionally, the Declaration called for the establishment of a National Agricultural Development Fund that should be accessible to smallholder farmers from marginalized communities. And lastly, the full implementation of the Land Rights Law as a prerequisite for ensuring land security for

youth and women, alongside legal literacy campaigns aimed at reaching at least 10,000 individuals by 2035.

2.2.4. Private Sector Engagement

The Liberia Chambers of Commerce (LCC) was engaged during the development of the NDC3.0 to encourage their members' participation in the consultation meetings occurring across the country. The first official draft was submitted to the leadership and secretariat of the LCC, requesting comments from member entities. To this, the NDC review team received written comments and recommendations from private businesses, which were highly considered.

2.2.5. Regional Review and Validation of Liberia's NDC

Following the development of the first draft revised NDC 3.0, a technical validation was held to review mitigation and adaptation targets, generate consensus on the means of implementation, and finalize any outstanding issues. Thereafter, the final revised NDC 3.0 draft was ready for regional validation, held in Gompa city, affording community members the opportunity to review the final version. A national validation was also held in Monrovia, where high-level stakeholders agreed to the targets and ambitions.

3. CONTRIBUTIONS

3.1. Liberia NDC Implementation Achievements (2022-2024)

Liberia's NDC 2.0 stocktake report revealed that the country has achieved significant progress in the implementation of its NDC 2.0 between 2021 and 2024. The report revealed significant GHG emission reductions in the energy, transport, and forestry sectors, achieving 20.47% of the targeted GHG reduction by 2024.

Liberia's NDC 2.0 implementation plan estimated that a total investment of about US$490 million was needed to achieve Liberia's NDC mitigation and adaptation targets for the period 2021-2025. The country received significant commitments of about US$573.44 million. According to the stocktake, about US$212.95 million of the committed funding had been disbursed as of December 2024. Most of the funding committed and disbursed was allocated towards mitigation and adaptation projects and programs, as well as cross-cutting activities.

However, it is essential to note that of the total funding committed, about 36% is unconditional through concessional loans and in-kind contributions from the Government of Liberia, while 64% is conditional through grants. This demonstrates the government's commitment to achieving the Paris Agreement through its NDC.

The implementation of Liberia's NDC has also resulted in significant improvements in enabling activities, including alignment of institutional and national policies with the country's climate action. Key policies and laws that were revised or developed because of the implementation of Liberia's NDC 2.0 included, but not limited to, the following:

1. *Revised draft National Forest Policy and Implementation Strategy*
2. *Draft Restated and Amended Wildlife Conservation and Protected Area Management Law*
3. *Draft National Conservation Strategy*
4. *ARREST Agenda for Inclusive Development (AAID)*
5. *National Solid Waste Policy of Liberia*
6. *National Adaptation Plan (2020-2030)*
7. *The National Agriculture Development Plan (NADP) 2024-2030*
8. *Liberia National Agroecology Strategy (LNAS) (2025)*
9. *Draft Revised Energy Policy of Liberia, 2024*

3.2. Mitigation Commitments under NDC 3.0

Liberia is committed to reducing its GHG emissions across all the IPCC sectors namely energy, transport, Industrial Processes and Product Use (IPPU), Agriculture, Land Use, Land-Use Change, and Forestry (LULUCF), and Waste.

The NDC 2.0 used 2015 as its base year, with emissions recorded at 5,695 GgCO2e. The country committed to a 64% emissions reduction by 2030 compared to a business-as-usual (BAU) scenario, which projected emissions of 12,429 GgCO2e by 2030.

However, the 2022 inventory, prepared for the country's Third National Communication and first Biennial Transparency Report, estimated emissions at 12,471 GgCO2e. This significant increase in emissions in 2022 compared to 2015 is attributed to more comprehensive source coverage, better data quality, and more robust methodologies. Consequently, Liberia has decided to revise its base year to 2022, which necessitates a recalculation of its BAU and mitigation scenarios as well as its GHG emissions reduction targets

Based on the new business-as-usual (BAU) baseline, Liberia's revised targets by 2035 are:

- Unconditional Target: An emissions reduction of 5,551 $GgCO_2e$, equivalent to a 10% reduction from the BAU scenario.
- Conditional Target: A more ambitious reduction of 29,974 $GgCO_2e$, equivalent to a 54% reduction from the BAU scenario, contingent on receiving international support.

This revision reflects our enhanced ambition, representing a fourfold increase in our absolute emission reduction target compared to NDC 2.0 target. Between 2021 and 2024, Liberia achieved an emissions reduction of 2,545 $GgCO_2e$, which corresponds to a 7% reduction compared to the revised 2030 BAU baseline.

Liberia is currently undertaking a crucial analysis to project its greenhouse gas emissions through 2035. This forward-looking assessment will model mitigation scenarios that quantifies the impact of planned and potential mitigation actions. This work serves as the strategic foundation for enhancing Liberia's NDC 3.0, ensuring that future climate commitments are both ambitious and grounded in robust, data-driven evidence.

In line with the above, emissions and non-emissions targets have been identified at sector level as defined in the subsequent sections.

Energy
Mitigation Targets
Liberia commits to reduce GHG emissions from the energy sector (excluding the transport sector) by 48.5% below sectoral BAU levels by 2035. Sectoral targets include: Sectoral targets for 2035 include:

- Increasing the share of on-grid renewable energy to at least 75% from the current share of 67% by installing 150 MW of RE plants:
    - Installation of grid-connected medium Hydro Power Plant with 20 MW capacity for rural electrification.
    - Development of 100 MW capacity of solar photovoltaic (PV) with battery energy storage system (BESS) with an output of 2 GWh/year.
- Development of 50 MW of Distributed Renewable Energy (DRE) projects under private sector ownership or operation and maintenance.
- 20% improvement in energy efficiency across public sector institutions by 2035 through systematic demand-side energy management.
- Providing clean cooking solutions to 200,000 households to reduce emissions from traditional biomass use.

Mitigation Actions and Policy Measures

The following actions and policy measures shall be undertaken to meet the targets:

- Revise the National Energy Policy to enhance focus on renewal energy sources including mini-hydro dams, solar and wind.
- Develop a Renewable Energy Act to scale up and diversify the uses of renewables.
- Develop Incentives Policy for renewable energy investment by 2027.
- Develop a roadmap to increase renewable energy generation to at least 30% after 2035 through the new private investment enabling environment.
- Calculate real costs and tariffs in the 3 segments to be unbundled: generation, transmission distribution by 2027.
- Reduce total electricity loss to 19% by 2035 through the improvement of the distribution network (technical losses) and the implementation of a social tariff (non-technical losses).
- Investigate social subsidies to support the introduction of social tariffs to be implemented by 2027.
- Implement a government-wide building energy management program with real-time tracking, efficiency upgrades, capacity building, and renewable energy integration to phase out diesel use particularly in energy-intensive public institutions.
- In keeping with the Energy Compact, mobilize by 2035, US$70 million of private capital for utility-scale solar and another US$80–100 million for distributed renewable energy (DRE) and clean cooking.
- Develop, adopt and enforce Minimum Energy performance standards (MEPS), promote labeling and reduce leakage for cooling and heating appliances to improve energy efficiency by 2035.
- By 2035, ensure 5% transition from traditional biomass stoves to cleaner cooking solutions, such as LPG, electric, biogas, or advanced biomass stoves by implementing programs to disseminate and finance clean cooking technologies to replace wood stove and burners to reduce emissions from biomass burning in households.
- Develop a national clean cooking strategy, in line with the Energy Compact, with 2035 and 2035 targets for (i) increasing access to clean cooking solutions and (ii) for reduced levels of indoor air pollution including black carbon

Transport

Mitigation Targets

In the Transport sector, Liberia commits to reducing GHG emissions by 15% below sectoral BAU levels for transport by 2035. Sectoral targets include:

- By 2029, introduce at least 2,000 electric small 3-wheelers (kekehs) and 2,300 electric 2-wheelers (motorcycles) for commercial use with the ultimate goal to increase the fleet to more than 6,000 by 2035.
- By 2035, transition 20% of the National Transit Authority bus fleet and 10% of all vehicles to utilize cleaner form of power sources, including solar, electric and Compressed Natural Gas (CNG).
- By 2035, ensure 10% phase-out of high-Global Warming Potential (GWP) refrigerant (R-124A) and transition to low-GWP refrigerant and alternatives in vehicle AC systems.

Mitigation Actions and Policy Measures

The following actions and policy measures shall be taken to meet the targets:

- Revise and update the Liberia Transport Master Plan by 2026 with focus on increasing energy efficient public transport system.
- Introduce a feebate / rebate programme through which the government levies fees on relatively high GHG emitting vehicles and provides rebates on lower emitting vehicles by 2027.
- By 2026, develop and endorse a Nation Sustainable Transport Policy for Liberia.
- Promote the deployment of Electric Vehicles (EVs) construction of at least 3 charging stations in Monrovia by 2035.
- Engage the private sector through targeted incentives, public-private partnerships, and regulatory frameworks to support the deployment of electric vehicles, charging infrastructure, and sustainable transport services by 2035.
- Design and carry out information campaigns in at least 5 major cities (Monrovia, Buchanan, Kakata, Gbarnga, and Ganta) by 2026, through heightened driver awareness about better ways of driving cars through eco-driving, speed reduction and use of well-adjusted motors, electric and Compressed Natural Gas vehicles and promotion of public transport through the use of bus transport network and car sharing.
- Design a program to Promote diesel particulate filters for road and off-road vehicles.
- Implement a comprehensive vehicle labelling system, which registers the level of GHG emissions for each vehicle by 2027.
- Adopt Euro VI vehicle emission and ECOWAS sulfur fuel standards for private and commercial vehicles by 2035.
-

IPPU

Mitigation Targets

Liberia commits to reducing its HFC emissions by 20% below BAU levels by 2035 as per the targets under the Kigali Amendment and below:

- By 2028, ensure that at least 50% increase in the percentage of low-GWP (global warming potential) alternatives in economy-wide uses of HFCs, consistent with the HFC phase-down level.

- By 2035, reduce current fugitive emission and unintentional leakage from ventilations system by 20% from IPPU sector.

Mitigation Actions and Policy Measures

The following actions and policy measures shall be taken to meet the targets:

- By 2027, introduce a Hydrofluorocarbon (HFC) tax for regulating the consumption of fluorinated gases in the air conditioning and refrigeration sector.
- Develop a national policy or legal framework, by 2028, mandating all new high-efficiency cooling equipment to utilize either a low-GWP HFC or an HFC alternative.
- By 2035, establish and strengthen regulatory program and technical capacity to reduce unintentional leakage and fugitive emission from ventilation systems.

Agriculture

Mitigation Targets

In the Agriculture sector, Liberia commits to reducing agricultural GHG emissions by 40% below BAU levels by 2035 by implementing mitigation strategies related to agriculture and livestock systems.

- By 2028, promote low-emissions rice cultivation through the reduction of the burning of field residues by 30%.
- By 2035, ensure that about 60% of rice cultivation is practiced by alternative wetting and drying (AWD) through the establishment and adoption of intermittent aeration of rice fields in irrigated rice cultivation.
- By 2035, reduce the use of chemical fertilizers by 60% through the introduction of organic fertilizers to farmers.

Mitigation Actions and Policy Measures

The following actions and policy measures shall be taken to meet the targets:

- By 2027, introduce incentives and programs to promote low-carbon agriculture practices, e.g., conservation agriculture, no/low tillage, agro-silvopastoral systems, improved lowland rice cultivation, multi-cropping, organic fertilizers, fertigation, composting, crop rotation, and sustainable agricultural waste management.
- Design and implement programs incentivizing low-emissions livestock systems, with practices to improve pasture and manure management, reach the optimal intensity of grazing, and reduce enteric fermentation.
- By 2035, introduce program targeting 150,000 ha of lowland crop systems, 500,000 ha of upland sedentary crop systems, and 500,000 ha of pastureland.
- Beginning 2035, allocate at least US$400,000 yearly for research on sustainable agricultural production and GHG mitigation potential from the agriculture and livestock sectors in Liberia.
- By 2028, develop a policy mandating all new agricultural interventions/program or concessions be granted only on degraded land rather than primary forest areas.
- Support the implementation of AWD as part of the Methane Roadmap Action Plan of Liberia and develop programs to encourage awareness and the application of AWD and control of emission from livestock by farmers.

Forestry

Mitigation Targets

Liberia's commitment to reduce LULUCF emissions is to reduce GHG emissions from forest conversion by 45% below BAU levels for forestry by 2035. Sectoral targets include:

- Reduce the national deforestation rate by 10% by 2035 from the 2022 baseline.
- Commencing 2026, plant an average of 600 ha per year to enhance forest carbon stocks.
- Enhance natural regeneration of 5% priority degraded forests by 2035.
- Enhance carbon stocks through annual carbon sequestration by planting at least 100,000 trees in urban areas by 2035.
- By 2029, establish at least 4 new protected areas covering at least 200,000 ha in line with the Land Rights Act
- By 2035, ensure that 30% of the annual reforested land to enhance forest carbon stocks is carried out on secured customary lands, with participatory land use planning involving women.

Mitigation Actions and Policy Measures

The following actions and policy measures shall be taken to meet the targets:

- Increase the urban canopy covers in 5 cities (Paynesville, Monrovia, Buchanan, Gbarnga and Gompa) to 50% by planting at least 1,500 trees in each city annually from 2026 to 2035.
- Revised and update the national forest policy and implementation strategy by integrating carbon as a significant element of sustainable forest management.
- Conserve all High Conservation Value-High Carbon Stock (HCV-HCS) forests within agricultural, tree crop, and commercial forestry concessions, and site new concessions on open/degraded land by 2035 (Link to Agriculture sector).
- By 2035, engage at least 3,500 forest dependent communities with strategic messaging about incentives and opportunities to reduce their climate footprint by conserving community forest.
- Beginning 2027, conduct at least 5 trainings per year to develop capacity for forest managers, researchers, and forest-dependent communities to implement mitigation actions in the forest sector for uptake of best practices for climate smart forest management, monitoring and conservation, increase forestry research, and enable forest communities to implement improved forestry practices.

Waste

Mitigation Targets

Liberia commits to the reducing GHG emissions from the waste sector by 45% below BAU levels for waste by 2035. Sectoral targets include:

- By 2035, recover at least 70% of all landfill gas through the installation of landfill gas recovery system at Whein Town and Cheesemanburg landfill sites.
- By 2035, develop 50 small-scale composting stations of degradable market waste with a production capacity of 500t/ year each.
- By 2028, ensure that at least 80% of all solid waste generated within Liberia are collected and properly transferred to Whein Town, Cheesemanburg landfill and other sites to be identified

Mitigation Actions and Policy Measures

The following actions and policy measures shall be taken to meet the targets:

- By 2027, strengthen of operational and financial management capacities at the community and institutional level for integrated waste management.
- By 2027, launch a nationwide campaign to install public waste collection bins on every street and in every community.
- Design a program to support and promote involvement of at least 500 community-based enterprises (CBEs) for waste collection in Monrovia, Kakata, Buchanan, Gbarnga, Zwedru and Gompa by 2027 with the intent to expand by 2035.
- Encourage public participation and capacity building through education and awareness raising programs to enhance awareness on proper waste management practices. (Link to Health sector).
- Strengthening of the institutional and legal situation at national and municipal levels by 2035.
- Conduct a feasibility study on use for biogas and power generation from landfill gas recovery system.
- Enhance support for waste collection, recycling and disposal systems for reduced LFG emissions and proper waste management practices by 2035
- Establish at least 30 buy-back centers for waste collection and recycling by 2035.
- Implement methane recovery at old and new landfill sites as part of the MRAP and the municipal waste management policy and develop projects that convert organic waste into energy to reduce methane emission by 2035
- Strengthen and implement regulatory framework, conduct training and promote alternatives to open burning of waste by 2035

3.3. Adaptation Commitments

Liberia is one of the countries most vulnerable to the impacts of climate change due to its fragile socio-economic context, heavy reliance on climate-sensitive sectors, and limited adaptive capacity. In response, the Government of Liberia has developed a comprehensive framework to address climate change adaptation, as reflected in its National Adaptation Plan (NAP), NDCs, and sector-specific vulnerability assessments. The country's adaptation objectives and strategies focus on minimizing climate-related risks and building resilience in critical sectors, including agriculture, coastal zones, energy, forestry, health, transport, and freshwater resources.

Agriculture
Adaptation Targets
Agriculture contributes approximately 38% to Liberia's GDP and employs nearly 70% of the population, making it highly sensitive to changing climate patterns. According to the Climate Vulnerability Risk Assessment (CVRA), rising temperatures, unpredictable rainfall, and extreme

weather events threaten crop yields, livestock health, and food security (EPA, 2021). The targets include:

- Establish 100 farmer field schools and train at least 5,000 farmers to implement conservation agriculture, soil carbon sequestration methods, and low-emissions livestock systems by 2028.
- By 2035, develop facilities and climate smart technologies to promote postharvest and value addition practices, including the establishment of 5 seed/gene banks and improved storage facilities for agricultural products, based on Liberia's five agricultural regions, by 2028.
- By 2035, provide support for crop and livestock diversification, climate resilient seeds, Integrated Pest Management (IPM), water harvesting, irrigation systems, increased soil fertility;

Adaptation Actions and Policy Measures

The following actions and policy measures shall be taken to meet the targets:

- Deploy early warning systems and install 25 rainfall stations for communities by 2035.
- Train at least 3 agricultural extension agents per district yearly to support implementation of conservation agriculture, soil carbon sequestration, and low-emissions livestock systems by 2028.
- Train 150 agricultural extension agents per year to support implementation of climate-resilient agricultural and livestock practices.
- Increase finance (public and private) for agriculture and livestock diversification by US$3,000,000 dollars by 2028.
- Establish or strengthen crop and livestock insurance systems by 2027
- Provide support and increase the capacity of CARI (Central Agriculture Institute) focusing on new climate smart seed varieties and improving livestock breeding by 2035.
- Develop and implement programs to build farmers capacity on the proper application of fertilizers and treatment of manure in anaerobic digesters and post-harvest practices as part of the MRAP and the NADP by 2035.

Coastal Zones

Adaptation Targets

Liberia's 580-km coastline is highly vulnerable to sea-level rise, coastal erosion, and storm surges, especially in urban centers like Monrovia and Buchanan. The Climate Vulnerability Risk Assessment- CVRA indicates that 60% of Liberia's population resides within 50 km of the coast, where infrastructure, livelihoods, and ecosystems are at risk (EPA, 2021). The targets include:

- Design and implement green-grey infrastructure approaches along 60% of Liberia's highly vulnerable coastline by 2035 (Link to Transport sector)
- Establish an early warning system and predictive scenario modelling for climate disasters and coastal flooding by 2035.
- Construct revetments/break walls to address coastal erosion in some of the most vulnerable parts of the coast in Monrovia, Buchanan, Greenville, Harper and West Point.
- Ensure flood-resilient water and sanitation facilities in at least 40% of the vulnerable urban slums and informal settlements by 2035.

Adaptation Actions and Policy Measures

The following actions and policy measures shall be taken to meet the targets:

- Invest in coastal zone monitoring equipment for data collection, research, and management purposes by 2035.
- Deploy early warning systems and predictive modelling for coastal flooding by 2035.
- Develop and support coastal and marine research, initiatives, and activities, and by 2035, increase funding for research on adaptive coastal management solutions and access to research opportunities to 2 million annually.
- By 2026, develop a strategic communications plan to educate and disseminate adaptation actions via awareness programs, establishment of research & innovation centers within coastal communities, development of multi-stakeholder platforms for information sharing with regular/timely updates etc.
- From 2026, conduct at least 10 trainings per annum with coastal managers and communities on climate-related risks, adaptation solutions, adaptive coastal management practices, and climate-smart infrastructure development, with strategic messaging for communities about incentives and opportunities to enhance their resilience to climate change at the household and community level.

Energy

Adaptation Targets

Liberia's energy sector, primarily reliant on hydropower and biomass, is susceptible to climate-induced changes in water availability and forest degradation. Hydropower generation, particularly from the Mount Coffee Hydro Plant, faces risks from changing rainfall patterns. The targets include:

- Diversify the energy matrix to provide a more resilient system under climate variability.
- By 2026, conduct risk mapping of climate stress vulnerability of energy infrastructure – future investment should be guided by such risk mapping.
- By 2027, ensure that secondary reservoirs are developed at major hydro dams reducing the risk of limited waterflow during the dry season thereby ensuring constant and sufficient water supply.
- Installation of grid-connected photovoltaic (PV) systems with battery energy storage systems (BESS) at all major hydropower plants to complement electricity generation during the dry season

Adaptation Actions and Policy Measures

The following actions and policy measures shall be taken to meet the targets:

- Maximize the opportunities that energy access offers in improving livelihoods and diversifying income sources.
- By 2027, support the implementation of a full de-regulation of the electricity sector (into independent transmission, distribution, and generator subsectors) with accurate costs, and tariffs.
- Improve the adaptation are capacity of the most vulnerable considering access to reliable and affordable electricity provides social and economic development.

Forestry

Adaptation Targets

Forests cover about 68% of Liberia’s land area and are central to both climate mitigation and adaptation. However, climate change, along with unsustainable logging, mining and shifting agriculture, threatens forest ecosystems and biodiversity. The targets include:

- By 2029, catalogue 100% of water catchments in forest areas, with 50% of these under sustainable management plans by 2035.
- Develop alternative livelihoods programs with forest dependent people in and around 5 PAs and 3 PPAs to ensure a just transition from forest extractive models for local communities, including development of models and markets for non-timber forest products and for sustainable eco-tourism by 2035.

Adaptation Actions and Policy Measures

The following actions and policy measures shall be taken to meet the targets:

- By 2028, increase funding (private and public) to at least US$300,000.00 for research on adaptive forest management solutions.
- Incentivize and encourage sustainable fuelwood/charcoal production with alternative domestic energy options by 2027.
- Design and implement, by 2027, a nationally harmonized effective and equitable benefit-sharing mechanism for forest communities.
- Develop an adaptive forestry management and conservation plan to prevent poaching, forest fire, land conversion, invasive species, and diseases, including training/capacity building by 2035.
- Develop training, capacity building, and strategic communications plans, by 2028, for forestry authorities and forest communities to implement climate adaptation actions in the forest sector, especially by increasing support for education and training on climate risks and adaptation solutions for vulnerable groups.
- Ensure that the creation of protected areas includes negotiated agreements that legally recognize community land/resource rights, with clear terms upheld by 2035
- Develop and implement regulations that allow communities to manage and apply their own land rental fees in accordance with the Local Government Act, promoting transparency and autonomy.
- Conduct 20 training courses for forestry authorities and forest-dependent communities on climate-related risks, adaptation solutions and adaptive forest management practices, with strategic messaging for communities about incentives and opportunities to enhance their resilience to climate change at the household and community level.

Health

Adaptation Targets

Liberia's health system is vulnerable to climate-induced diseases such as malaria, cholera, and respiratory infections. Flooding and heat stress exacerbate public health risks, particularly for children and the elderly (WHO & EPA, 2021). The targets include:

- By 2035, ensure the availability of 40% of health facilities and schools with climate-resilient WASH (flood-proof toilets, backup water), while 100 schools reached with climate-resilient WASH awareness campaigns.
- By 2035, fifty (50%) of healthcare facilities are reached with energy efficient and low carbon incinerators (emission-free) for managing healthcare waste.
- Conduct climate change and health vulnerability and adaptation assessment for 100% of healthcare facilities in Liberia, by 2027, to determine facilities prone to climate disaster (flooding & storms) and develop resilient strategies.
- 30% of urban/peri-urban populations use flood-resilient sanitation by 2029.

- Construct 50 climate-smart water systems and co-develop and pilot multi-hazard Climate-informed health surveillance and early warning system in vulnerable communities.
- Ensure that 80% of the rural population is within 5km of health service points by 2035.
- Provide climate-resilient and clean renewable power sources for every health care facility as well as emergency equipment and modalities by 2035.
- Scale up basic sanitation across the country while improving safely managed sanitation to 50% by 2029, and 60% by 2035.

Adaptation Actions and Policy Measures

The following actions and policy measures shall be taken to meet the targets:

- Train and deploy 1000 community health assistants (CHAs), 500 environmental health technicians (ETHs), and 250 specialists for referral facilities to understand the increased health risks due to climate change vulnerability and how to respond by implementing climate adaptation actions in the health sector by 2035.
- Establish 425 community health clubs to improve community-level health care and disseminate information on changing health risks to enhance the response to climate-related diseases by 2035.
- Develop and implement adaptation and resilient strategies across 30% of healthcare facilities that are at risk for climate disasters (Flooding and storms).
- Increase funding by $500,000 per year for research on climate-health nexus, including on the increased health vulnerabilities caused by climate change, the temporal, spatial and spectral aspects of meteorological data needed for healthcare purposes, and on the quality, level, and detail of healthcare data required for disease modelling to develop adequate response measures by 2035.
- Establish Early Warning Surveillance and Monitoring System for Climate related health threats.
- Promote household and community-level adoption of practices that improve air quality, improve water safety and reduce the risk of disease transmission, while also reducing fuelwood use, such as water filters, water source protection and improved cookstoves
- Beginning 2026, provide at least 170 water safety and purification kits per annum to rural communities, while promoting community-led Climate Resilient Water Safety Plans implementation.
- Retrofit health facilities and schools with climate resilient WASH infrastructure, backup water storage, promote water, sanitation and hygiene education in schools to build greater resilience in addressing emerging water- and vector-borne diseases caused by climate change.
- Strengthen health systems to maintain and deliver essential health services, including sexual and reproductive health, maternal, newborn, and adolescent health services, during and after climate-related disasters and extreme weather events.
- Conduct comprehensive household energy assessment to generate data on household energy consumption and associated emissions and develop and enforce air quality policies based on WHO recommendations to limit black carbon and other particulate matter exposure by 2035.
- Ensure the installation of at least one national reference air quality monitor and several low-cost air quality sensors around the country by 2035.

Transport
Adaptation Targets
Climate risks such as intense rainfall and flooding damage Liberia's limited road infrastructure, impeding access to essential services and markets, especially during the rainy season. About 85% of Liberia's roads are unpaved and highly susceptible to climate impacts (EPA, 2021). The targets include: • Support the implementation of infrastructure for a bus public transport network for Monrovia. • By 2027, introduce a new fleet of climate-friendly buses, prioritizing high-clearance, energy-efficient, and low-emission vehicles. • By 2035, ensure that all major highways in Liberia are climate-resilient and are adequately maintained withstanding climate-induced disaster events such as floods, erosion, etc. • Establish a national system to monitor climate-related transport impacts by 2035, integrating GIS, mobile reporting, and community feedback.
Adaptation Actions and Policy Measures
• The following actions and policy measures shall be taken to meet the targets: • Ensure that the revised transportation Master Plan contains measures to promote climate-resilient transportation systems and equipment. • Conduct risk mapping of climate stress vulnerability of transport infrastructure by 2026, to ensure that future investment is guided by such risk mapping. • Updating design and construction standards and materials to ensure that future infrastructure is more resilient to anticipated climate and extreme weather events. • Include in the sectoral strategies and policies at the national level climate adaptation strategies and policies. • By 2030, Adopt climate-resilient construction standards (e.g. elevated roadbeds, improved drainage, durable materials) suited to Liberia's terrain. • Develop a transport climate monitoring system by 2027, combining mobile data collection, GIS mapping, and local reporting to inform planning and emergency response. • Create safe walkways, bicycle lanes, and small-scale ferry services in vulnerable rural and peri-urban communities to ensure mobility during road disruptions by 2027-2035. • Link the Liberia Meteorological Service with the MPW for real-time flood alerts and early closure/diversion and maintain the regulation to minimize heavy axels loads during the rainy season. • Establish a Climate-Resilient Road Fund Window within the National Road Fund, leveraging donor support, carbon finance, and climate adaptation funds (e.g., GCF, GEF).
Freshwater Ecosystem
Adaptation Targets
Liberia is endowed with substantial freshwater resources, but climate change threatens their availability and quality through erratic rainfall, droughts, and pollution. Vulnerability assessments point to increasing water scarcity in urban and peri-urban areas (NAP, 2020). The targets include: • Map and pilot inclusive drought EWS in vulnerable communities.

- Establish government-led participatory mechanism for water sector coordination based on IWRM principles, including a specific focus on the provision of reliable, clean drinking water at the community level.
- Establish 50 WASH inclusive adaptation committees (≥50% women, 20% youth) in high-risk areas; updated policy frameworks.
- Improve access to safe water and sanitation under the conditions of a changing climate by the adoption of new technologies and participatory water management at the household and community levels.
- Scale basic water access to 90% and safely managed drinking water access to 65% by 2029, emphasizing underserved rural and peri-urban areas.
- By 2027, strengthen the Liberian Hydrological Service's capacity to monitor and model climate impacts on water resources, including river flow variability, groundwater recharge, and flood/drought risks.

Adaptation Actions and Policy Measures

The following actions and policy measures shall be taken to meet the targets:

- Ensure at least 50% increased access to climate-resilient drinking water by 2035.
- Deploy, by 2028, solar-powered boreholes/ water systems, rainwater harvesting, catchment protection. Address the skill-development needs of the sector, with a particular focus on youth, in close collaboration with national skills development agencies and the private sector. Specific attention to integrating emerging water technologies and innovative climate solutions.
- Promote elevated latrines, wetland restoration, and drainage systems in rural communities by 2028.
- By 2035, develop a national hydrological monitoring network by deploying 50 automated gauging stations by 2035 to track water availability and quality in climate-vulnerable regions.
- By 2028, carry out an assessment of freshwater ecosystems, vulnerability, policies and governance at national and subnational Scales.
- Develop Strategic National Integrated Watershed Management Policy and Plan by 2029
- By 2035, promote and enhance riverbank stabilization with native vegetation.
- Establish Municipal wastewater treatment plants in urban centers by 2035
- By 2029, review and update the existing Drought preparedness and management plan (2019) and other existing water related laws/policies/regulations and sectors.

Fisheries

Adaptation Targets

In the Fisheries sector, Liberia commits to the following adaptation targets to increase the ability of fishing communities and fisheries to adapt to the impacts of climate change. The targets include:

- By 2035, establish two (2) Marine Protected Areas and 4 co-managed fishery areas in coastal and aquatic ecosystems associated with fish production in coordination with fishery communities (Link to Coastal zones sector).

- Support alternative fishery livelihoods by developing the foundational structures and extension services needed to increase aquaculture production and reduce the impact on marine fisheries, including through provision of 25 aquaculture kits to smallholder fishers by 2028.

- Establish co-managed fisheries areas in all coastal counties by 2035, where community land is used for fish farming and marine activities, reinforcing land tenure and sustainable livelihoods

Adaptation Actions and Policy Measures

The following actions and policy measures shall be taken to meet the targets:

- Identify endangered and vulnerable fish species, map the areas valuable for their protection, by 2028.
- Beginning 2027, increase funding by $1.5 million dollars per year for research on climate-related pressures on fisheries and appropriate climate adaptation solutions in the fisheries sector.
- Implement 20 training courses (2 per year) for fishery managers to learn and implement adaptive management practices by 2035.
- Integrate fisheries fully into climate change adaptation and food security policies at the national level by 2027 (Link to Agriculture and Health sectors).
- By 2027, develop and implement climate smart fishery management systems to enhance the adaptive capacity and resilience of fisher communities, including technical support and backstopping for artisanal fishing cooperatives and extension services by 2035.
- Strengthen effective early warning systems to identify probable threats and risks related to fisheries by 2027
- By 2027, establish five (5) artisanal fish landing and processing centers in the Mesurado basin.
- Develop an awareness program in schools within coastal counties to promote climate-smart fisheries and mangrove conservation by 2026.
- Set up an inter-ministerial national task force to reduce both land- and water-based sources of pollution (e.g., agricultural, and urban runoff; boat effluent) and destructive fishing practices (e.g., fishing with explosives and poisons) by 2027.
- Reduce threats from illegal, unreported, and unregulated (IUU) fishing by purchasing necessary equipment, launching coordinated surveillance, and monitoring operations, and launching public communications campaigns about the risks and impacts of IUU fishing by 2035.

Liberia's current sectoral goals are set through 2035, reflecting the timelines of the current national and sectoral development plans. Looking ahead, the country is committed to building on this foundation. Post-2035, the country will intensify climate action by systematically embedding climate considerations into all national policy, planning, and budgeting processes, while identifying and implementing the most effective measures for both mitigation and adaptation.

3.4. Cross-cutting Areas

Gender

Targets

Liberia’s NDC 3.0 recognizes that climate change impacts women and men differently, with women often facing greater risks due to persistent inequalities in literacy, education, access to resources, and decision-making. All gender-responsive climate actions under Liberia’s NDC 3.0 are anchored in the

revised National Gender Policy, aligned with ECOWAS and African Union gender frameworks, and consistent with Liberia's commitments under CEDAW, the Beijing Declaration, and the UNFCCC Gender Action Plan. This ensures policy coherence and maximizes synergies between national development and global gender equality goals. Although women constitute 49.6% of the population and play a dominant role in agriculture comprising 80% of the agricultural labor force and producing 93% of food, they face systemic barriers such as limited access to land, credit, agricultural services, and leadership opportunities. The targets include:

- Ensure that all projects under the NDC 3.0 integrate gender-responsive planning and implementation as well as gendered monitoring, evaluation, accountability and learning (MEAL).
- By 2035, ensure that the needs of women, marginalized, and other vulnerable groups, including persons with disabilities groups are explicitly addressed and g adaptation priorities, from climate-resilient agriculture to disaster risk management, are grounded in gender-responsive strategies.
- Ensure at least 20% of disbursed grant-based climate finance is accessible to women's cooperatives, smallholder farmers, and entrepreneurs by 2035.
- Build capacities of gender focal points in climate finance mechanisms as well as private sector sector with the objective of scaling up finance for gender responsive climate action.

Actions and Policy Measures

The following actions and policy measures shall be taken to meet the targets:

- Conduct at least 10 training and capacity building initiatives per year, beginning 2026, to strengthen the technical skills, leadership abilities, and climate knowledge of women and other vulnerable groups, including persons with disabilities, especially in the area of climate-smart agriculture, clean cooking technologies, renewable energy system installation, forest conservation, sustainable fisheries management, waste management, WASH, integrated water management, and clean mobility.
- Ensure that women's participation in the implementation of the NDC is guided by the asset-based "Three-Lens Approach," which views women as beneficiaries, partners, and leaders in climate action.
- In collaboration with UN-Women and other development partners, develop and implement a Gender Equality and Social Inclusion (GESI) Toolkit for NDC 3.0 projects. The toolkit will provide practical guidelines, checklists, and templates to ensure that all sectoral climate actions are designed, budgeted, implemented, and monitored in a gender-responsive manner, with a focus on achieving equitable outcomes for women, men, girls and boys.
- Establish a dedicated climate finance window within the national climate finance architecture to support women-led and women-inclusive climate initiatives with simplified application processes, technical assistance for proposal development, and other measures to remove barriers that exclude women from funding opportunities.
- Design and launch a multi-year "Women in Green Technology" training and mentorship program. This program will provide technical skills and business support to women and youth in climate-smart agriculture, installation and maintenance of renewable energy systems (e.g., solar for irrigation and household use), clean cooking technologies, sustainable waste management (e.g., composting and recycling), and climate-resilient construction.

Youth
Targets
Liberia remains exceptionally vulnerable to climate change and those who are most affected include young people, women, children, and PWDs. Historically, their involvement in decision-making processes related to combating climate change has been minimal. This pattern has seemingly contributed to deepening vulnerabilities, limiting opportunities for participation and leadership in climate action. NDC 3.0 acknowledges the commitment made in the Universal NDC Youth Clause and incorporates these into this version of the NDC. It does not only acknowledge this group, but embeds concrete, measurable actions to guarantee their full participation, leadership, and equitable benefit in climate mitigation and adaptation. The targets include: • By 2035, ensure that at least 40 percent of agricultural financing is directed toward initiatives led by youth, especially in rural and climate-vulnerable communities. • By 2027, a youth representative will be appointed to the NCCSC as a means of giving a voice to the next generation at the highest level of decision-making for climate change. • By 2035, create at least 5,000 new green jobs across the waste management, renewable energy, and agriculture sectors.
Actions and Policy Measures
The following actions and policy measures shall be taken to meet the targets: • Ensure that at least 1 young person is represented on the forest management bodies at the national and local levels by 2027. • By 2035, train more than 5,000 youth will be trained on climate actions including renewable energy technology development, forest conservation, waste management, coastal ecosystem adaptation techniques, WASH, integrated water management, clean mobility, etc. • By 2028, establish a **National Climate Youth Innovation Fund** to finance youth-led solutions in agriculture, forestry, energy, and WASH. • In collaboration with UN-Women and civil society partners, design and implement a "Women and Youth Mentorship Program for Climate Leadership." This program will connect young people with experienced female leaders in climate-sensitive sectors to build capacity, promote intergenerational knowledge transfer, and secure a pipeline of female youth leaders for future decision-making roles.

Children
Targets
Children in Liberia are particularly vulnerable to environmental harm and climate change due to several factors. Many families in rural Liberia rely on farming for their livelihoods, and when harvests fail, they struggle to afford school fees, leading to increased dropout rates among children. Additionally, climate-related disasters such as floods can destroy schools and infrastructure, making education even more inaccessible. Young people in Liberia have been advocating for greater inclusion in climate action discussions, emphasizing that they are among the most affected by environmental changes. The Targets include:

- By 2035, climate change mainstreamed into 100% of primary and secondary school curricula; at least 50% of schools have emergency preparedness plans in place.
- By 2035, reduce climate-related disease outbreaks (like cholera) among children by 50% by 2035.
- Establish a shock-responsive cash transfer that reaches at least 100,000 children during climate emergencies by 2027.
- Protect 500 water points from flood contamination in vulnerable communities within 5 years (2025-2035).
- By 2035, at least 40% of schools will have climate-resilient water and sanitation facilities.

Actions and Policy Measures

The following actions and policy measures shall be taken to meet the targets:

- Develop a pipeline of adaptation projects focusing on children (such as climate-resilient schools) to submit to the Green Climate Fund or Adaptation Fund. The government should work with UNICEF and partners to cost these interventions and include them in NDC investment plans.
- Conduct age-disaggregated vulnerability assessments to reflect systemic disadvantages faced by younger populations (poor nutrition, lack of adaptive capacity).
- Track specific indicators of children's resilience (e.g. school days lost to climate events, child morbidity in heatwaves, coverage of child social protection). The progress reports such as the NDC implementation reports or the annual Climate Change reports must have a section on children and youth.
- By 2035, promote policy and programmatic measures that ensure climate resilience projects in vulnerable communities systematically incorporate structured child participation through platforms such as school clubs, child parliaments, and community dialogues.

WASH

Targets

Liberia's critically low WASH access, only 75% for basic water, 23% for sanitation, 35% open defecation is systemically worsened by climate change, degrading both infrastructure and access to services. Extreme weather events, such as floods, and heavy rainfalls, storms damage WASH infrastructure, reducing the availability of clean water and sanitation facilities. This strains already limited resources, heightens disease risks, and forces vulnerable groups like women/girls into longer, more dangerous water collection journeys. The collision of inadequate coverage and escalating climate shocks creates cascading humanitarian and development crises. The Targets include:

- Scale basic sanitation across the country while improving safely managed sanitation to 50% by 2029, and 60% by 2035.
- Expand basic water access to 90% and safely managed drinking water access to 65% by 2029, emphasizing underserved rural and peri-urban areas.

- Ensure that at least 30% of urban and peri-urban populations benefit from climate-resilient sanitation systems, capable of withstanding extreme weather events and environmental stressors by 2029.
- Climate-proof 500 critical water points/systems in vulnerable communities by 2035, including protection from floods, potential droughts, and contamination through appropriate infrastructure upgrades and adaptive measures.
- Implement nationwide hygiene behavior change campaigns (handwashing, water safety, etc.) in 70% of climate-vulnerable districts, prioritizing informal settlements, and cholera and malaria hotspots.

Actions and Policy Measures

The following actions and policy measures shall be taken to meet the targets:

- Develop adaptation projects, costing interventions with partners (e.g., UNICEF) for NDC investment plans and increase public funding to deploy solar-powered water systems.
- Implement the Revised National WASH Strategy and the Climate Rationale national plan to scale up climate adaptation solutions (e.g., flood-proof sanitation) and expand private sector participation in sanitation markets.
- Promote community-led Climate-Resilient Water Safety Plans and adoption of inclusive and context-appropriate technologies for participatory water/sanitation management.
- Integrate WASH Targets in Liberia's NAP ensuring clear resilience benchmarks (e.g., % of climate-proofed water points).
- Ensure WASH infrastructure upgrades are included in Disaster Risk Reduction and emergency preparedness protocols.

LOSS AND DAMAGE

Liberia is increasingly facing the harsh realities of climate change, including sea-level rise, accelerated coastal erosion, more intense rainfall, and prolonged dry seasons. These impacts are already inflicting both economic and non-economic losses on lives, livelihoods, infrastructure, ecosystems, and cultural heritage—particularly in vulnerable coastal communities.

According to UNDP (2019), climate risk assessments confirm that climate change is undermining the productivity of Liberia's agriculture, forestry, and fisheries sectors, along with their supply chains. For example, agriculture is being disrupted by crop losses and failures linked to extreme weather events, shifting rainfall patterns, flooding, rising temperatures, and the spread of pests, weeds, and pathogens. These hazards are driving food insecurity and the loss of livelihoods in many communities.

Actions and Policy Measures

- Develop a National Loss and Damage strategy aligned with the Warsaw International Mechanism and its bodies (Executive Committee, Santiago Network for Averting, Minimizing and Addressing Loss and Damage, and the Loss and Damage Fund).
- Request technical assistance from the Santiago Network to do a comprehensive national risk assessment for slow onset (sea-level rise) and extreme events (flood).
- Set up a Loss and Damage Registry at the National Disaster Management Agency/Environmental Protection Agency of Liberia to document climate-related losses (both economic and non-economic).
- Incorporate loss and damage into national disaster frameworks.
- Seek international funding for Loss and Damage through the Loss and Damage Fund and other multilateral and bilateral sources.

3.5. Fairness and Ambition of Liberia's Contributions

Liberia aspires to achieve net-zero emissions by 2050, in line with its 2015 INDC commitment, conditional on adequate support. The NDC 3.0 reflects a concerted effort to align the country's climate commitments with the principles of the Paris Agreement, demonstrating both fairness and increasing ambition despite the country's limited capacity and significant development challenges. As a Least Developed Country (LDC) with negligible global greenhouse gas (GHG) emissions, which are estimated at just 0.03% of the global total, Liberia's updated NDC highlights a strong moral commitment to climate action (UNFCCC, 2024).

Fairness in Liberia's NDC 3.0 is evident in its emphasis on equity, historical responsibility, and capability. The country underscores its minimal historical contribution to climate change and its high vulnerability to climate impacts, particularly in coastal areas, agriculture, and health sectors. Despite this, Liberia pledges mitigation actions, including a 64% reduction in GHG emissions under this NDC and the National Development Plan (or AAID). This approach balances national circumstances with global expectations and adheres to the principle of common but differentiated responsibilities (CBDR).

Ambition is shown through sectoral expansion and integration of cross-cutting priorities. Compared to its NDC 2.0, Liberia's 3.0 submission expands mitigation efforts beyond forestry and energy to include transport and waste management and introduces measurable co-benefits for adaptation. The inclusion of gender, children, youth, and local communities' engagement, etc also marks a progressive shift toward inclusive climate governance.

Given this context, Liberia's NDC is both fair and ambitious, setting a strong example of leadership from the Global South despite structural limitations. However, the full realization of Liberia's NDC 3.0 is highly dependent on external finance, capacity building, and technology transfer. The conditionality of most of its targets underscores the need for international cooperation to bridge the gap between ambition and implementation.

Adaptation Ambition

- Adaptation is mainstreamed across freshwater, agriculture, fisheries, health, energy, coastal protection, waste, and forestry sectors.
- Liberia aims to strengthen climate-resilient infrastructure, early warning systems, and local governance structures.
- The country is also improving its Monitoring, Reporting, and Verification (MRV) systems and tracking climate finance which are signs of institutional ambition.

Implementation Readiness

- The NDC 3.0 presents a costed implementation plan, though much of it is conditional upon receiving climate finance, technology transfer, and capacity building.
- Liberia also aligns its NDC with its National Adaptation Plan (NAP) and Long-Term Low Emissions Development Strategy (LT-LEDS).

3.6. Alignment to international conventions

Liberia's NDC 3.0 demonstrates strong alignment with key international environmental frameworks, reflecting the country's commitment to sustainable development and climate resilience. This alignment is evident across several major conventions, including the Rio Conventions, the Sendai Framework for Disaster Risk Reduction, the Montreal Protocol, and other multilateral environmental agreements (MEAs).

First, Liberia's NDC 3.0 integrates the objectives of the **Rio Conventions,** which include the UN Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD), and the UN Convention to Combat Desertification (UNCCD). The NDC includes adaptation and mitigation measures such as forest conservation, sustainable agriculture, and ecosystem restoration, which directly support biodiversity preservation and combat land degradation (EPA Liberia, 2023). This cross-cutting approach reflects the principles of the Rio Conventions, particularly through Liberia's commitment to reducing emissions by 64% by 2035 compared to BAU levels, partly through REDD+ initiatives and forest sector reforms (UNFCCC, 2023).

In line with the **Sendai Framework for Disaster Risk Reduction (2015–2035)**, Liberia's NDC 3.0 emphasizes enhancing national resilience to climate-induced disasters such as floods, droughts, and coastal erosion. The NDC outlines strategic investments in early warning systems, climate-smart agriculture, and resilient infrastructure, aligning with Sendai's priorities of understanding disaster risk, strengthening governance, and investing in risk reduction (UNDRR, 2015).

Regarding the **Montreal Protocol**, Liberia's NDC acknowledges the importance of phasing out ozone-depleting substances and transitioning to low-global warming potential (GWP) alternatives. The integration of hydrofluorocarbon (HFC) management strategies and energy-efficient cooling technologies within its mitigation plans aligns with the Kigali Amendment's objectives, supporting both climate and ozone layer protection (UNEP, 2022).

Liberia's NDC 3.0 is consistent with broader **Multilateral Environmental Agreements (MEAs)** such as the Paris Agreement and the Sustainable Development Goals (SDGs). Its emphasis on gender equity, indigenous participation, and green jobs contributes to SDG targets while ensuring that climate action is inclusive and just. The NDC also references commitments

under the Minamata Convention on Mercury and the Basel Convention on hazardous waste, indicating efforts to minimize environmental health risks (EPA Liberia, 2023).

In summary, Liberia's NDC 3.0 is a holistic and integrated framework that advances national priorities while honoring its obligations under major international environmental agreements. This underscores the country's role as a proactive partner in global climate governance.

3.7. Liberia's Climate and Development Nexus: NDC and SDG Alignment and Interlinkages

Liberia's climate commitments under the Paris Agreement and its development ambitions under the Sustainable Development Goals (SDGs) are deeply interconnected. The NDC 3.0, guided by the **ARREST Agenda for Inclusive Development**, offers a unified framework for advancing inclusive, resilient, and low-carbon growth. Liberia's pledge to reduce greenhouse gas emissions by **64% by 2035**—with **10% unconditional** and **54% conditional** on international support—is not only a climate imperative but a strategic development opportunity. Climate actions such as expanding renewable energy, promoting low-carbon agriculture, and protecting forests and biodiversity are designed to deliver co-benefits across multiple SDGs.

3.7.1. Alignment of NDC 3.0 with SDGs

The NDC x SDG Insights Analysis conducted with the support of UNDP highlights how Liberia's climate commitments are deeply interwoven with its sustainable development goals. Through targeted acceleration pathways, the country is driving inclusive growth and resilience. Investments in renewable energy, sustainable agriculture, and forestry are creating decent jobs and economic opportunities (SDG 8). Climate-smart agriculture is helping reduce poverty and hunger (SDGs 1 & 2). Expanding solar, hydro, and resilient transport infrastructure supports clean energy and innovation (SDGs 7 & 9). Gender-responsive finance and WASH initiatives promote equity and inclusion (SDGs 5 & 6), while forest conservation and ecosystem restoration protect natural capital (SDGs 13 & 15). These synergies ensure that every climate dollar invested delivers multiple SDG dividends; advancing jobs, health, equity, food security, and resilience.

3.7.2. Integrated SDG Pathways: Accelerating Progress through NDCs

Liberia focuses on an integrated approach to climate and development planning so that the NDC implementation can serve as a catalyst for achieving the SDGs. Primarily, there are two integrated pathways for the country that links NDC actions and SDG priorities with the highest potential to accelerate development outcomes:

- **SDG Target 8.4**: *Improve resource efficiency in consumption and production.*

Liberia's focus on sustainable agriculture, renewable energy, and waste management directly supports more efficient use of natural resources and reduces environmental degradation.

- **SDG Target 8.5**: *Achieve full and productive employment and decent work for all, with equal pay.*

Climate-smart investments in agriculture and energy sectors are expected to stimulate job creation, particularly for women and youth, while addressing systemic inequalities in employment and wages.

By aligning climate actions with national development priorities and focusing on high-impact SDG targets like 8.4 and 8.5, Liberia is charting a path toward a more sustainable and equitable future.

4. MEANS OF IMPLEMENTATION

To fully implement Liberia's mitigation and adaptation actions under its NDC 3.0, adequate, predictable, and sustainable financial support and mechanisms are needed. The NDC 3.0 Costing and Cost-Benefit Analysis, along with the Investment Plan, will be developed subsequently after the launch of the NDC. Results garnered from the plan and analysis will inform the means of implementation from a cost perspective, including implementation of conditional and unconditional targets.

Liberia intends to mobilize funds, including the establishment of a dedicated climate finance window to support women-led and women-inclusive climate initiatives, thereby addressing the specific financial barriers faced by women in accessing climate action funding.

Liberia also plans to develop a tracking system to analyze the support (finance, technology transfer, and capacity building) for implementation. The country will consider inclusion of international carbon market mechanisms, based on the National Carbon Development Policy (as and when endorsed), and cooperative approaches under Article 6 of the Paris Agreement, as these economic instruments, supported by appropriate accounting systems (i.e., MRV systems), can be used to help finance low-carbon and climate-resilient investments. Liberia considers that some low-carbon development options in the NDC, or additional actions, could be financed in full or in part, through the transfer of international carbon credits/assets or results-based financing, in line with the guidance and requirements to be agreed in the carbon policy and Article 6, considering environmental integrity and transparency.

Liberia recognizes that its system of Monitoring, Reporting, and Verification (MRV) is a fundamental pillar of its NDC 3.0 for the purpose of transparency and accountability. The MRV system for the NDC 3.0 will build upon existing structures for monitoring and evaluation (M&E) and inter-sectoral coordination. In this regard, the country will require further support to ensure that its MRV system is strengthened to track progress toward the implementation of the NDC 3.0, including non-GHG co-benefits. Specifically, support is required to strengthen data indicators for tracking mitigation and adaptation measures, data collection tools and systems, emissions estimation tools and methodologies, quality assurance and quality control procedures, as well as institutional arrangements and responsibilities. Liberia also plans to develop a tracking system to analyze the support (finance, technology transfer, and capacity building) needed and received for the NDC implementation.

Liberia will update the Implementation Plan for NDC 2.0, incorporating new interventions that support the attainment of mitigation and adaptation targets under this NDC 3.0 (subject to funding from external partners and the national government). The NDC 3.0 Implementation Plan will provide the timeframe for implementation and detail the short and long-term actions required to reach the climate mitigation and adaptation goals. The Plan will integrate all relevant elements required for Liberia to achieve its NDC 3.0, including the enabling

conditions, policy frameworks, institutional arrangements, climate-related MRV systems, gender equality and social inclusion, and financing strategies.

The Implementation Plan will establish a clear logical framework that defines outcomes, outputs, and activities, including within sectoral plans, and describe vital enabling conditions for the NDC implementation based on an analysis of key barriers and gaps (new or improved policies and regulations, capacity-building, technical assistance, awareness raising, etc.).) It will also describe the roles and responsibilities of relevant institutions and institutional frameworks in NDC implementation, reporting, coordination, support, and finance. Further, it will include a description of the MRV systems that will track progress toward achievement of the NDC targets.

5. MONITORING, REPORTING AND VERIFICATION (MRV).

When the Government of Liberia submitted the updated NDC 2.0 on August 4, 2021, it established the NDC coordination structure for the implementation of NDC, tracking, and reporting of progress. The EPA and the Ministry of Finance have dedicated NDC Focal Points. The two Focal Points work alongside the NDC Coordinator to directly coordinate all activities, including reporting, verification, and monitoring for each NDC sector. Monthly and quarterly reporting is required of these NDC Focal Points. Reports received on the implementation of mitigation and adaptation targets are analyzed, reviewed, and assessed. Thereafter, once confirmed and certified, the data is imported into the national system, constituting official reporting of achievement.

The NDC secretariat has undergone strategic changes, improving efficiency, accountability, operationalization, and effectiveness. Additionally, the secretariat has designated, trained, and equipped focal persons from NDC sector ministries/agencies to collect, verify, and report data on the implementation of the NDC targets. Supported by a small team, the coordinator and the secretariat have put in place a system for evaluating the data to ensure integrity and prepare regular updates of NDC implementation to the government and its partners. The current tool available for producing monthly and quarterly reports is the NDC Partnership Online Tool.

The Government of Liberia in collaboration with CI-GEF, has developed a GEF project proposal to further enhance the robustness of the existing frameworks, processes and systems and enhance transparency and accountability related to NDC implementation. This proposal aims to equip the NDC secretariat in the transparent monitoring and reporting of Liberia's NDC 3.0. The project seeks to strengthen National Greenhouse Gas Inventory (GHGI) system to consistently feed the national Measuring, Reporting, and Verification (MRV) system to meet ETF reporting requirements, establish functional data-sharing cooperation frameworks between relevant institutions, and strengthen the technical capacities of NDC sectoral Focal Points for implementing, monitoring and reporting of NDC measures.

The MRV system will incorporate the Monitoring, Evaluation, and Learning (MEL) Framework developed by the EPA to track and report on adaptation-related projects and activities under the Liberia's National Adaptation Plan. The sectoral M&E officers are trained in using the MEL framework to track and report on adaptation-related activities for the NAP and the NDC. As part of NAP related activities, the Government of Liberia is considering a proposal to appoint an adaptation MEL coordinator to lead the coordination of work at national level, across sectors. A key recommendation is to establish a single, coordinated system for MEL and report on climate change adaptation.

To ensure inclusive and gender-responsive reporting, the strengthened MRV system will integrate a gender perspective. This will involve the collection and analysis of gender-disaggregated data across all relevant sectors, and the development and formal inclusion of specific indicators to track women's participation and access to resources in all national climate reports.

6. INFORMATION TO FACILITATE CLARITY, TRANSPARENCY AND UNDERSTANDING (ICTU) OF THE NDC 3.0

1.Quantifiable information on the reference point (including, as appropriate, a base year)	
(a) Reference year, base year, reference period or other starting points	Base year for GHG emissions: 2022 Reference year for Business-as-Usual GHG emissions: 2022 Liberia's NDC 2.0 used 2015 as its base year, with emissions recorded at 5,695 GgCO2e. However, the 2022 inventory, prepared for the country's Third National Communication and first Biennial Transparency Report, estimated emissions at 12,471 GgCO2e. This significant increase in emissions in 2022 compared to 2015 is attributed to more comprehensive source coverage, better data quality, and more robust methodologies. Consequently, Liberia has decided to revise its base year to 2022.
(b) Quantifiable information on the reference indicators, their values in the reference year, base year, reference period and or other starting points and as applicable in the target year.	The revision of base year from 2015 to 2022 necessitated a recalculation of its BAU and mitigation scenarios as well as its GHG emissions reduction targets. Consequently, reference indicators are as below: • Total GHG emissions in 2022: 12,471 Gg CO2e • BAU GHG emissions estimated in target year (2035): 55,507.41 Gg CO2e
(c) For strategies, plans and actions referred to in Article 4, paragraph 6, of the Paris Agreement, or polices and measures as components of nationally determined contributions where paragraph 1(b) above is not applicable, Parties to provide other relevant information.	Not Applicable
(d) Target relative to the reference indicator, expressed numerically, for example in percentage or amount of reduction	Liberia reaffirms its commitment to reducing its economy-wide greenhouse gas emissions by **64%** below the projected business-as-usual (BAU) level by 2035. Based on the new BAU baseline, revised 2035 targets are: • Unconditional Target for 2035: An emissions reduction of 5,551 $GgCO_2e$, equivalent to a 10% reduction from the BAU scenario. • Conditional Target for 2035: A more ambitious reduction of 29,974 $GgCO_2e$, equivalent to a 54% reduction from the BAU scenario, contingent on receiving international support.

(e) Information on sources of data used in quantifying the reference point:	For the economy wide GHG emissions reduction target, quantifiable information is based on: (1) the GHG inventory presented in Liberia's First Biennial Transparency Report (BTR1) which covers GHG emissions from 2019-2022. The BTR1 includes details about the data sources used for the GHG inventory. National data was used where available, with international data used only to supplement national data gaps. (2) the Business-as-Usual scenario projections for the period 2022-2035 presented in the Report of GHG modeling for Liberia NDC 3.0 developed in 2025. The BAU scenario uses national data were available, with international data used to supplement national data gaps, as follows: • Historical data such as population, number of Household, GDP, energy demand and consumption at both households and industries, electricity production and GHG emissions are sourced from LISGIS LPHC reports, Liberia's National Energy Compact, Liberia BUR1 and GHG inventory report prepared for the First Biennial Transparency Report (BTR1) and Liberia's revised NDC 2021. • Macroeconomic and demographic data and variables were taken both from national and international data sources such as LISGIS LPHC reports, National Energy Compact, World bank and United National Population data. These Key assumptions include projections for population growth, GDP, urbanization rates, future energy expansion plan and household size, which service as the core drivers for future energy demand in all scenarios. Data on Energy supply taken from the Liberia Energy Regulatory Commission (LERC) annual report and other reports..
(f) Information on the circumstances under which the Party may update the values of the reference indicators:	Consistent with paragraph 28 of Annex 1 to Decision 18/CMA1 and the IPCC good practice guidance, Liberia is dedicated to improving the quality of its National GHG inventory and GHG Inventory system and will make recalculations to the inventory time series as needed to reflect the latest data and to maintain methodological consistency over time. Throughout the development of the NDCs 3.0 process, the reference year and GHG Inventories were recalculated and updated according to the 2006 IPCC Guidelines. The reference indicators and Inventory might be recalculated and updated through: • Continuous improvement in the methodological approach to the baseline or the mitigation scenarios; • Available country-specific data • Improvement in the activity data by virtue of the enhancement of the national statistics; • Application of higher methodological tier from the 2006 IPCC Guidelines for National Greenhouse Gas Inventories; • Update or new national emission factors; • Reduction of uncertainty in the national GHG inventory; • Update of the national GHG inventory according to the 2019 IPCC Guidelines for National Greenhouse Gas Inventories.
2. Timeframe and or period of implementation	

(a) Time frame and period of implementation	The implementation of efforts to reduce GHG emissions through proposed mitigation actions and targets across various sectors will require years starting **2026 to 2035.**
(b) Whether it is a single-year or multi-year target, as applicable	Single year target
3. Scope and Coverage	
(a) General description of the target:	Liberia commits to reducing its economy-wide greenhouse gas emissions by 64**%** below the projected business-as-usual (BAU) level by 2035 through a combination of the following: unconditional 10% resulting in an absolute emissions level of 5,551 $GgCO_2e$ in 2035; with an additional 54% conditional upon international support, which would result in absolute emissions level of 29,974 $GgCO_2e$ in 2035.
(b) Sectors, gases, categories and pools covered by the nationally determined contribution, including, as applicable, consistent with Intergovernmental Panel on Climate Change (IPCC) guidelines;	The Liberia's NDC is economy-wide goal to reduce emissions relative to the BAU baseline. It reflects and includes all anthropogenic emissions and removals as reported in the GHG Inventory as contained in the First Biennial Update Report, and specifically includes: ▪ All of these sectors - Energy, Transport, AFOLU and Waste as defined by the IPCC 2006 guidelines; ▪ Greenhouse gases included in the IPCC 2006 guidelines, specifically, CO2, CH4 and N2O ▪ All categories under the above sectors, as included in the IPCC 2006 guidelines, occurring in Liberia and for which data is available ▪ All carbon pools, as included in Volume 5 of the IPCC 2006 guidelines.
c) How the Party has taken into consideration paragraphs 31 (c) and (d) of decision 1/CP.21:	Liberia continues to use the methodologies contained in the IPCC 2006 guidelines for reporting its National GHG inventories in all the communications including the NCs, BUR, BTR and NDCs. The methodologies used in these reports are from Tier 1 using the default emission/removal factors. In general, each method was applied based on the availability of data and analysis of key categories. All required sectors and categories have always been reported. All gases have been reported in various communications except where there is data gap. This NDC 3.0, reports all gases except hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6) due to the lack of accurate data and the lack of evidence of their in-country occurrence. Liberia, as a developing country encountered data gaps during preparation of the national GHG inventory that prevented inclusion of all GHG sources and sinks, including: • The lack of Activity Data for key sources (energy data, AFOLU, waste, etc.), in some cases, the available data vary in formats, not in the format required for GHG inventory. • Emissions for some categories have not been estimated due to lack of Activity Data and time. Liberia is striving to include all GHG sources and sinks via ongoing processes to update and improve its GHG inventory systems, especially via the CBIT project.
(d) Mitigation co-benefits resulting from Parties' adaptation actions and/or	The Liberia's Mount Coffee Hydropower Project is one of the sources of revenue for Liberia's economic development and diversification plans. Even though its production potential is impacted by climate change during the dry

economic diversification plans, including description of specific projects, measures and initiatives of Parties' adaptation actions and/or economic diversification plans.	season but it remains a potential source of revenue and production of clean energy for Liberia. Government of Liberia's plan to address climate change and enhance economic development, developed and adapted the National Renewable Energy Action Plan (NREAP) of Liberia, which integrates national climate change resilience and mitigation. Moreover, the Liberia Rural Renewable Energy sector Projects (LRRESP), National Energy Compact and the West African Power Pool (WAPP) – Cote D'Ivoire – Liberia – Sierra Lone – Guinea (CLSG) interconnection project provide significant economic benefits and enhance Liberia's adaptation and mitigation and boost energy security and promote the Country clean energy provision.	
4. Planning Processes **(a) Information on the planning processes that the Party undertook to prepare its nationally determined contribution and implementation plans, including: domestic institutional arrangements, public participation and engagement with local communities and indigenous peoples, in a gender-responsive manner.**		
(i) Domestic institutional arrangements, public participation and engagement with local communities and indigenous peoples, in a gender-responsive manner	Liberia NDC 3.0 revision process began with desk review which generated the Joint Analysis report which was used specifically to engage sectorial stakeholders and other national stakeholders. The Joint Analysis report considered existing and Proposed Sectors for Updating Liberia's Nationally Determined Contributions which was conducted by the government and its partners to kick-start and guide the Liberia's NDC revision process. The process considered series of stakeholder at different levels as follows; Technical/Expert Group meeting, Youth and Gender Dialogues, Private sector meeting, and regional engagements and validations.	
(ii) Contextual matters, including, inter alia, as appropriate: National circumstances, such as geography, climate, economy, sustainable development and poverty eradication;	a. National circumstances, such as geography, climate, economy, sustainable development and poverty eradication	Liberia is located on the Atlantic Coast in the southern part of West Africa and lies between longitudes 7°30` and 11°30` west and latitudes 4°18` and 8°30` north. The country covers 111,369 km^2 and has borders with Côte d'Ivoire to the east, Sierra Leone to the west, Guinea to the north, and to the south by the Atlantic Ocean. Liberia's population was 5.25 million people in 2022 as reported by LISGIS in 2023. The country's population is projected to reach at 10.3 million by 2050, with more than 70% of the population living in coastal cities, including Monrovia, Liberia's capital. The country's economy has experienced high growth since 2006 despite a decline from 2008 to 2010 largely attributed to the global financial crisis. The economy rebounded in 2011 with a combined increase in economic activities from the agriculture, forestry and fisheries sectors contributing 41% of the GDP and providing employment for 47% of the labor force. These sectors were driven by increased exports, especially in forestry, fisheries and rubber, followed by subsistence production of cassava and rice. The emergence of the Ebola Virus Disease (EVD) in 2014, coupled with the global economic meltdown, resulted

		in numerous challenges and subsequent decline in the country's economy between 2015 and 2018.Liberia's economy was projected to rebound in 2020 but due to the global COVID-19 pandemic, there was a further decline. Real GDP growth in 2020 was projected to rebound to 1.4 percent; with said growth driven mostly by increased activities in both mining and non-mining sectors. Moreover, the rebound momentum was projected to continue in the medium term (2021 – 2024) with growth averaging around 4.4 percent.
	b. Best practices and experience related to the preparation of the nationally determined contribution;	The NDC revision process was concluded with the hosting of three regional validation workshops across Liberia aimed to review and validate the agreed targets and measures as proposed and developed by stakeholders during the revision processes. These validation workshops were held respectively in Buchanan, Tubmanburg and Gompa cities and brought together participants from across the length and breadth of Liberia to review and validate the final NDC for onward submission to the Secretariat of the UNFCCC. The overall goal of the regional review and validation workshops was to formally present the draft revised NDC report, as developed through stakeholders' participation, to regional stakeholders across Liberia for their review, confirmation, inputs and endorsement ahead of the national validation and subsequent approval by the Cabinet. This goal was achieved at the end of the three workshops which saw the overwhelming endorsement of the draft revised NDC report by key regional stakeholders representing the 15 political sub-division of Liberia.
	c. Other contextual aspirations and priorities acknowledged when joining the Paris Agreement;	Liberia NDC revision was based on information collected on literature review and information generated during workshops and meetings. The followings are national instruments used; Liberia's revised NDC (2021), all reports from the NDC revision process, all technical reports on all sectors identified for the NDC,3.0 sectorial analysis reports, other cross cutting NDC workshop reports, National Policy and Response Strategy on Climate Change (2018), Liberia's Second National Communication, State of Environment Reports, Liberia's first Biennial Update Report (BUR-1), etc.
(b) Specific information applicable to Parties, including regional economic integration organizations and their member States, that have reached an agreement to act jointly under Article 4, paragraph 2, of the Paris Agreement	Not applicable	

c) How the Party's preparation of its nationally determined contribution has been informed by the outcomes of the global stocktake, in accordance with Article 4, paragraph 9, of the Paris Agreement;	Not applicable	
(d) Each Party with a nationally determined contribution under Article 4 of the Paris Agreement that consists of adaptation action and/or economic diversification plans resulting in mitigation co-benefits consistent with Article 4, paragraph 7, of the Paris Agreement to submit information on:	(i) How the economic and social consequences of response measures have been considered in developing the nationally determined contribution;	Not applicable
	ii) Specific projects, measures, and activities to be implemented to contribute to mitigation co-benefits, including information on adaptation plans that also yield mitigation co-benefit.	Not applicable
5. Assumptions and methodological approaches, including those for estimating and accounting for anthropogenic greenhouse gas emissions and, as appropriate, removals		
(a) Assumptions and methodological approaches used for accounting for anthropogenic greenhouse gas emissions and removals corresponding to the Party's nationally determined contribution, consistent with decision 1/CP.21, paragraph 31, and accounting guidance adopted by the CMA.	The methodologies and assumptions used for accounting for anthropogenic greenhouse gas emissions and removals have been those recommended by IPCC 2006 Guidelines for National Greenhouse Gas Inventories. All the methodologies and tools recommended by IPCC within the inventory cycle have been followed according to the 2000 IPCC Good Practice Guidelines. Generally, the inventory has been compiled using tier 1 methodology. Global Warming Potentials (GWP), as recommended by the IPCC, have been used to convert GHGs other than CO2 to the latter equivalent. As per the requirements from decision 17/CP.8, the values adopted were those from the IPCC Second Assessment Report for the four main GHGs, namely: Carbon dioxide, Methane (21) and Nitrous Oxide (310). The estimates of emissions and removals used in accounting for the NDC are those reported in the Inventory, which follows IPCC good practice guidance and the guidance included in Section II of the Annex to 18/CMA1.	
(b) Assumptions and methodological approaches used for accounting for the implementation of policies and measures or strategies in the nationally determined contribution	In addition to the overall methodologies in 5a above, policies measures and strategies in the NDC were guided by 2006 IPCC guidelines and additional approaches for the Liberia's NAMA plan. Policies, measures, and strategies in sectors are described within the respective strategy documents: ▪ Forest related policies and measures are described in the Revised National REDD+ Strategy. ▪ Energy related policies and measures are described in the National Energy Compact and other related plan such as National Renewable Energy Action Plan (NREAP)	

(c) If applicable, information on how the Party will take into account existing methods and guidance under the Convention to account for anthropogenic emissions and removals, in accordance with Article 4, paragraph 14, of the Paris Agreement, as appropriate	As described in 5a above.	
(d) IPCC methodologies and metrics used for estimating anthropogenic greenhouse gas emissions and removals	In accounting for the NDC, Liberia uses the IPCC 2006 guidelines and the 100-year global warming potential from AR6, for estimating anthropogenic emissions and removals. All the methodologies and tools recommended by IPCC within the inventory cycle have been followed according to the 2000 IPCC Good Practice Guidelines. Generally, the inventory has been compiled using tier 1 methodology except for the solid waste category tier 2 was applied. Global Warming Potentials (GWP) as recommended by the IPCC, have been used to convert GHGs other than CO2 to the latter equivalent. Consistent with Good Practice in the 2006 IPCC guidelines, as much as possible, Liberia has used available official national statistics for the inventory. Where country-specific AD is not available, data from recognized international organizations (FAO, AU, ITTO, IEA) has been used to fill the gap. Some data gaps were filled through personal contacts and from results of surveys, scientific studies and by statistical modelling. Local experts' knowledge was resorted to as the last option. Thus, data collected at the national level from numerous public and private institutions, organizations and companies, and archived by the EPA/LISGIS provided the basis and starting point. In a few isolated cases, due to the restricted timeframe and the inexistence of a declared national framework for data collection and archiving to meet the requirements for preparing GHG inventories, derived data and estimates were made to fill in the gaps. These were considered reliable and sound since they were based on scientific findings and other observations. Not all the AD required to compile an exhaustive GHG inventory could be collected due to the short timeframe or absence of a proper data collection and archiving system, and some categories could not be assessed due to the civil conflict. Nevertheless, the data collected was used to make estimates that are of good quality.	
(e) Sector-, category- or activity-specific assumptions, methodologies and approaches consistent with IPCC guidance, as appropriate, including, as applicable	(i) Approach to addressing emissions and subsequent removals from natural disturbances on managed lands	Liberia will continue to adopt the approach of the 2006 IPCC guidelines and its subsequent versions as may be provided consistent with the NDC reporting requirements.
	(ii) Approach used to account for emissions and removals from harvested wood products	For the National GHG inventory, the IPCC 2006 guidelines on the forest sector were followed.

	(iii) Approach used to address the effects of age-class structure in forests;	For the National GHG inventory, the IPCC 2006 guidelines on the forest sector were followed.
(f) Other assumptions and methodological approaches used for understanding the nationally determined contribution and, if applicable, estimating corresponding emissions and removals, including:		
(i) How the reference indicators, baseline(s) and/or reference level(s), including, where applicable, sector-, category- or activity-specific reference levels, are constructed, including, for example, key parameters, assumptions, definitions, methodologies, data sources and models used;	The BAU reference scenario is based on the following data: • Socioeconomic data such as population, number of Household, GDP, energy demand and consumption at both households and industries, electricity production and GHG emissions are sourced from LISGIS LPHC reports, Liberia's National Energy Compact, Liberia BUR1 and GHG inventory report prepared for the First Biennial Transparency Report (BTR1) and Liberia's revised NDC 2021. • Macroeconomic and demographic data and variables were taken both from national and international data sources such as LISGIS LPHC reports, National Energy Compact, World bank and United National Population data. These Key assumptions include projections for population growth, GDP, urbanization rates, future energy expansion plan and household size, which service as the core drivers for future energy demand in all scenarios. • Data on Energy supply taken from the Liberia Energy Regulatory Commission (LERC) annual report and others The BAU scenario was modeled for all sectors including Energy, Transport, Agriculture, forestry and other land-use and Waste sectors except for the IPPU using the LEAP software developed by the Stockholm Environment Institute. Key parameters, assumptions, definitions, and methodologies follow the LEAP standard model. Data sources used in the BAU model are detailed in this table in section 1(e).	
(ii) For Parties with nationally determined contributions that contain non-greenhouse-gas components, information on assumptions and methodological approaches used in relation to those components, as applicable;	Not Applicable	
(iii) For climate forcers included in nationally determined contributions not covered by IPCC guidelines, information on how the climate forcers are estimated	Not Applicable	
(iv) Further technical information, as necessary;	Not Applicable	

(g) The intention to use voluntary cooperation under Article 6 of the Paris Agreement, if applicable	Yes (see section 6)
6. How the Party considers that its nationally determined contribution is fair and ambitious in the light of its national circumstances	
(a) How the Party considers that its nationally determined contribution is fair and ambitious in the light of its national circumstances	Liberia is committed to promote the goal of keeping within reach a 1.5-degree Celsius limit on global average temperature increase through its fair and ambitious contributions to reaching net-zero emissions by 2050 and reducing its economy-wide emission to 64% below its Business-As-Usual scenario by 2035. Given the low levels of socio-economic development in the country, these targets are deemed fair and ambitious.
(b) Fairness considerations, including reflecting on equity;	In additional to 6(a) above, Liberia's current GHG emission is near-negligible to the global emissions and Liberia's commitment to reduce its economy-wide emission to 64% is deemed equitable and fair. This is, reflected in the conditionality of the implementation of targets on international support. The country requests equitable transfer of support from international community considering Liberia's fair share and national circumstances.
(c) How the Party has addressed Article 4, paragraph 3, of the Paris Agreement;	The stock-take report of the NDC 2.0 revealed that Liberia has reduced 2,545 $GgCO_2e$ between 2021-2024. As informed by the global stocktake completed in 2024, Liberia has set a very ambitious economy-wide target and contains enhanced actions as compared to the NDC 2.0. As a result of the change in base year from 2015 to 2022, the 64% reduction compared to BAU levels corresponds to three-fold increase in total emission reductions by 2030. The total emission reduction targeted in 2030 in NDC 3.0 is 23,683 GgCO2e as compared to the target in the NDC 2.0 (7,955 GgCO2e). Further, Liberia commits to reducing an additional emission reduction amounting to 11,841GgCO2e by 2035.
(d) How the Party has addressed Article 4, paragraph 4, of the Paris Agreement;	Liberia is committed to continue enhancing its mitigation efforts and has moved toward economy-wide emission reduction targets as detailed in this NDC. NDC 3.0 commits to increasing the total emissions reduction by three times by 2035 compared to NDC 2.0 commitment. The total emission reduction target committed to in NDC 3.0 for 2035 is **35,524 GgCO2e** compared to **7,955GgCO2e** communicated in NDC 2.0.
e) How the Party has addressed Article 4, paragraph 6, of the Paris Agreement.	n/a
7. How the nationally determined contribution contributes towards achieving the objective of the Convention as set out in its Article 2	
(a) How the nationally determined contribution contributes towards achieving the objective of the Convention as set out in its Article 2;	Liberia considers that its revised NDC complies with the goal of Article 2 and the long-term goal of the Paris Agreement, as explained in 6(a) and 6(b above. Liberia climate mitigation ambition to achieve net-zero emissions by 2050 and reduce emissions by 64% compared to BAU levels by 2035 as detailed out in this revised NDC will contribute to the achievement of this Convention.

(b) How the nationally determined contribution contributes towards Article 2, paragraph 2(a), and Article 4, paragraph 1, of the Paris Agreement.	

2

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