LEBANON'S NATIONALLY DETERMINED CONTRIBUTION

NDC 3.0

TARGET YEAR 2035


REPUBLIC OF LEBANON
MINISTRY OF ENVIRONMENT


GREEN
CLIMATE
FUND


UNDP

Executed by

Ministry of Environment (MoE), Lebanon

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Implemented by

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Government of Lebanon (2025). Lebanon's Nationally Determined Contribution. NDC 3.0 – Target year 2035. Climate Change in Lebanon, Ministry of Environment. Beirut, Lebanon.

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Preamble

In accordance with Article 4.9 of the Paris Agreement and Decision 1/CP.21 of the UNFCCC, and pursuant to Law 115/2019 ratifying the Paris Agreement, Lebanon hereby submits its updated Nationally Determined Contribution (NDC 3.0) for the target year 2035.

Informed by Decision 1/CMA.2, which established the guidance for clarity, transparency, and understanding of nationally determined contributions, this NDC 3.0 integrates quantified mitigation targets, sectoral adaptation priorities, and enablers for implementation.

In line with Decision 9/CMA.1, which encourages the integration of Adaptation Communications into NDCs, Lebanon's NDC 3.0 includes a full adaptation component outlining national adaptation priorities and actions, which will be considered as Lebanon's 3rd Adaptation Communication.

In coherence with the Sendai Framework for Disaster Risk Reduction (2015 – 2030), Lebanon integrates disaster risk reduction into its climate adaptation strategy to minimize the impacts of climate-induced hazards.

Recalling the Glasgow Climate Pact adopted at COP26, which calls for urgent action and just transitions to keep the 1.5°C goal within reach, Lebanon's NDC 3.0 also presents enhanced targets and a framework for equitable and resilient development.

Guided by the UAE Consensus reached at COP28, which calls on all Parties to transition away from fossil fuels and strengthen support for adaptation, this NDC reflects Lebanon's commitment to scaling ambition while addressing national vulnerabilities.

Recalling Decision 3/CP.25 on the Enhanced Lima Work Programme on Gender and the Gender Action Plan, as well as the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), Lebanon ensures this NDC is implemented in a gender-responsive, inclusive, and participatory manner.

Recalling Decision 1/CMA.5, paragraph 40, which notes the importance of aligning nationally determined contributions with long-term low greenhouse gas emission development strategies, Lebanon ensures this NDC is consistent with its Long Term - Low Emission Development Strategy and contributes to the country's 2050 vision.

In line with Articles 15 – 20 of the 2025 International Court of Justice Advisory Opinion, which reaffirm States' obligations under international climate treaties and customary law to prevent and mitigate harms to the climate system, particularly from armed conflict and military activities including the destruction of carbon sinks and post-conflict emissions, Lebanon acknowledges the legal imperative to integrate these responsibilities into national climate planning.

Informed by the 2024 Socioeconomic Impact Assessment of the War on Lebanon*, which underscores the interconnectedness of conflict, vulnerability, and climate risk, this NDC reinforces Lebanon's commitment to a climate-resilient and inclusive recovery.

Through this NDC, Lebanon underscores the urgency of addressing climate change and environmental degradation as part of its path to sustainable recovery, social stability, and economic resilience, especially in the wake of compounded crises and recent hostilities.

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* ESCWA; UNDP; UNICEF; ILO; UN-Habitat. (2025, July). The socioeconomic impacts of the 2024 war on Lebanon (ESCWA Flagship Publication E/ESCWA/CL6.GCP/2025/2). Beirut, Lebanon: ESCWA / UNDP. ISBN 978-9211543490

Executive Summary

In accordance with Article 4.9 of the Paris Agreement, Decision 1/CP.21, and Law 115/2019, Lebanon submits its new Nationally Determined Contribution (NDC 3.0) for the target year 2035, reflecting the country's unwavering commitment to addressing climate change through sustainable development, inclusive resilience-building, and systemic reform, despite the nation's ongoing economic, social, and institutional crises.

Lebanon's Nationally Determined Contribution 3.0 outlines the country's priorities and requirements for the coming decade to advance its vision of a resilient, low-carbon future. Prepared over the course of a year through broad-based consultations, the NDC reflects input from a wide range of actors, ministries and agencies, civil society, development partners, academia, and the private sector.

Under the NDC 3.0 Lebanon commits to reduce its national greenhouse gas emissions by **22% as an unconditional target and 33% as a conditional target** compared to a Business-As-Usual scenario (BAU) by 2035. It also commits to increasing renewable energy generation to meet **25% of its electricity demand unconditionally, and 30% conditionally, also by 2035**. This is an increase in its mitigation targets, compared to the previous iteration of the NDC, where Lebanon unconditionally committed to reduce its greenhouse gas emissions targets relative to BAU by 20%, and conditionally reduce by 31%. The target also expands the scope and coverage of the previous GHG target by including F-gases. It is worth noting that the unconditional target includes the impacts of mitigation actions which Lebanon can nationally implement, and through international support in the form of loans or other repayable instruments while the conditional scenario covers the actions under the unconditional scenario, as well as further mitigation actions which can be implemented upon the provision of additional international support in the form of grants.

These targets represent an enhancement from the NDC 2.0 in light of national circumstances through increased share of emission reduction, increased scope with additional sectors (IPPU and additional gases), and increased robustness and clarity with more transparent reporting processes. Increased ambition is also reflected by the expansion of the adaptation priorities to include tourism as an 8th priority sector and further elaborating the sectoral activities under each adaptation priority. In addition, Lebanon is currently advancing climate governance and financial reforms, including the development of a national Climate Change Framework Law and aligning the NDC 3.0 with the Long Term - Low Emissions Development Strategy (LT-LEDS), the National Adaptation Plan (NAP) to institutionalize climate action through a clear MRV system, provide long-term direction, and bridge the financing gap. In line with the Sevilla Platform of Action launched at Fourth International Conference on Financing for Development, Lebanon is operationalizing the Lebanon Green Investment Facility (LGIF) as a country-led financing platform to mobilize private capital for climate action. The LGIF reflects the principles of integrated national financing frameworks and country platforms, aiming to support the Lebanese private sector in delivering mitigation and adaptation solutions aligned with national priorities and the Paris Agreement.

Building on the adaptation chapter of NDC 2.0, NDC 3.0 reflects a more structured, principle-driven approach with eight priority sectors that emphasizes the protection of lives and livelihoods, and the strengthening of institutions, and mainstreaming climate change across key sectors. Adaptation priorities are fully aligned with the Sustainable Development Goals (SDGs), and commitments under the Rio Conventions, including biodiversity protection and land degradation neutrality. Informed by the 2024 Socioeconomic Impact Assessment of the War on Lebanon*, which underscored the fragility of essential services and ecosystems, the NDC integrates post-conflict environmental recovery measures reinforcing the convergence between adaptation, environmental policy, and national resilience planning.

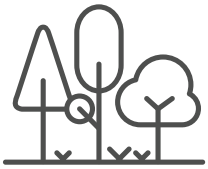
* ESCWA; UNDP; UNICEF; ILO; UN-Habitat. (2025, July). The socioeconomic impacts of the 2024 war on Lebanon (ESCWA Flagship Publication E/ESCWA/CL6.GCP/2025/2). Beirut, Lebanon: ESCWA / UNDP. ISBN 978-9211543490

Adaptation priorities in Lebanon's NDC 3.0

Adaptation priority 1

Agriculture

Strengthen the agricultural sector's resilience to enhance Lebanon's agricultural output in a climate-smart manner to improve food security.



Adaptation priority 2

Forestry

Promote the sustainable use of natural resources, restore degraded landscapes, and increase Lebanon's forest cover while meeting the ecological, social, and economic needs for sustainable forest, rangeland management.

Adaptation priority 3

Water

Structure and develop sustainable water services, including irrigation, to improve people's living conditions.

Adaptation priority 4

Biodiversity

Value, conserve, and sustainably manage Lebanon's terrestrial and marine biodiversity for the preservation and conservation of its ecosystems and habitats and the species they support to respond to anthropogenic and natural pressures and to ensure Lebanese citizens have equal access to ecosystem goods and services.

Adaptation priority 5

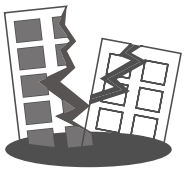
Urban Infrastructure

Reduce the vulnerability of climate change impacts on urban and coastal infrastructure in a sustainable inclusive approach.

Adaptation priority 6

Public Health

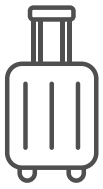
Integrate climate resilience and environmental sustainability into Lebanon's healthcare system and facilities to strengthen preparedness and public health response to climate change.



Adaptation priority 7

Disaster Risk Reduction

Reduce disaster risk and minimize damage by mitigating and adapting to climate-related hazards and extreme weather.



Adaptation priority 8

Tourism

Promote climate resilience through sustainable tourism that supports economic diversification across Lebanon.

This submission also prioritizes inclusion and equity through the mainstreaming of Gender Equality and Social Inclusion (GESI) principles ensuring that vulnerable communities, including women, youth, internally displaced Lebanese persons, and low-income groups, are placed at the center of climate action. This whole-of-society approach is essential to achieving a just and sustainable transition.

The NDC commitments are in line with the Long Term - Low Emission Development Strategy (LT-LEDS), which outlines a pathway to a circular, low-carbon economy by 2050 and with the National Adaptation Plan (NAP), which provides a sectoral roadmap for building equitable resilience across vulnerable systems. The implementation of the NDC 3.0 will be supported by a clear roadmap, MRV structure, governance system and a financing and investment plan in line with the Lebanon Green Investment Facility (LGIF), among others.

Finally, Lebanon reaffirms that the successful implementation of its NDC will depend on meaningful partnerships and sustained international support, including financing that goes beyond traditional Official Development Assistance (ODA), in line with Article 9 of the Paris Agreement and relevant COP decisions. Lebanon calls on the global community to provide financial, technical, and capacity-building assistance, recognizing the urgent need for solidarity with countries facing overlapping climate, economic, and geopolitical challenges.

Lebanon's NDC 3.0 thus reflects not only a renewed climate commitment, but a broader national aspiration: to emerge from crisis with resilience, to recover with equity, and to build a future rooted in sustainable recovery.

01

I / Introduction

In accordance with paragraphs 9 of Article 4 of the Paris Agreement ratified under Law 115/2019, paragraph 24 of Decision 1/CP.21 and paragraphs 5, 6 and 7 of Decision 1/CMA.2, Lebanon hereby communicated its NDC 3.0 to respond to the urgent global call for enhanced ambition in order to meet the Paris Agreement's goals, considering Common But Differentiated Responsibilities (CBDR) and respective capabilities in light of different national circumstances.

Lebanon's progress toward its climate change commitments, started with the submission of its INDC in 2015, which outlined Lebanon's commitment to reducing greenhouse gas emissions, specifically aiming for a 15% reduction by 2030 as an unconditional target, and a 30% reduction by 2030 with international support. An updated NDC was submitted to the UNFCCC in 2021 (updated 2020 version) raising the unconditional reduction to 20% and the conditional target to 31% by 2030. This progress has been influenced by various factors; while there have been positive developments, including a higher share of renewables from electricity demand (renewable energy share saw an increase from 2.6% in 2018 to 12.1% in 2022) and a tax incentive on the purchase of new hybrid and electric vehicles among other, recurring crises have played a significant role in either lifting or impeding development. The reduction in economic activity, energy production, combined with global emission reductions during the COVID-19 led to a 32% decrease in greenhouse gases from 2019 to 2022, which has brought closer Lebanon towards its NDC targets. In the current NDC, the recalibration of mitigation targets has been undertaken to reflect significant changes in national circumstances since the submission of the previous NDC in 2021 and to capture the increased emissions that might result from the economic recovery prospects in the upcoming period.

Lebanon's advancement towards its adaptation targets has been less noticeable. The social unrest due to the recurrent crises, the Beirut seaport explosion, and the recent hostilities in Lebanon (2024) slowed progress towards adaptation with the economic losses of the war being evaluated at USD 5.1 billion in 2024*. Nonetheless, Lebanon will continue its efforts to achieve its targets under the new NDC 3.0, recognizing that climate action and economic recovery can be mutually reinforcing. Hence, NDC 3.0, which sets a 10-year timeframe, provides opportunities for economic growth, job creation, innovation, and a sustainable recovery path towards its 2035 targets, and creates a strategic framework for the implementation of Lebanon's Long Term - Low Emission Development Strategy (LT-LEDS) vision for 2050**.

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* World Bank, 2024. Lebanon Interim Damage and Loss Assessment (DaLA) – November 2024. Washington DC. The World Bank.

** MoE/UNDP (2025). A pathway towards a climate resilient economy: Lebanon's Long Term - Low Emission development strategy (LT-LEDS). Beirut Lebanon

In this challenging context, and pursuant to Law 115/2019 ratifying the Paris Agreement and Article 4.9 of said agreement, Lebanon reaffirms its climate commitment through the development of NDC 3.0, an effort that remains contingent on the active engagement of national stakeholders and the sustained support of the international community.

With this submission, Lebanon updates information on its NDC with a more enhanced economy-wide target for 2035.

02

II / Lebanon's Climate Policy Architecture: NDC as the Strategic Anchor for Reform and Resilience

Lebanon's path to climate resilience and sustainable recovery hinges on bold reforms and an integrated policy framework that leverages climate action as a catalyst for economic stabilization, social equity, ecological sustainability, and overall human development. Amid overlapping and multiple economic, social, and environmental crises, Lebanon's NDC 3.0 emerges as the country's central strategic document guiding national climate ambition and aligning it with reform agendas and international commitments.

The NDC serves as the overarching framework under which Lebanon's adaptation and mitigation priorities are articulated. It establishes the national targets and guiding principles for climate action up to 2035, setting the direction for long-term transformation. To translate these targets into actionable pathways, Lebanon relies on two critical instruments: the National Adaptation Plan (NAP) and the *Long Term - Low Emission Development Strategy (LT-LEDS)*.

- The NAP operationalizes the adaptation priorities outlined in the NDC by providing a sectoral and institutional roadmap for building equitable and just climate resilience across agriculture, water, biodiversity, urban infrastructure, health, and other vulnerable sectors. It ensures that adaptation measures are systematically mainstreamed into national planning, while reinforcing food security,

disaster risk reduction, nature-based solutions, and capacitating institutions. Additionally, the NAP helps in NDC preparation and tracking through developing and periodically reporting gender-sensitive indicators in line with the established transparency framework.

- The LT-LEDS serves as the long-term vision for Lebanon's mitigation ambition, aiming to decouple the economy from a fossil-fuel dependent growth. It envisions a circular, inclusive, and low-carbon economy by 2050 through transformative changes in energy systems, transport, industry, and urban development. The LEDS also promotes innovation, innovative financial mechanisms, and clean technology investments to support this structural shift.

To enable this transition, the Lebanon Green Investment Facility (LGIF) was established as a dedicated financing vehicle to mobilize, blend, and channel capital towards the implementation of the NDC, in support to the private sector. The LGIF will facilitate access to climate finance, de-risk green investments, and support climate-resilient infrastructure, nature-based solutions, and renewable energy deployment. It also takes into consideration the gender and social impacts of the projects, making sure that the Gender Equality and Social Inclusion (GESI) targets of the NDC are met.

Lebanon's NDC 3.0 also takes into consideration all Rio Conventions through the assessment of the synergies of mitigation and adaptation policies and measures with key national strategies. These include: 1) the National Biodiversity Strategy and Action Plan (NBSAP) under the Convention on Biological Diversity, 2) the Voluntary Land Degradation Neutrality target, which incorporates relevant mitigation and adaptation measures and 3) the promotion of Nature-based Solutions (NbS) for both mitigation and adaptation, aiming to reduce greenhouse gas emissions related to deforestation and land use and increase the capture of carbon dioxide from the atmosphere while enhancing resilience of ecosystems. The NDC is also aligned with Sendai Framework for Disaster Risk Reduction (2015–2030), Glasgow Climate Pact (COP26), UN Sustainable Development Goals (SDGs), UN Gender Equality & Peace Frameworks (CEDAW, WPS Agenda), UAE Consensus (COP28), Convention on Biological Diversity (CBD), UN Convention to Combat Desertification (UNCCD) and Montreal Protocol and Kigali amendments.

Furthermore, the 2024 war socioeconomic impact assessment* revealed severe environmental degradation, including damage to ecosystems, agricultural land, and water infrastructure. In alignment with Lebanon's NDC and Rio Convention goals, Pillar 4 of the assessment calls for recovering environmental ecosystems through safe debris management, restoration of damaged disposal sites, treatment of contaminated waste, and clearing of unexploded ordnance, while strengthening institutional capacities to assess and manage environmental risks. These efforts are critical to ecosystem restoration, resilience building, and supporting a transition toward renewable energy and sustainable recovery as part of a broader "build back better" approach. Integrating these war recovery priorities with Lebanon's climate commitments ensures that environmental restoration becomes a central pillar of resilience and reform.

* ESCWA; UNDP; UNICEF; ILO; UN-Habitat. (2025, July). The socioeconomic impacts of the 2024 war on Lebanon (ESCWA Flagship Publication E/ESCWA/CL6.GCP/2025/2). Beirut, Lebanon: ESCWA / UNDP. ISBN 978-9211543490

Box 1: Key Messages from Lebanon War 2024 Socioeconomic Impact Analysis

- The 2024 war came after six years of economic and social crises, compounded by decades of structural political, security and governance challenges.
- The war inflicted massive destruction on Lebanon, with the number of Israeli airstrikes from October to November 2024 ranking among the highest number of attacks globally in the 21st century.
- Private sector employment fell by 25%, and around 29% of war-affected businesses no longer have any employees.
- Around 15% of businesses shut down permanently, while 21% suspended operations temporarily. In the areas most impacted by the war, 24% remain closed after the ceasefire.
- Around 500,000 students faced severe educational interruptions; during the war, 69% of children were out of school until the ceasefire.
- Child nutrition reached critical levels, particularly in the Baalbek-Hermel and Bekaa governorates, where over 51% and 45% of under-2-years-old, respectively, experienced severe food poverty.
- The Human Development Index rank of Lebanon regressed to 2010 levels, marking a 14-years setback due to the overlapping crises.
- The 2030 gross domestic product of Lebanon is projected at USD 46.9 billion should the necessary reforms be implemented, but even then, it will be 8.4% below its pre-crisis 2017 peak (USD 51.2 billion).
- Sustainable recovery requires prioritizing key enablers, fostering healthy economic growth, strengthening social protection, and reforming the financial sector. Trust in institutions must be restored through better governance, service delivery and infrastructure access.

Through this integrated policy ecosystem, Lebanon's climate ambition is no longer an isolated environmental effort but a backbone for national reform. Climate action under the NDC strengthens Lebanon's economic recovery, enhances social protection, advances public health and food security, and unlocks access to international support and finance. It also supports the shift towards a green and blue inclusive economy, reinforcing economic independence, creating decent work, reducing social inequalities, and driving innovation and sustainability across all sectors.

By placing the NDC at the center of its national development and reform agenda and anchoring it in implementable strategies and a credible financing mechanism, Lebanon is laying the foundation for an equitable, just, resilient, and climate-proof future.

03

III / Mitigation Contribution

GHG emissions profile of Lebanon

In 2022, Lebanon emitted 20,519 Gg CO_2eq. (as total emissions), with the main contributor to greenhouse gas emissions remaining the energy sector (including transport) with 77% of GHG emissions, followed by industrial processes (12.6%).

Energy-related emissions (44.6% of total emissions) are primarily caused by electricity produced by EDL fossil-fueled power plants in addition to the privately owned or “neighborhood” generators, which are used in Lebanon to replace the public electricity shortages.

Transport emissions constitute around 32.5% of total emissions, remaining an important contributor to emissions with 6,662 Gg CO_2eq. in 2022, predominantly due to the consumption of gasoline in passenger cars.

The industrial processes sector accounts for approximately 12.6% of total emissions, with key contributors including cement production and emissions from F-gases from refrigeration and air conditioning.

The AFOLU sector contributed to 3.8% of GHG emissions largely from enteric fermentation in livestock, agricultural soil management, and deforestation. CO_2 removals from forestry, land use and land use change amounted to –3,243 Gg CO_2, bringing Lebanon’s NET emissions to 17,274 Gg CO_2eq.

The waste sector contributes 6.6% of Lebanon’s total GHG emissions in 2022, primarily from the solid waste disposal in landfills and dumpsites and the untreated wastewater discharge.

Historically, Lebanon’s GHG emissions steadily increased, nearly tripling since 1994, with an average annual growth of 6%. However, this trend shifted significantly following the events of 2019 and the subsequent financial/economic crisis. By 2022, total GHG emissions had decreased by 32% compared to 2019.

In line with the Paris Agreement, Lebanon has committed in 2021 to an unconditional target of 20% Greenhouse Gas reduction by 2030 under its updated Nationally Determined Contribution with a focus of increasing the share of renewable energy to 18% from power demand and to 11% from heat demand in the building sector, in addition to a decrease in electricity demand by 3% by 2030. A conditional target of 31% emissions reduction, 30% share of renewable energy in power demand and 18.5% in heat demand and 10% reduction in power demand have also been included in the NDC.

2035 Targets

As part of its long-term development vision and commitment to the Paris Agreement, Lebanon continues to undertake an ambitious mitigation contribution to reduce net GHG emissions.

Under the NDC 3.0 Lebanon commits to reduce its national greenhouse gas emissions by 22% as an unconditional target and 33% as a conditional target compared to a Business- as-usual Scenario (BAU) by 2035. It also commits to generating 25% of its electricity demand from renewable energy as an unconditional target and 30% as a conditional target by 2035. It is worth noting that the unconditional target includes the impacts of mitigation actions which Lebanon can nationally implement, and through international support in the form of loans or other repayable instruments while the conditional scenario covers the actions under the unconditional scenario, as well as further mitigation actions which can be implemented upon the provision of additional international support in the form of grants.

Unconditional targets 2035	**Conditional targets 2035**
1. A GHG emission reduction of 22% compared to the Business-As-Usual (BAU) scenario in 2035, (amounting to 7,790 Gg. CO_2eq.). 2. 25% of the power demand (i.e. electricity demand) in 2035 is generated by renewable energy sources.	3. A GHG emission reduction of 33% compared to the Business-As-Usual (BAU) scenario in 2035 (amounting to 12,075 Gg. CO_2eq.). 4. 30% of the power demand (i.e. electricity demand) in 2035 is generated by renewable energy sources.
The unconditional mitigation scenario includes the impacts of mitigation actions which Lebanon can nationally implement, and through international support in the form of loans or other repayable instruments.	The conditional mitigation scenario covers the mitigation actions under the unconditional scenario, as well as further mitigation actions which can be implemented upon the provision of additional international support in the form of grants.

In light of the profound socio-economic and energy impacts Lebanon has endured since the submission of the 2021 NDC, the Government has undertaken a reassessment of the BAU projection and, consequently, the 2035 BAU scenario now reflects the new national circumstances which lead to lower emissions in 2030 than the NDC 2.0 calculations. Despite this decrease, Lebanon commits in 2035 to preserve the intended level of national ambition in 2021 (unconditional and conditional targets of 7,790 Gg CO_2 eq and 12,074 Gg CO_2eq. respectively) while reflecting the updated (reduced) BAU emission

pathway. These targets are presented in accordance with the principles of the Paris Agreement, in particular progression, no backsliding, and transparency, and use consistent accounting approaches to ensure comparability with the previous submission.

Building on the adjusted BAU scenario, Lebanon sets an enhanced trajectory to 2035 that incrementally raises ambition beyond 2030, through increased share of emission reduction, increased scope with additional sectors (IPPU) and gases (F-gases), increased robustness and clarity with more transparent reporting processes and increased deliverability through alignment with Lebanon's LEDS.

The mitigation targets are based on a comprehensive multi-sectoral assessment using the latest national GHG inventory, developed in line with the 2006 IPCC Guidelines and 100-year time-horizon GWP values from the IPCC Fifth Assessment Report. The targets fully align with endorsed ministerial strategies and plans, such as the National Renewable Energy Action Plan (2025), the National Water Sector Strategy (2022), the Ministry of Agriculture Strategy and its strategic directions (2025), the National Cooling Plan (2024), the draft e-mobility strategy (2025), and the Draft National Solid Waste Strategy (2025) among others, which together form Lebanon's national and international commitment.

Their achievement is contingent on the implementation of key cross-cutting enablers for improving national legislation, regulatory and economic instruments, establishing appropriate financial and investment mechanisms, transitioning to innovative green technologies, and upscaling local skills and expertise.

Lebanon's total emission reduction targets include emission reduction measures that encompass the energy, transport, industrial, agricultural, LULUCF, waste and wastewater sectors.

04

IV / Adaptation Priorities

Impacts of Climate Change in Lebanon*

Lebanon is increasingly affected by climate-related hazards, including more frequent heatwaves, prolonged droughts, water scarcity, wildfires, and coastal erosion. Mean annual temperatures have already risen by 1.6°C between 1950 and 2020, amplifying these risks. These impacts threaten critical sectors such as agriculture, water, biodiversity, public health, and infrastructure, making adaptation a national priority under NDC 3.0.

* MoE/UNDP/GEF (2024). Lebanon's First Biennial Transparency Report (BTR) on Climate Change. Beirut, Lebanon.

By 2050, inland regions such as the Bekaa and Hermel are projected to experience up to 60 days annually of extreme heat above 35°C. Nationally, heatwaves are projected to intensify, with 12 – 13 additional hot days annually by 2041 – 2060, disproportionately affecting urban areas and vulnerable populations. Under high-emission scenarios, total annual precipitation is projected to decline, with reductions of up to 7.1 mm per month by mid-century and a 3 – 14% decrease during the wettest season, resulting in reduced snow accumulation, earlier snowmelt, and diminished groundwater recharge, affecting already water-stressed areas, especially in agricultural lands. This growing variability undermines water availability for domestic use, irrigation, and ecosystems.

Lebanon's forests are increasingly at risk due to higher temperatures, drier conditions, and more intense fire seasons, with wildfire risks projected to double by the end of the century, particularly in Chouf, Akkar, and Mount Lebanon. Ecosystems also face degradation from pest outbreaks and habitat loss. Coastal zones are exposed to sea-level rise and storm surges, threatening marine habitats, infrastructure, and tourism assets.

Given the scale of projected changes in temperature, precipitation, and extreme events, Lebanon faces varying degrees of vulnerability across key sectors.

Sectoral Climate Vulnerabilities*

Agriculture

Lebanon's agriculture is increasingly strained by climate change, with rising temperatures, erratic rainfall, and prolonged droughts reducing productivity. Water scarcity is a growing challenge, further threatening irrigation-dependent farming. Crop yields are already declining, with rain-fed crops facing losses of 3.5% to 7.5% and irrigated crops 0.3% to 8.7%. Staple crops such as wheat, potatoes, and tomatoes, along with key fruit varieties, are particularly vulnerable. Coastal agricultural areas are experiencing salinization due to groundwater over-extraction, while mountainous and inland regions face increasing soil erosion and land degradation. The livestock sector is also under pressure, with inadequate pasture management, water shortages, and rising heat stress affecting animal health and productivity.

Heatwaves and extreme weather events increase disease outbreaks, while shrinking grazing areas force farmers to rely on expensive feed imports, further threatening food security. Economic losses in the sector have been significant, with floods, droughts, and extreme weather events causing damages projected to reach USD 250 million annually, disproportionately affecting vulnerable farming communities. While crop and livestock adaptation measures are documented, fisheries and cooperative-led adaptation strategies have not been fully integrated into national planning. Additionally, Lebanon's National Agricultural Strategy (2020 - 2025), and the new Ministry of Agriculture's Strategic Directions (2025 - 2026) aligns with the NDCs and adaptation policies, but weak institutional and financial support prevents on-the-ground implementation, leaving farmers without adequate climate-resilient solutions.

* MoE/UNDP/GEF (2024). Lebanon's First Biennial Transparency Report (BTR) on Climate Change. Beirut, Lebanon.

Forestry

Lebanon's forest ecosystems, including emblematic species such as Cedrus Libani (Cedar of Lebanon) and Juniperus excelsa, are increasingly vulnerable to climate change impacts. Wildfire threats are intensifying, with consecutive dry days and days exceeding 35°C and 40°C are projected to double by the end of the century, further enabling the intensity and frequency of wildfires. Forest ecosystems also face pressures from pest outbreaks, drought, and habitat degradation, exacerbating their vulnerability. Deforestation, unsustainable land use, and weak enforcement further reduce forest resilience. While Lebanon's National Forest Program (2015 – 2025) integrates climate change adaptation measures, including pest management and fire prevention, there is an urgent need to scale up forest monitoring, sustainable management practices, and community-based restoration efforts to ensure forests continue to provide critical ecosystem services such as carbon sequestration, water regulation, and disaster risk reduction.

Water Resources

Water resources in Lebanon are under severe stress due to declining precipitation, rising evaporation rates, and inefficient management. Annual water availability is projected to decrease by up to 7.1 mm per month by mid-century under high-emission scenario, worsening drinking water supplies and agricultural irrigation. Key river basins such as Nahr El Kabir and the Upper Litani are expected to experience significant reductions in flow due to earlier snowmelt and declining rainfall. Groundwater reserves have dropped by 30 – 35 meters over the past 4 decades, with 35 – 40% of total reserves depleted, leading to saltwater intrusion in coastal areas. These trends directly impact multiple sectors, particularly agriculture, domestic water supply, and hydropower production. Drought conditions are projected to intensify, with Consecutive Dry Days (CDD) increasing by up to 6 days annually by 2041 - 2060, further straining water resources. While adaptation efforts have focused on improving irrigation efficiency and expanding rainwater harvesting, weak enforcement of groundwater regulations has led to unsustainable water extraction rates, accelerating depletion.

Biodiversity

Rising temperatures and habitat degradation are accelerating biodiversity loss across Lebanon's terrestrial, freshwater, and marine ecosystems. Marine ecosystems are under pressure from rising sea temperatures, acidification, and pollution, threatening up to 20% of exploited marine species by 2050. Climate-driven changes in plankton ecology and the spread of invasive species are disrupting coastal biodiversity, fisheries, and marine food chains. Lebanon's freshwater ecosystems are also strained, with increasing temperatures and reduced river flows altering fish habitats and endangering aquatic biodiversity. Coastal areas, which serve as critical buffers against storm surges, are degrading due to sea level rise and pollution, reducing their capacity to protect coastal communities. Additionally, unsustainable land use, pollution, and urban expansion are weakening the resilience of Lebanon's ecosystems, reducing the country's capacity to adapt to climate change. Although Lebanon has made efforts to expand

protected areas and develop biodiversity conservation strategies, there remains a lack of effective monitoring systems and enforcement mechanisms to track and prevent biodiversity loss.

Urban Infrastructure

Urban areas face escalating risks from climate change, particularly flooding, extreme heat, and infrastructure degradation. Sea levels are projected to rise by 30 – 80 cm by 2100, increasing coastal erosion, flooding and seawater intrusion. Flash floods are becoming more frequent, exacerbated by poor drainage systems and unplanned urban expansion. Rising temperatures are intensifying the urban heat island effect, increasing cooling demands and heightening health risks, especially for vulnerable populations in informal settlements. Aging infrastructure and weak enforcement of zoning regulations further expose cities to climate-related disasters. Lebanon's outdated stormwater drainage systems are ill-equipped to handle extreme rainfall events, leading to recurrent urban flooding.

Public Health

Lebanon's healthcare system is struggling to cope with increasing climate-related health risks. Rising temperatures and heatwaves are projected to cause an increase in heat-related mortality by mid-century under high-emission scenarios. Waterborne diseases such as cholera and typhoid, as well as vector-borne diseases like malaria and leishmaniasis, are expected to rise with increasing flood and heatwave events. Lebanon's already strained healthcare system, with only 8% of primary health centers meeting accreditation standards, faces severe staffing and resource shortages, limiting its capacity to respond to climate-driven health crises (MoE/UNDP, 2022). Air pollution, intensified by higher temperatures and wildfire smoke, is worsening respiratory conditions such as asthma and Chronic Obstructive Pulmonary Disease (COPD), increasing hospital admissions. Moreover, the lack of climate-informed healthcare planning has left hospitals vulnerable to extreme weather events, with heatwaves and power outages disrupting medical services. Chronic staffing and resource shortages, combined with the impacts of economic instability, conflict, and the COVID-19 pandemic, further limit the system's capacity to respond effectively.

Disaster Risk Reduction

Extreme weather events, including floods, wildfires, and heatwaves, are increasing in frequency and severity. According to EM-DAT platform, Lebanon has recorded 26 major disasters between 1955 and 2023, affecting over 5.4 million people. Flash flooding is intensifying in urban areas, while wildfires, particularly in Chouf, Akkar, and Mount Lebanon, are becoming more destructive due to prolonged droughts and mismanaged land use. Despite growing climate hazards, Lebanon lacks a national multi-hazard early warning system, and weak enforcement of land-use regulations increases exposure to climate risks. Flood incidents have tripled since 2015, causing significant damage to infrastructure and displacement of communities. The increasing intensity of storms and heavy rainfall is overwhelming Lebanon's flood protection systems, leaving low-lying coastal cities and informal settlements highly exposed. Limited disaster preparedness and response capacity leave communities highly vulnerable.

Despite the presence of a draft National DRR Strategy (2012 - 2030), implementation remains slow due to institutional fragmentation, governance weaknesses, and financial constraints.

Tourism

Lebanon's tourism industry is directly impacted by climate change, with rising temperatures and extreme weather events affecting key destinations. Coastal resorts face increasing storm surges and erosion, while ski tourism is threatened by declining snowfall periods. Beach erosion is already reducing tourism appeal, particularly in Tyre, Jounieh, and Batroun. By 2050, Lebanon's winter tourism season may shrink due to declining snowfall, posing operational challenges for ski resorts such as Kfardebian and Cedars. Meanwhile, rising temperatures and extreme heat stress are making urban tourism less attractive, particularly in major tourist hubs such as Beirut, Byblos, and Tripoli, where increased cooling costs and reduced walkability are affecting visitor experiences. Additionally, Lebanon's cultural heritage sites face increasing threats from heat stress, humidity variations, and extreme precipitation, accelerating the deterioration of historical monuments. The increasing risk of wildfires is also threatening ecotourism and nature-based tourism activities. The combination of heat stress, wildfires, coastal degradation, and infrastructure damage from climate-induced disasters is expected to reduce tourism revenues and employment opportunities in the sector. Without adaptive measures, Lebanon's tourism industry risks significant economic lossesAdditionally, climate impacts deepen gender inequalities by increasing women's unpaid labor, reducing livelihood opportunities, restricting access to essential services, increasing the stressors of household responsibilities, and exacerbating the risk of Gender-Based Violence (GBV), especially in times of displacement, economic strain, and water or food insecurity. These inequalities are further exacerbated by women's limited access to and ownership of land, which are often dictated by customary and religious inheritance law, resulting in their marginalization within the agricultural sector where they are typically engaged as informal, seasonal workers rather than landowners. This lack of ownership makes them more vulnerable to the effects of climate change on agriculture and significantly hinders their participation in decision-making processes at household and community levels. To adequately address the disproportionate impact of climate change on women and girls, policy responses must be guided by the Women, Peace and Security (WPS) Agenda and its four pillars: participation, protection, prevention, and relief and recover; ensuring a comprehensive and gender-responsive approach to climate resilience and adaptation.

NDC 3.0 places adaptation at the heart of Lebanon's climate strategy, prioritizing eight key sectors and aligning actions with the National Adaptation Plan (NAP). Together, they provide a roadmap for strengthening resilience, protecting ecosystems, and safeguarding livelihoods in the face of escalating climate risks; while embedding gender-responsive approaches that address the structural vulnerabilities of women, girls, the elderly, and persons with disabilities, particularly in communities most exposed to climate-related hazards.

Guiding Adaptation Principles and Interlinkages

Lebanon aims to increase its resilience to climate change in tandem with enhancing resilience against economic shocks and other disasters and pursuing recovery from the recent war. In this context, and in line with the 2025 Advisory Opinion of the International Court of Justice*, Lebanon acknowledges that all States, regardless of their contribution to global emissions, bear a legal and moral responsibility to assess, prevent, and mitigate harms to the climate system, including those resulting from conflict, and to protect carbon sinks and vulnerable populations in accordance with international climate obligations and principles of equity.Therefore, Lebanon is prioritizing the synchronization of adaptation action with the implementation of the Sendai Framework for Disaster Risk Reduction, the Agenda 2030 for Sustainable Development, the United Nations Convention to Combat Desertification (Land Degradation Neutrality), and the United Nations Convention on Biological Diversity (Global Biodiversity Framework). Furthermore, Lebanon recognizes that vulnerable groups, particularly women, persons with disabilities and internally displaced Lebanese persons are disproportionately affected by climatic events. Consequently, Lebanon pledges to ensure that climate adaptation measures are gender responsive. Below are the guiding principles and sectoral adaptation priorities aimed at preserving and restoring natural capital, enhancing and protecting built capital, and securing livelihoods to ensure sustainable growth and resilience to climate change.

Lebanon has aligned sectoral strategies with the NDC in eight priority adaptation sectors: agriculture, forestry, biodiversity, water, health, disaster risk reduction, and urban infrastructure, with tourism identified as a new sector. Most of these sectors remain a continuum from the previous NDC and are also further elaborated in the National Adaptation Strategy (NAP) through sector-specific actions and activities.

The following guiding adaptation principles are considered for Lebanon's NDC 3.0:

1. Achieve food and water security through sustainable management of resources and energy, by adopting the water-energy-food framework.
2. Enhance the resilience of infrastructure in urban and rural areas to resist climate-related disasters and avert and minimize internal displacement and forced movements of people.
3. Ensure and protect public health, well-being, and safety of all communities through climate-resilient systems, with particular attention to vulnerable groups, including women, children, the elderly, persons with disabilities, internally displaced Lebanese persons, and low-income communities. This includes integrating climate education and awareness through schools and community-based programs, climate-resilient school infrastructure, and school-based preparedness and disaster risk reduction plans, in line with national education strategies.
4. Incorporate Nature-Based Solutions as a first line of defence from the adverse impacts of climate change.
5. Combat desertification and land degradation by achieving Land Degradation Neutrality.

* https://www.icj-cij.org/sites/default/files/case-related/187/187-20250723-adv-01-00-en.pdf

6. Reduce the risk of climate and non-climate related disasters to protect lives, the economy, and physical and natural assets, especially those of vulnerable and marginalized populations.
7. Build back better through mainstreaming climate-proof technologies, approaches, and objectives in various recovery and restoration initiatives.
8. Adopt a holistic adaptation approach by leveraging compound actions and sectoral interlinkages through strategic land use planning, partnerships, and coordination that is human-centric, inclusive, and responsive to gender dynamics and community-specific needs.
9. Align both water and agriculture sector strategies to consider cropping patterns and strategic priorities, along with water supply and demand, of different sectors.
10. Uphold the principles of international climate law by addressing climate harms resulting from conflict and other pressures, including the protection and restoration of carbon sinks, through adaptation measures that reflect international obligations and principles of climate justice.
11. Ensure the active participation of marginalized groups, particularly women in all their diversity, as first responders to climatic changes and decision-makers to climate adaptation strategies.
12. Support integrated approaches by adopting a holistic approach to climate mitigation and climate adaptation challenges through mainstreaming human security to reduce pressure on natural resources and enhance human development and well-being.

Lebanon's NDC 3.0 recognizes that climate adaptation actions are not isolated but deeply interlinked. Under each of the 8 priority areas, the NDC 3.0 has identified adaptation measures that simultaneously enhance resilience and promote sustainable development across priority areas. This interconnected approach ensures a holistic response to climate change and maximizes the effectiveness of adaptation efforts, while also delivering mitigation co-benefits by reducing emissions, strengthening carbon sinks, and advancing low-carbon pathways across sectors.

Under agriculture adaptation activities, water-efficient irrigation and crop diversification reduce pressure on freshwater resources, while climate-smart practices such as terracing and regenerative agriculture help curb soil erosion and land degradation, strengthening forestry and biodiversity. At the same time, women-led cooperatives enhance local food security and open new opportunities for agritourism, while early warning systems and crop suitability maps improve preparedness and reinforce disaster risk reduction across regions.

In addition, restoring degraded lands and expanding forest cover enhance water resilience by improving groundwater recharge and regulating flows. Efforts to prevent wildfires and establish early warning systems directly reduce disaster risks, while sustainable forest management safeguards biodiversity and provides eco-tourism opportunities that support rural livelihoods and diversify the tourism sector. Conversely, Conserving and restoring ecosystems sustains agriculture and forestry by ensuring services such as pollination and pest control. Healthy coastal ecosystems buffer storm surges and sea-level rise, while green urban spaces mitigate heat islands, reducing both energy demand and health risks. Protecting marine biodiversity also preserves coastal attractions, directly supporting the tourism sector.

Under water and urban infrastructure, upgraded systems and alternative sources, including treated wastewater, secure irrigation and reinforce agricultural production. At the same time, climate-resilient stormwater systems lower flood risks in cities and protect urban infrastructure, while better water quality and storage improve public health and sustain ecosystems essential for biodiversity. In addition, climate-proofing infrastructure against sea-level rise and flash floods reduces disaster risks for communities and critical facilities. Walkable corridors and cleaner air contribute to public health, while integrating green and blue spaces enhances biodiversity in cities. Resilient coastal infrastructure also protects tourism hubs and cultural heritage sites from climate impacts.

Public health adaptation measures such as stronger healthcare systems improve preparedness for extreme weather and disease outbreaks, reducing disaster-related risks. At the same time, renewable energy and resilient WASH systems in health facilities enhance water security, cut pollution, and align the health sector with sustainable urban development goals.

From a disaster-risk reduction perspective, multi-hazard risk maps and early warning systems provide critical information for all sectors, strengthening decision-making. Drought and wildfire alerts increase the resilience of agriculture and forestry, while flood and heatwave warnings protect communities, safeguard public health, and reduce risks for the tourism sector.

Finally, diversifying tourism into rural and mountain destinations creates new markets for local produce and supports agritourism. Expanding eco-tourism and nature-based activities generates incentives to conserve biodiversity and manage forests sustainably, while protecting landscapes and heritage sites that underpin Lebanon's tourism economy.

Lebanon is currently facing a multidimensional crisis characterized by economic collapse, hyperinflation, currency devaluation, political instability, and severe infrastructure deficits, which have collectively undermined livelihoods and public services. This situation is compounded by environmental and climate-related risks, including heatwaves, extreme temperatures, water scarcity, food insecurity, depletion of natural resources, and biodiversity loss, all of which directly threaten human security and exacerbate existing social inequalities.

At the intersection of environmental degradation, climate change, and human insecurity, Lebanon faces a complex set of interlinked risks that disproportionately affect vulnerable and marginalized populations. Addressing these challenges requires the adoption of climate-responsive measures that enhance basic services, support sustainable livelihoods, and strengthen national efforts to protect human security. Accordingly, Lebanon seeks to implement comprehensive resilience and adaptation strategies that simultaneously address climate risks and associated conflict and security challenges by enhancing water resource resilience; improving food, environmental, and energy security; strengthening the agricultural sector; establishing effective monitoring and early warning systems; and accelerating institutional capacities, measurement, reporting, and verification frameworks. These efforts are also intended to strengthen governance mechanisms, ensuring a coordinated and effective national response to the impacts of climate change.

Adaptation Priorities and Actions

Lebanon has broadened its adaptation priorities in two ways:

i. Increasing the sectoral coverage by considering coastal zones and cities from an urban infrastructure and land use planning perspective, and including the tourism sector,

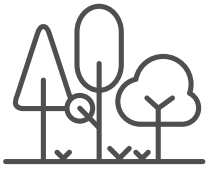
ii. Adopting a comprehensive list of adaptation actions within each sector.

The sectoral adaptation priorities are outlined below:

Adaptation priority 1

Agriculture

Strengthen the agricultural sector's resilience to enhance Lebanon's agricultural output in a climate-smart manner to improve food security.



Adaptation priority 2

Forestry

Promote the sustainable use of natural resources, restore and manage Lebanon's terrestrial ecosystem to meet the ecological, social, and economic needs for sustainable forest, rangeland and management.

Adaptation priority 3

Water

Structure and develop sustainable water services, including irrigation, to improve people's living conditions.

Adaptation priority 4

Biodiversity

Value, conserve, and sustainably manage Lebanon's terrestrial and marine biodiversity for the preservation and conservation of its ecosystems and habitats and the species they support to respond to anthropogenic and natural pressures and to ensure Lebanese citizens have equal access to ecosystem goods and services.

Adaptation priority 5

Urban Infrastructure

Reduce the vulnerability of climate change impacts on urban and coastal infrastructure in a sustainable, inclusive approach.

Adaptation priority 6

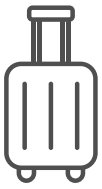
Public Health

Integrate climate resilience and environmental sustainability into Lebanon's healthcare system and facilities to strengthen preparedness and public health response to climate change.

Adaptation priority 7

Disaster Risk Reduction

Reduce disaster risk and minimize damage by mitigating and adapting to climate-related hazards and extreme weather.



Adaptation priority 8

Tourism

Promote climate resilience through sustainable tourism that supports economic diversification across Lebanon.

Agriculture Priorities

Adaptation priority 1

Strengthen the agricultural sector's resilience to enhance Lebanon's agricultural output in a climate-smart manner to improve food security.

Mitigation and other environmental co-benefits

Actions under the priority will support land degradation neutrality, reduce pollution, and promote sustainable and circular bioeconomy approaches that lower GHG emissions. This will be achieved through practices that enhance soil carbon storage, improve nitrogen use efficiency, and reduce deforestation. The emphasis on regenerative agriculture, agroforestry, and the adoption of renewable energy solutions will further strengthen the national emission reduction goals.

The most relevant nexus to SDGs

SDG 2, 5, 6, 13 and 15.

Key actions

1. Restore the livelihoods and productive capacity of farmers and producers, by prioritizing gender-sensitive rebuilding of damaged infrastructure, restoring or deploying inclusive climate-smart infrastructure (i.e. irrigation systems, water reservoirs, terraces, greenhouses, hydroponic systems, animal husbandry infrastructure, beehives, aquaculture infrastructure, etc.).
2. Develop a plan for a medium-term agricultural recovery and rehabilitation and a longer-term agriculture strategy in partnership with the private sector, regional, and international donors, taking gender considerations into account.
3. Create an inclusive investment support scheme to support farmers in transitioning to more sustainable farming systems.
4. Enhance the efficiency and competitiveness of agri-food value chains, including fisheries, with a focus on women-led cooperatives and businesses, and identify food security priority products focusing on local production of agricultural inputs, sustainable food systems, and risk management.
5. Support the Ministry of Agriculture (MoA) and Lebanese Agriculture Research Institute (LARI) in establishing a plant certification program for selected crops and adapted varieties, enhancing

inclusive community multiplication programs, creating plant germplasm banks (conservation and use of climate-smart cultivars and native tree species), supplying nurseries with certified healthy propagation material, securing equitable access to farmers and supporting artificial insemination (from native breeds).

6. Undertake sex-disaggregated studies on water consumption and water needs of animal breeds, various crops and cultivars, and their variability with climate change, agriculture production systems (crop rotations, no-tillage agriculture, organic farming, mixed farming), and regions.
7. Explore the feasibility and viability of potential non-conventional sources of water for agriculture and support their implementation at the farm level.
8. Coordinate with national DRR efforts to enhance LARI's capacity to provide efficient, agriculture-specific gender-responsive early-warning services for farmers and fishers, particularly for climate adversities and pest and zoonotic diseases including preventive, anticipatory, or curative measures.
9. Develop a suitability map for crops taking into consideration future climatic scenarios, other hazards, and future availability of water resources for irrigation.
10. Implement a nationwide gender-sensitive agriculture orientation/extension and capacity-building program, to support farmers through an integrated approach that promotes inclusive climate-smart infrastructure and practices (water harvesting including from non-conventional sources, water efficient use, hail-proof nets, terraces, hydroponics, renewable energy solutions, etc.), expands technology and innovation in agriculture systems, including agroforestry, regenerative agriculture, conservation agriculture, organic farming and other sustainable systems, and adopts circular and bioeconomy approaches, through direct engagement with farmers, with a focus on improving women's access to such technologies and innovations.
11. Support coastal communities and implement inclusive adaptation measures for fisheries and marine-dependent livelihoods, such as supporting fishers with modern vessels, eco-friendly and legal fishing nets, modern fishing gear and equipment, to improve their livelihood and resilience to multiple threats, including climate change.

Relevant reference documents

- Lebanon National Agriculture Sector Strategy (2020-2025).
- Ministry of Agriculture Strategic Directions (2025-2026).

Linkages with national strategies

- National Disaster Risk Reduction Strategy (2021-2030).
- Water Strategy (2024-2035).
- Draft High Mountains Strategic Land Use Planning (MoPWT/MoE, 2025).
- Lebanon's National Biodiversity Strategy Action Plan (NBSAP, 2025-2030).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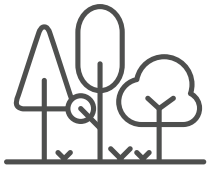


Forestry Priorities

Adaptation priority 2

Promote the sustainable use of natural resources, restore degraded landscapes, and increase Lebanon's forest cover while meeting the ecological, social, and economic needs for sustainable forest, rangeland and fisheries management.

Mitigation and other environmental co-benefits

All activities under this priority will result in environmental co-benefits that contribute to land degradation neutrality and enhance ecosystem resilience, while increasing or maintaining carbon stocks to support climate change mitigation through nature-based and ecosystem-based solutions. Furthermore, effective forest fire prevention and sustainable forest management will not only reduce GHG emissions from forest fires but also ensure the long-term sequestration potential of Lebanon's forests.

The most relevant nexus to SDGs

SDG 5, 6, 13, 15, and 16.

Key actions

1. Align forest and rangeland management with broader sustainable development goals and key UN conventions, ensuring that local communities equitably benefit economically and socially from forest and range resources while mainstreaming biodiversity conservation and sustaining the provision of ecosystem services, and addressing gender-based violence and safety in forest-related work and community spaces.
2. Restore degraded lands affected by war, through reforestation, protection, assisted natural regeneration and other means.
3. Reduce the risk of intense and frequent forest fires through the development of gender-sensitive fire prevention measures and early warning systems.
4. Manage climate-induced pest and disease outbreaks to protect forests and forest resources.
5. Upgrade Ministry of Agriculture (MoA) and local communities' capacity and equipment (i.e. vehicles, drones) as a first intervention to suppress fires, and supervise, monitor, and implement sustainable

forest and rangeland management plans and sustainable harvesting of species of high economic value.

6. Develop/update unified forest monitoring and reporting systems aligned with global standards, and monitor land use changes, forest and range resource assessment using geospatial analysis and field surveys.
7. Establish sites with improved production, including the promotion of agroforestry systems, capacity linking with the development of wood and non-wood forest product processing industry and with the people's needs in terms of goods and services and improved employment opportunities, taking into consideration the differentiated needs in vulnerable communities.

Relevant reference documents

- National Strategy for Forest Fire Management - 2024.
- Ministry of Agriculture Strategic Directions (2025-2026).

Linkages with national strategies

- National Disaster Risk Reduction Strategy (2021-2030).
- National Physical Master Plan for the Lebanese Territory (NPMPLT, 2009).
- Draft High Mountains Strategic Land Use Planning (MoPWT/MoE, 2025).
- Lebanon's National Biodiversity Strategy Action Plan (NBSAP, 2025-2030).
- Lebanon's National Action Plan on 1325.
- Lebanon's National Strategy on Women.

Water Priorities

Adaptation priority 3

Structure and develop sustainable water services, including irrigation, to improve people's living conditions.

Mitigation and other environmental co-benefits

All activities will result in mitigation co-benefits that improve water quality and enhance energy efficiency, while reducing greenhouse gas emissions through the efficient use and conservation of water resources, particularly in urban areas where more energy is required for water treatment and heating. Additionally, promotion of nature-based solutions and enhanced water storage capacities will directly contribute to long-term carbon sequestration.

The most relevant nexus to SDGs

SDGs 1, 3, 6, 9, 11, and 13.

Key actions

1. Improve water infrastructure by rehabilitating systems, controlling leaks, upgrading pressurized and metered networks, reducing Non-Revenue Water including illegal connections to enhance resilience, efficiency, and fair water allocation, taking gender considerations into account.
2. Develop and implement integrated watershed planning at the basin level, and climate-resilient stormwater management plans to address droughts, increased rainfall intensity and flooding risks.
3. Explore and develop alternative sources for irrigation and upgrade irrigation schemes and water distribution networks by restoring concrete channels or installing pipes, ensuring the participation of women and vulnerable groups for fair water allocation.
4. Develop cost-effective wastewater treatment and reuse plants to preserve surface and groundwater quality, and enhance water pollution prevention measures, prioritizing nature-based gender-sensitive solutions in rural areas.
5. Promote safe and efficient treated water reuse, through awareness, incentives, regulations, and capacity-building, with a focus on expanding treated wastewater use for domestic, agricultural, and industrial purposes, to enhance water availability.

6. Enhance water storage capacities through expanding surface water storage and enhancing natural groundwater recharge (i.e. gabion walls, check dams, riverbeds, and flood plain vegetation zone restoration, and terracing).
7. Set up an Integrated Hydrological Information System (IHIS) at the Ministry of Energy and Water, including real-time data collection from Hydrometeorological, hydrometric, snowpack and rainfall, and groundwater monitoring stations. Ensure all monitored data is shared, digitized and integrated into the IHIS platform.
8. Design and implement a comprehensive water quantity and quality monitoring framework covering surface water, groundwater, and irrigation networks. This framework should include the installation of bulk flow meters, hydrometric stations, spring flow monitoring, and snowpack assessment tools, ensuring real-time data integrated into a national digital water monitoring system at the Ministry of Energy and Water.
9. Rehabilitate spring catchments and outflow systems and improve river embankments to optimize water availability from springs and stormwater.

Relevant reference documents

- National Water Sector Strategy (2024-2035).

Linkages with national strategies

- Lebanon National Agriculture Sector Strategy (2020-2025).
- National Disaster Risk Reduction Strategy (2021-2030).
- National Physical Master Plan for the Lebanese Territory (NPMPLT, 2009).
- Draft High Mountains Strategic Land Use Planning (MoPWT/MoE, 2025).

Biodiversity Priorities

Adaptation priority 4

Value, conserve, and sustainably manage Lebanon's terrestrial and marine biodiversity for the preservation and conservation of its ecosystems and habitats and the species they support to respond to anthropogenic and natural pressures and to ensure Lebanese citizens have equal access to ecosystem goods and services.

Mitigation and other environmental co-benefits

All activities will result in enhanced integrated nature-based solutions, such as large-scale reforestation and ecosystem restoration will enhance carbon sequestration and storage within terrestrial and marine habitats. This approach will improve land and marine cover while simultaneously reducing emissions from ecosystem degradation.

The most relevant nexus to SDGs

SDGs 5, 11, 13, 14 and 15.

Key actions

1. Conduct comprehensive vulnerability assessments of terrestrial and marine ecosystems to climate change, identifying key risks and adaptation needs, and managing the impacts on biodiversity by increasing resilience through mitigation, adaptation, and gender-sensitive disaster risk reduction actions, including nature-based solutions and ecosystem-based approaches.
2. Implement inclusive rehabilitation plans in degraded terrestrial ecosystems (including areas affected by the 2024 war), inland water, and marine and coastal ecosystems by establishing a network of marine and terrestrial protected areas to enhance ecological integrity and connectivity, safeguard the sustained delivery of ecosystem services and restore, maintain and improve nature's contribution to people.
3. Restore and enhance nature's contributions through ecosystem-based approaches, including reforesting upper watersheds and rehabilitating coastal marine areas to boost biodiversity, reduce flooding, and strengthen resilience for people and nature.

4. Implement active management plans for species conservation, mainstreaming climate change adaptation in protected areas, genetic conservation units, and germplasm management.
5. Ensure sustainable management of agriculture, aquaculture, fisheries, and forestry by using biodiversity to enhance resilience, productivity, food security, and ecosystem services while conserving and restoring biodiversity.
6. Designate corridors for species shifting to higher elevations in strategic land use planning and implement assisted regeneration for vulnerable species of high conservation value.
7. Sustainably conserve the area, quality, connectivity, and benefits of green and blue spaces in urban and dense areas by integrating biodiversity conservation into urban planning, enhancing native biodiversity and ecological integrity, improving well-being, and supporting sustainable urbanization and ecosystem services.

Relevant reference documents

- Lebanon's National Biodiversity Strategy Action Plan (2025-2030).

Linkages with national strategies

- Lebanon National Agriculture Sector Strategy (2021-2025).
- Ministry of Agriculture (2025-2026).
- National Physical Master Plan for the Lebanese Territory (NPMPLT, 2009).
- Draft High Mountains Strategic Land Use Planning (MoPWT/MoE, 2025).
- National Forest Fire Strategy (MoE, 2023).
- Lebanon's National Strategy on Women.
- Lebanon's National Action Plan on 1325.

Urban Infrastructure Priorities

Adaptation priority 5

Reduce the vulnerability of climate change impacts on urban and coastal infrastructure in a sustainable inclusive approach.

Mitigation and other environmental co-benefits

All activities will result in the reduction of GHG emissions through efficient energy use, the integration of nature-based solutions in urban planning, improved land use and land cover balance. Additionally, by improving land use and developing walkable corridors, the priority will enhance carbon sequestration while reducing emissions from transport and improving public health via enhanced air quality.

The most relevant nexus to SDGs

SDGs 5, 6, 9, 11, 12, 13, 14, and 16.

Key actions

1. Update the National Physical Master Plan of the Lebanese Territory (NPMPLT) taking into consideration various changes of national circumstances.
2. Develop human-centric risk-sensitive master plans at regional and municipal levels across the country, prioritizing areas that are considered vulnerable and mainstream the sustainable and fair use of water resources in the development of regional or national masterplans.
3. Support the recovery and reconstruction of areas destroyed by war, incorporating sustainable, gender-responsive, and Nature-Based urban adaptation measures.
4. Establish a sex-disaggregated digital information system for processing licenses, master plans, mapping, and other administrative requests from citizens and municipalities, to improve transparency, efficiency, data storage and analysis.
5. Develop and disseminate a digital map of the designated industrial zones in Lebanon and introduce the concept of sustainable industrial zones.
6. Develop and disseminate a digital marine map to promote sustainable Marine Spatial Planning (MSP) in Lebanon.

7. Update the draft Integrated Coastal Zone Management Strategy for Lebanon.
8. Climate-proof fishing ports and develop inclusive marine aquaculture to address future climate challenges and improve fishers' livelihood, strengthening food security.
9. Integrate gender-transformative, climate-resilient, and walkable urban corridors into national and municipal urban planning and continuity of safe public spaces for improved air quality and reduced emissions.

Relevant reference documents

- National Physical Master Plan of the Lebanese Territory (NPMPLT, 2009).
- Draft Integrated Coastal Zone Management Strategy.
- Draft High Mountains Strategic Land Use Planning (MoPWT/MoE, 2025).

Linkages with national strategies

- National Biodiversity Strategy Action Plan (NBSAP, 2025).
- National Disaster Risk Reduction Strategy (2021-2030).
- Barcelona Convention for the Mediterranean Sea (1976).
- Lebanon's National Strategy on Women.
- Lebanon's National Action Plan on 1325.

Public Health Priorities

Adaptation priority 6

Integrate climate resilience and environmental sustainability into Lebanon's healthcare system and facilities to strengthen preparedness and public health response to climate-change.

Mitigation and other environmental co-benefits

All activities will result in reduced GHG emissions through improved energy efficiency in healthcare infrastructure. Implementing sustainable WASH systems and adopting a One Health approach can decrease air and water pollution, leading to a healthier environment. Enhancing resilience in public health services and infrastructure will contribute to long-term carbon savings and avoided emissions from disaster-related reconstruction.

The most relevant nexus to SDGs

SDG 3, 5, 6, 10 and 13.

Key actions

1. Support community-based risk reduction initiatives focusing on health risks related to climate and environmental issues, stressors, and disasters, taking into consideration the risks related to women's reproductive and sexual health.
2. Assess population and public health vulnerability to climate change, identifying current and future health effects, as well as impacts related to the additional burden of climate change on health.
3. Determine the baseline of climate change resilience through assessing the facilities' vulnerabilities to climate change hazards; and develop a set of procedures for healthcare facilities to continuously implement and evaluate risk management programs and ensure the sustainability of existing health functions and services in relation to climate risk.
4. Enhance the Early Warning and Response System to health risks, including epidemic, climatic, and other risks through the full automation and operationalization of the One Health approach, while adopting a gender-responsive approach.
5. Ensure emergency preparedness and response capacity by developing high-quality, regularly stress-tested, and updated inclusive preparedness and anticipation plans, and structures

complemented by community engagement with specific focus on vulnerable groups such as children, women, the elderly, persons with disabilities and internally displaced Lebanese persons.

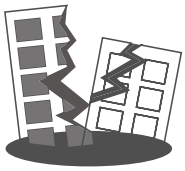
6. Develop a health information system master plan with a decentralized data center with data disaggregated by sex, location and displacement for Lebanese citizens.
7. Enhance climate-resilient health infrastructure through targeted investments, including improvements in gender-inclusive WASH systems and renewable energy sources.
8. Develop and implement a MoPH gender-responsive climate and health adaptation plan in complementarity with the National Health and Environment Strategy Framework of Action 2021 - 2026.
9. Adopt and implement an integrated disease surveillance strategy, including indicator-based and event-based surveillance components, and incorporating new climate-related health outcomes through enhancing the Epidemiological Surveillance Unit (ESU).
10. Build gender-sensitive awareness and capacity for climate and health resilience through strengthening overall emergency management capacities within the Ministry, organizing training programs and workshops for MoPH and PHC staff and public awareness campaigns.
11. Operationalize the climate change and health task force to coordinate climate action related to public health and healthcare systems, while ensuring effective coordination with key ministries and women's machinery.

Relevant reference documents

- Lebanon National Health Strategy: Vision 2030 - 2023.
- Lebanon National Health Strategy: 2-year review - 2025.

Linkages with national strategies

- National Disaster Risk Reduction Strategy (2021-2030).
- Agriculture Strategy (2025-2026).
- Draft Health and Environment Strategy National Framework of Action - 2023.
- Lebanon's National Strategy on Women.
- Lebanon's National Action Plan on 1325.



Disaster Risk Reduction Priorities

Adaptation priority 7

Reduce disaster risk and minimize damage by mitigating and adapting to climate-related hazards and extreme weather.

Mitigation and other environmental co-benefits

All activities will result in risk-informed urban and land-use planning that avoids high-risk areas and protects carbon-rich ecosystems, which in turn will contribute to reducing GHG emissions. Promoting resilient reconstruction using low-carbon building materials and energy-efficient retrofitting practices can significantly lower the carbon footprint of the built environment.

The most relevant nexus to SDGs

SDGs 1, 3, 5, 9, 11, 13, 15, and 17.

Key actions

1. Conduct multi-hazard risk assessments and analysis at regional and local scales, update/revisit flood, fire, and drought risk maps and identify priority areas/hot zones to be considered in strategic land-use planning and risk reduction actions.
2. Develop human-centered multi-hazard gender-sensitive early warning and early actions policies at all levels (sectoral, national, regional, and community) based on the conducted multi-hazards assessments, taking into consideration Gender-Based Violence prevention in emergency planning.
3. Build capacities to develop and implement response framework and response plans at all levels (sectoral, national, regional, and community), including capacity building on standard operational procedures for various risk-vulnerable groups, including rural women.
4. Develop gender-responsive preparedness plans and recovery policies based on the principles of building back better at all levels (sectoral, national, regional, community).
5. Develop a gender-sensitive mechanism to assess, attribute, and categorize climate-related loss and damage in Lebanon that would feed into Lebanon's reporting under the Sendai Framework, and identify a risk insurance mechanism for loss and damage related to climate disasters.

6. Strengthen disaster-resilient public and private investments by enhancing risk prevention in critical facilities, encouraging private-sector financing for disaster management, providing voluntary guidelines for homeowners, including women-led households, establishing mandatory standards for critical infrastructure, and promoting resilience through proper design, construction, retrofitting, and maintenance while considering economic, social, structural, technological, and environmental impacts.

Relevant reference documents

- Draft National Disaster Risk Reduction Strategy (2021 - 2030).

Linkages with national strategies

- Lebanon National Agriculture Sector Strategy (2021 - 2025).
- Ministry of Agriculture (2025 - 2026).
- National Physical Master Plan for the Lebanese Territory (NPMPLT, 2009).
- Lebanon National Health Strategy: Vision 2030 - 2023.
- National Biodiversity Strategy Action Plan (NBSAP, 2025).
- Draft Destination Marketing Organizations (DMO) Sustainable Tourism Strategy for the Mountains of Lebanon (MoE/UNDP/GEF, 2021).
- National Forest Fire Strategy (MoE, 2023).
- Lebanon's National Strategy on Women.
- Lebanon's National Action Plan on 1325.

Tourism Priorities

Adaptation priority 8

Promote climate resilience through sustainable tourism that supports economic diversification across Lebanon.

Mitigation and other environmental co-benefits

All activities will result in reduced GHG emissions through energy-efficient and climate resilient tourism infrastructure and adopting a circular economy and implementing sustainable resource use, such as waste reduction and local green supply chains, will further decrease the carbon footprint of the tourism sector. Promoting low-carbon, year-round tourism alternatives (e.g., agritourism and ecotourism) will also avoid emissions associated with high-impact tourism types.

The most relevant nexus to SDGs

SDGs 8, 11, 12, 13, and 15.

Key actions

1. Diversify tourism by expanding rural and mountain destinations and developing year-round cultural, historical, religious, agritourism, ecotourism, and nature-based safe experiences to reduce reliance on climate-vulnerable tourism types, such as sea- and snow-based tourism, and mitigate seasonal variations.
2. Ensure climate-resilient tourism infrastructure by promoting sustainable gender-responsive design, implementing water-saving technologies, and retrofitting tourism facilities for energy efficiency and extreme weather resilience.
3. Integrate tourism planning with territorial master plans and ecosystem protection to enhance landscape and coastal zone resilience, ensuring the sustainable use of natural resources.
4. Strengthen the tourism sector by creating equitably accessible green jobs and adopting circular economic practices, including sustainable resource use, waste reduction, and local green supply chains, to build climate resilience and support inclusive, long-term employment.

5. Engage local communities and tourism operators through inclusive training programs on climate resilience, sustainable tourism practices, and gender-responsive emergency preparedness for extreme weather events.

Relevant reference documents

- Draft Destination Marketing Organizations (DMO) Sustainable Tourism Strategy for the Mountains of Lebanon (MoE/UNDP/GEF, 2021).
- Ministry of Tourism Vision 2035.

Linkages with national strategies

- National Disaster Risk Reduction Strategy (2021 - 2030).
- Lebanon National Agriculture Sector Strategy (2021 - 2025).
- Ministry of Agriculture (2025 - 2026).
- National Biodiversity Action Plan (2025 - 2030).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Support Needs for the Implementation of Lebanon's NDC 3.0

Successfully delivering on Lebanon's climate commitments under NDC 3.0 will require significant financial and technical support to transform national ambition into tangible impact. While the NDC sets the strategic course for low-emission and climate-resilient development through 2035, it is supported by two complementary instruments: the Long Term - Low Emission Development Strategy (LT-LEDS), which sets a strategic vision for achieving net-zero emissions by 2050, and the National Adaptation Plan (NAP), which translates adaptation priorities into concrete actions.

Preliminary costing conducted through the LT-LEDS and NAP processes estimates that Lebanon will require significant investment for transition (mitigation) and resilience (adaptation) interventions across priority sectors including energy, transport, agriculture, water, waste, forestry, and biodiversity. Such investments will require the development of specific measures aligned with the NDC 3.0 targets and the LT-LEDS 2050 vision*, collectively aiming to shift Lebanon toward a greener, more inclusive, and shock-resilient economy.

To complement these needs, the Lebanon Green Investment Facility (LGIF) has been established as a national climate finance mechanism with an initial private-sector-oriented pipeline estimated at USD 150 million. LGIF is designed to de-risk investment, crowd-in private capital, and serves as a centralized platform for blending public and international climate finance in support of NDC-related projects.

Recognizing the critical role of finance in scaling climate action, Lebanon is also developing an NDC Implementation Plan and an accompanying Finance and Investment Strategy. These will refine financial needs, identify investment-ready opportunities, and provide a structured framework for international cooperation, private sector mobilization, and national planning coherence.

While precise costing of the full NDC 3.0 remains under development, additional resource requirements are anticipated for adaptation across agriculture, health, water, urban systems, and disaster risk reduction. Lebanon's updated GCF Country Programme (2024) identifies 9 full projects and 2 readiness activities requesting over USD 327.5 million in grants and loans to support the implementation of climate actions, especially in highly vulnerable communities.

These needs are further compounded by the economic and fiscal constraints the country faces, which have limited the capacity for domestic budget allocations to climate-relevant investments. This makes international support through grants, concessional finance, technical assistance, and capacity building essential, not only to meet the mitigation and adaptation goals of the NDC, but also to unlock wider co-benefits in public health, food security, employment, and ecological restoration.

In this context, Lebanon calls upon its international partners to recognize the urgency and opportunity presented by the NDC 3.0 agenda. Aligning support with the country's NDC, NAP, and LT-LEDS, while

* MoE/UNDP (2025). A pathway towards a climate resilient economy: Lebanon's Long Term – Low Emission development strategy (LT-LEDS). Beirut Lebanon

leveraging the LGIF as a national investment platform, offers a coherent and transparent pathway to finance climate action. Bridging the gap between ambition and implementation will enable Lebanon to move decisively toward a climate-resilient and low-emission future that benefits people, nature, and the economy alike.

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V / Institutional Arrangements and Monitoring, Reporting, and Verification (MRV) Framework

Institutional responsibilities for climate action in Lebanon remain fragmented, particularly with respect to climate reporting, where it has largely been ad hoc and dependent on externally driven initiatives, and while the NDC Committee, established by Council of Ministers' Decision 33/2017 and chaired by the Ministry of Environment, includes nominated representatives from different ministries and other governmental entities, exists, it has not yet functioned as an effective coordination mechanism, resulting in limited structured monitoring, reporting, and evaluation of progress.

To address these gaps, Lebanon has established an Enhanced Transparency Framework (ETF) in line with Article 13 of the Paris Agreement, providing an institutional platform to track progress on mitigation and adaptation. At its core, the Climate Secretariat at the Ministry of Environment functions as the technical and coordination hub, consolidating information across sectors, preparing national reports, and supporting the NDC Committee, which operates as the high-level inter-ministerial body validating policies, assessing progress, and ensuring alignment of national efforts with international commitments. Thematic taskforces have been created and are operational under the Committee, bringing together ministries, technical agencies, academia, and civil society to systematically collect and validate data for mitigation, adaptation, and support indicators, embedding technical expertise directly into reporting; this has already enabled the development of national-level indicators that move beyond ad hoc project monitoring.

Supporting these arrangements, the Management Information System for Climate Action in Lebanon (MISCAL) has been created as the central repository and visualization tool, allowing taskforce members to upload and validate data, monitor progress through dashboards, and generate outputs in multiple formats, with a two-step validation process, unilateral and peer review, ensuring quality and consistency. Together, these arrangements demonstrate Lebanon's transition from fragmented, donor-dependent

practices to a nationally owned, permanent system for monitoring, evaluating, and reporting on climate action, with durability reinforced through the forthcoming Climate Change Law under the NDC 3.0 process, which will anchor the Climate Secretariat, formalize the NDC Committee and taskforces, and codify MISCAL as the national reporting platform to ensure a coherent, accountable, and sustainable system for NDC implementation.

06

VI / Cross-cutting Issues

Participatory Process

The development of NDC 3.0 followed through a participatory and consultative process involving bilateral and consultation meetings with the key institutions across sectors, in addition to non-state actors and youth representatives. The adaptation and mitigation priorities stemmed from Lebanon's sectoral strategies and the updated 2021 NDC and were further validated through a consultative process involving focused group discussions with relevant stakeholders. The approach was based on a bottom-up approach that captured the needs and priorities of the relevant ministries ensuring government ownership of the NDC 3.0, and respective alignment with the technical support provided by key UN agencies.

The formulation of mitigation targets and adaptation priorities was informed by national strategies, and sectoral plans resulting in a coherent and evidence-based framework. Table 1 below outlines the key policy documents that guided the identification and alignment of Lebanon's NDC 3.0.

Table 1: Key policies informing Mitigation and adaptation priorities for the NDC 3.0

Sector	Policy document	Brief description
Agriculture	▪ MoA Strategic Guidance 2025-2026. ▪ National Agriculture Sector Strategy 2020-2025.	The strategic guidance provides key axes for development with their respective enablers. It addresses adaptation by strengthening farmers' resilience through sustainable agriculture and national capacity-building programs. The agriculture and forestry priorities align with the Ministry of Agriculture's Strategic Guidance (2025-2026) strategy, more specifically, its fourth goal, which highlights improving climate change adaptation and sustainable management of agrifood systems and natural resources.

Sector	Policy document	Brief description
Forestry	▪ MoA Strategic Guidance 2025-2026. ▪ National Agriculture Sector Strategy 2020-2025. ▪ National Forestry Program, 2015-2025.	The three documents focus on adopting sustainable forest management, reducing climate impacts such as forest fires, pest outbreaks, and forest degradation from the recent war, through restoration and forest management, sustainable rangeland management, biodiversity conservation efforts, and monitoring pests and diseases.
Biodiversity	▪ National Biodiversity Strategy and Action Plan 2025-2030.	The updated NBSAP integrates several adaptation actions through risk reduction, sustainable use, the use of adapted local genetic material in agriculture and reforestation, spatial planning using nature-based solutions, and an ecosystem-based approach, to enhance connectivity.
Water	▪ National Water Sector Strategy (MoEW, 2024).	The 10-year strategy was updated in 2024 and includes elements related to efficient water demand management, water governance, and digitalization.
Health	▪ Lebanon National Health Strategy: Vision 2030 (MoPH, 2024) and Lebanon National Health Strategy: 2-year review - 2025.	The strategy and its review hold several aspects related to adaptation, covering community-based risk reduction initiatives, early warning and integrated surveillance approaches, the development of adaptation and preparedness plans, and the creation of unified information systems.
Disaster Risk Reduction	▪ National Disaster Risk Reduction Strategy 2021-2030.	The 10-year strategy includes four priorities, all considered as adaptation actions, and varying from multi-hazard assessments, prioritizing vulnerable and high-risk areas in land use planning, and developing early warning systems and mechanisms to assess loss and damage from various risks, strengthening climate-resilient investment.

Sector	Policy document	Brief description
Tourism	▪ Draft Destination Marketing Organizations (DMO) Sustainable Tourism Strategy for the Mountains of Lebanon (MoE/UNDP/GEF, 2021). ▪ Ministry of Tourism Vision 2035.	The strategies focuses on promoting sustainable and inclusive tourism including in the mountains of Lebanon above 500m, as key areas for ecotourism and rural development. It aims to position the country as a leading sustainable mountain tourism destination. It focuses on preserving natural and cultural landscapes, diversifying tourism experiences, and fostering community involvement through local management models. It seeks to balance tourism activities with ecosystem protection, including forests, agricultural terraces, and water sources, and socio-economic benefits.
Urban Infrastructure	▪ National Physical Master Plan of the Lebanese Territory (NPMPLT, 2009). ▪ Draft High Mountains Strategic Land Use Planning (MoPWT/ MoE, 2025).	The NPMPLT remains the most integral document for strategic land use planning and local master plans. The High Mountain Strategic Land Use Planning highlights various development activities related to natural risks and climate change, such as water harvesting, adapted forest and rangeland management, diversification of income sources, and agri-tourism. Since the main objective is to achieve Land Degradation Neutrality Targets, it is a crucial part of adapting to climate change.
Energy	▪ MoEW Policy Statement 2022. ▪ NREEAP 2024-2030. ▪ Law No. 318 of 2023.	The MoEW Policy paper 2022 proposes a list of initiatives to reform Lebanon's electricity sector based on the Least Cost Generation Plan prepared by Électricité de France EDF in September 2021, and on "Lebanon Power Sector Emergency Action Plan" developed by World Bank in 2020. The National Renewable Energy Action Plan (NREAP) puts in place all initiatives and efforts for increasing the share of renewable energy in Lebanon for the period 2024-2030. The decentralized renewable energy law streamlines regulations and guarantees grid access for decentralized systems, fostering the growth and incorporation of renewable energy initiatives.

Sector	Policy document	Brief description
		It promotes involvement from private enterprises and empowers local communities to produce and oversee their own energy, thereby diminishing dependence on the unreliable national grid. The World Bank Lebanon Renewable Energy and System Reinforcement Project (2024) which includes activities related to the expansion of utility scale solar PV and the improvement of transmission lines.
Transport	▪ Draft E-mobility strategy (MoPWT/ UNDP 2025).	The national e-mobility strategy will provide Lebanon with a coherent framework to accelerate electric vehicle adoption, design enabling policies for charging infrastructure, and identify priority fleet electrification opportunities. By guiding investment and regulatory action, the strategy will chart a pathway to modernize transport, reduce fossil fuel dependence, and improve air quality, aligning with Lebanon's NDC objectives and supporting future climate mitigation actions.
Waste	▪ Draft National Solid Waste Management Strategy (NSWMS 2024).	The Draft 2024 National solid waste management strategy is an update of the 2021 national strategy with clearer objectives, institutional and legal mechanisms, operational structures and revised datasets.
General	▪ Pathway towards a Climate Resilient Economy: Lebanon's Long Term - Low Emission Development Strategy (LT-LEDS).	The LT-LEDS is a roadmap towards achieving net-zero emissions and climate resilient development by 2050. Yet, it suggests various adaptation and mitigation actions for multiple sectors like agriculture, tourism, public health, water, and material management.

Sector	Policy document	Brief description
General	▪ National Adaptation Plan (NAP).	The National Adaptation Plan (NAP) focuses on strengthening Lebanon's resilience to climate change across vulnerable sectors and regions. It aims to position adaptation as a core pillar of sustainable development planning. It builds on and further develops the adaptation priorities outlined in Lebanon's NDC, translating them into actionable measures. It focuses on integrating climate risks into national and local policies, advancing sector-specific adaptation actions, and promoting inclusive governance through stakeholder engagement. It seeks to balance long-term resilience-building with ecosystem protection, social equity, and economic stability.
General	▪ Lebanon's National Action Plan (NAP) on 1325.	Lebanon's National Action Plan (NAP) on 1325 is a four-year plan focusing on implementing the UN Security Council Resolution 1325 on Women, Peace, and Security. The plan aims to increase women's participation in decision-making processes, particularly in political, diplomatic, economic, security, and defense sectors. The plan also aligns with the broader 2030 Agenda for Sustainable Development, particularly the goals related to gender equality and women's empowerment.
General	▪ Lebanon's National Strategy on Women.	Lebanon's National Strategy for Women (2022–2030), led by the National Commission for Lebanese Women (NCLW), provides the country's roadmap to advance gender equality and women's empowerment. It prioritizes women's political participation, economic empowerment, protection from GBV, and access to education, health, and social protection, while also integrating women's roles in peace, security, and crisis response. The strategy promotes gender mainstreaming across policies and budgets, aligning with CEDAW, the SDGs, and Lebanon's NAP 1325.

The National Adaptation Plan (NAP), which is prepared in tandem with NDC 3.0, has also been considered in the process, since it provides insights into gaps and needs to prioritize sectoral actions. Therefore, the NDC outlines the broader adaptation strategic framework, while the NAP encompasses the specific actions that contribute to the implementation of the NDC. Involving members of the adaptation task force, representatives from various sectors (sectoral task forces), UN agencies and key ministerial partners, was crucial for the process.

The process of developing mitigation targets involved a comprehensive multi-sectoral assessment of projected GHG emissions, considering the impact of implemented, adopted, and planned policies and measures under a conservative economic development scenario.

Youth, Gender and Inclusivity

Youth Engagement

Lebanon's NDC 3.0 recognizes youth as key contributors to national climate change planning and implementation. The NDC 3.0 also recognizes that youth are not a homogenous group, and emphasizes the inclusion on young women, rural youth, and marginalized communities in climate decision-making. It seeks to align its efforts with international frameworks such as the UNFCCC Action for Climate Empowerment (ACE) agenda.

Through recent consultations and sector-specific discussions, youth stakeholders have proposed actionable interventions that align with the NDC's sectoral adaptation and mitigation priorities and address critical capacity, behavioural, and governance gaps. To ensure sustained engagement with youth in Lebanon, the NDC also promotes the establishment of structured youth participation mechanisms, including promoting advisory platforms and integration of youth representatives in sectoral coordination bodies, to anchor their role in climate governance.

In the health sector, youth recommendations support enhanced institutional and community-based resilience and highlight the importance of their participation in the Ministry of Public Health's data management systems and the implementation of climate-sensitive health awareness campaigns. These initiatives align with the public health sector's priority and actions, which aims to operationalize integrated health information systems, advance early warning mechanisms, and build local health system resilience.

On water, youth-led innovation through digital platforms and mobile applications can contribute to real-time monitoring and water conservation, reinforcing the water sector's priority and actions. Additional youth recommendations include integrating water sustainability into formal education curricula, enhancing long-term public awareness and aligning with the NDC's cross-sectoral focus on capacity-building and environmental literacy.

In the agriculture and forestry sector, Lebanese youth proposed the development of localized seed banks and germplasm hubs to support climate-resilient agriculture, ecosystem restoration, and biodiversity recovery, particularly in conflict-affected areas. These initiatives support both the agriculture and forestry sector's priorities by contributing to agricultural rehabilitation and sustainable forest and rangeland

management. Further, youth have proposed training programs on Environmental, Social, and Governance (ESG) compliance and the establishment of digital tools to facilitate access to finance for smallholder farmers, aligning with broader NDC objectives on sustainable agri-food systems, innovation, and resource governance. To strengthen cross-sectoral, and implementation of the NDC that brings multiple benefits towards the Sustainable Development Goals (SDGs), and ultimately the 2030 Agenda, the NDC underscores the need for climate finance for youth entrepreneurship support, and partnerships with the private sector and development partners to scale up green, youth-led initiatives.

In waste management, youth proposed the formation of a youth advisory body on waste policy and management to influence behavioural change, participate in educational outreach, and support local waste governance. These recommendations are mainstreamed in the NDC 3.0 through the integration of circular economy principles into mitigation targets, urban planning, and service delivery systems.

In the energy and transport sectors, youth contributions focus on awareness and accountability related to technological interventions through developing digital and gamified tools to enhance public understanding of energy consumption, transport emissions, and the lifecycle impacts of low-carbon technologies. These activities promote responsible consumption and strengthening the social foundations of Lebanon's energy transition, consistent with the NDC's approach to integrated mitigation–adaptation actions.

Across all sectors, youth emphasized the importance of enhancing climate education, participatory policy development, and decentralized awareness mechanisms. Their sector-specific recommendations highlight opportunities to integrate youth-led digital innovation, education, and restoration activities into national adaptation frameworks, while also supporting institutional coordination and public sector reform objectives embedded in the NDC. This includes aligning with the Ministry of Education and Higher Education's curriculum reform process to integrate climate and environmental components, promoting climate-resilient school infrastructure, and embedding school-based preparedness and disaster risk reduction frameworks, ensuring that children and youth are equipped with the knowledge and tools to actively contribute to resilience. To reinforce accountability, youth will also contribute to monitoring and reporting processes, ensuring their inputs are reflected in NDC progress tracking.

Gender Equality and Social Inclusion

Climate change impacts in Lebanon are deeply gendered and socially differentiated. Women, youth, internally displaced Lebanese communities, persons with disabilities, and low-income groups face heightened vulnerability due to unequal access to resources, services, and decision-making. In fact, women in Lebanon are often responsible for household energy use, water collection, and food security, thus bearing a heavier share of environmental risks and making them frontline actors in climate adaptation and mitigation. Additionally, despite being highly active in the agricultural sector, especially in Bekaa and Akkar, women often access land through male relatives and are concentrated in informal, unpaid, or underpaid work. They also face restricted access to finance, technology, markets, and climate information, increasing their vulnerability to climate impacts, as well as the risk of Gender-Based Violence (GBV).

Lebanon's NDC 3.0 adopts a gender-responsive and socially inclusive approach to climate adaptation and mitigation. Gender Equality and Social Inclusion (GESI) principles are mainstreamed across sectoral priorities, with a focus on:

- Enhancing women's participation and leadership in climate-resilient food systems and sustainable land and water management.
- Strengthening gender-responsive health systems and social protection in the face of climate risks.
- Expanding access to climate information, finance, and technologies for marginalized groups, especially in conflict-affected and rural areas.
- Promoting women's participation in the design and management of climate adaptation measures and actions.

The NDC's subsequent implementation plan will integrate GESI considerations into Monitoring, Reporting, and Verification (MRV) systems, including through disaggregated data collection (by gender, age, disability, displacement status) to support evidence-based planning. Lebanon aligns its climate governance with international frameworks, including the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), the Paris Agreement, as well as national gender equality frameworks such as the National Strategy for women in Lebanon developed by National Commission for Lebanese Women (NCLW), along with a National Action Plan , ensuring that adaptation and mitigation measures address the compounded risks of gender inequality and climate-induced insecurity.

Importantly, the NDC also recognizes the gender-climate-peace nexus, drawing on the Women, Peace and Security (WPS) Agenda as a transformative framework. By mainstreaming Lebanon's National Action Plan (NAP) 1325, the NDC links climate action with conflict prevention, resilience-building, and GBV risk mitigation, ensuring that women are empowered not only as climate actors but also as agents of peace and stability in fragile contexts.

Institutions such as NCLW and sectoral gender focal points will play a key role in promoting inclusive implementation, including through gender-responsive budgeting and stakeholder engagement with civil society and local actors. As such, Lebanon's NDC 3.0 frames climate action not only as an environmental necessity, but as a pathway towards better equity, inclusive participation, and resilience for all.

The NDC 3.0 acknowledges the central role those local communities and authorities, including municipalities and unions of municipalities, play in ensuring that climate action is inclusive, participatory, and responsive to the differentiated needs of women, men, youth, and vulnerable groups. Building on past experiences with locally developed Sustainable Energy and Climate Action Plans (SECAP), the NDC 3.0 implementation plan support and incentivize municipalities and local authorities to further plan and implement processes that reflect local priorities, promote social equity, encourage private sector engagement and strengthen the role of women and marginalized groups in climate decision-making. This complementary distribution of roles enhances ownership, accountability, and inclusiveness in the achievement of Lebanon's NDC targets.

Just Transition

To ensure that climate action supports equitable economic transformation, safeguards livelihoods, and enhances social protection, particularly for vulnerable groups, Lebanon is integrating a just transition lens in its NDC priorities. Recognizing the uneven impacts of climate change and low-carbon transitions across communities and sectors, Lebanon's approach prioritizes inclusion, fairness, and resilience.

The just transition lens applies across key sectors in the NDC:

- Agriculture Sector: supports the shift to climate-smart practices by promoting rural employment, skills development, and access to finance for smallholder farmers and cooperatives.
- Water Sector: ensures equitable access to sustainable services through community-driven inclusive management, affordability measures, and infrastructure upgrades in underserved areas.
- Urban Infrastructure: promotes inclusive reconstruction and resilient design, with a focus on conflict-affected zones and nature-based solutions.
- Public Health Sector: addresses the social dimensions of climate impacts by enhancing health system resilience and protecting at-risk populations.
- Energy and Transport Sector: advances equitable transition by promoting green mobility and electrification of public transport in tandem with increase of renewable energy penetration, with a focus on creating decent jobs, reducing urban air pollution, and ensuring affordable, low-emission transport options for underserved communities.
- Waste Sector: supports inclusive waste management systems by expanding community-based recycling initiatives, enhancing job opportunities in the informal waste sector, and improving public health through better solid and wastewater infrastructure in marginalized areas.

The NDC framework emphasizes cross-sectoral enablers, such as digital and technological innovation (remote sensing, mobile apps, GIS based tools, etc.), capacity-building, and governance reform, that must be implemented with a focus on inclusion, particularly for youth, women, internally displaced Lebanese communities, and informal workers.

Lebanon's just transition approach should be aligned with International Labour Organization (ILO) guidelines and the UAE Just Transition Work Programme, focusing on green job creation, workforce reskilling and upskilling, skills transfer through diaspora engagement, expanded social protection, and inclusive participation. It incorporates gender, age, disability, and Lebanese displacement considerations, and is shaped by the world of work, civil society and youth inputs calling for locally grounded, conflict-sensitive solutions. Institutional coordination across key ministries ensures the transition is both environmentally sustainable and socially equitable.

07
VII / Cross-cutting Enablers

Climate enablers are essential conditions that facilitate stakeholder engagement, allowing effective participation in mitigation and adaptation activities. Enablers are most effective if based on robust governance mechanisms, regulations, skills development, engagement, and partnerships. Hence, these enablers are crosscutting among various institutions, contribute to the achievement of numerous Sustainable Development Goals, including SDGs 4 (Quality Education), 16 (Peace, Justice, and Strong Institutions), and 17 (Partnerships for the Goals). Enablers are grouped into four categories: operational, technical, political and legal, and financial, but they are listed in terms of sectors in Annex 1.

Operational Enablers

Are the most cited across all sectors and encompass partnerships, governance, access to information and resources, coordination, and monitoring. They include:

i. Improved governance and institutional capacities to reform, analyse, coordinate, and regulate climate and sustainable development action,

ii. Upscaled and strengthened partnerships between public institutions and Non-State Actors (NSAs) such as the private sector, NGOs, academia, and civil society,

iii. Integrated and inclusive approach to climate crisis solutions, encompassing youth, gender, and vulnerable communities, including institutional coordination for the prevention of GBV in areas vulnerable to climate change impacts,

iv. Enhanced monitoring and transparency, adopting a transparency framework to improve institutional arrangements, data availability and periodicity, and monitoring and evaluation of adaptation and mitigation projects through the development of specific indicators*.

Examples include integrating climate change into development strategies, establishing data access and management mechanisms, forming partnerships among government agencies and NSAs, and ensuring resources and services for smallholders, women, marginalized groups, and vulnerable communities. Other specific sectoral examples include developing prototypes for regional centers in the agricultural sector and deploying mobile units to encourage collaboration among farmers and cooperatives.

* The Operational enablers retain CAE1, CAE3, CAE5, and CAE6 from NDC 2.0.

Cross-sectoral enablers also include coordinating among public institutions for urban infrastructure planning, health governance, strengthening disaster risk management governance, developing guidelines to reduce existing and prevent new risks, and assessing synergies between disaster risks, sustainable development, poverty reduction, and climate change adaptation. Monitoring encompasses a periodic evaluation of climate mitigation and adaptation plans or regular risk assessment policies. Data collection prioritizes hydrometeorological (rainfall, river flows, drought indices, etc.), environmental (land cover change, soil moisture, etc.) and socio-economic data (poverty maps, health vulnerability, etc.).

Technical Enablers

Technical enablers encompass research and development, digitalization, modernization, upgrading infrastructure, capacity building and skills improvement. It encourages innovative research and development to reduce the carbon intensity of its economy by accelerating low-carbon and sustainable technologies and reorienting scientific research towards applied sciences and decision-making*. An example is strengthening research-extension linkages by establishing a national platform for optimized and efficient rural advisory services, engaging stakeholders, internship programs, research grants, and seed funds for start-ups focused on innovations.

Examples of technical enablers include upgrading public institutions' facilities, equipment, and tools to ensure efficiency and reduce paperwork for various groups (farmers, investors, landowners, etc.). This involves establishing digitalized information systems and data centres for data collection, analysis, reporting, and simulation of future trends by incorporating climate data, including data access and sharing mechanisms, fostering collaboration, coordination, and monitoring across various sectors. Additional enablers address the technical capabilities of civil servants through specialized training programs which can enhance their ability to respond effectively to risks and develop policies that incorporate future climate scenarios.

Political and Legal Enablers

These enablers are directly related to the decision-making process framed by the national policies, laws, and regulations. A relevant example is to assess and revise incentive mechanisms for the efficient and appropriate enforcement of environmental regulations. Enforcing the Water Law 192/2020 and implementing articles pertaining to polluting water bodies based on the polluter-pays principle and developing an emergency response plan to preserve vulnerable water resources is another example. Several laws require updating and revision, including construction law and building codes, as well as relevant laws to align with climate change, the Barcelona Convention, the Sendai framework, and other international conventions. The MoA explicitly cites the review of the legislative framework related to agriculture and natural resources management (including forest, seed, cannabis, and fisheries laws) and harmonize it with the conventions that are ratified by the Government concerning climate change, combating desertification, and biodiversity, and develop a mechanism for monitoring law enforcement.

* Adapted from CAE4 of NDC 2.0.

Among the cross-sectoral examples is to assess the need for a separate legal and operational framework for irrigation and upgrade its institutional structure with a clear definition of responsibilities and coordination among the various relevant institutions (MoA, MoEW, Water Establishments, LRA, Green Plan). Other examples are to develop a comprehensive data-sharing protocol and legal framework to facilitate data exchange between public and private institutions, focusing on establishing quality assurance measures and clear guidelines for data management and usage, or to revise the sectoral mandates to align with best practices and global lessons. A specific example is to create a waiver mechanism allowing active prevention measures to reduce fire risk, pest outbreaks, and other climate hazards in vulnerable ecosystems, regardless of ownership.

Financial Enablers

Financial enablers are common across all sectors. Although they mainly focus on external financial resources mobilization in the short term, internal public resource mobilization should be envisaged for the longer term. It is therefore important to foster an innovative environment by augmenting the private sector capacities, driving public investments for research and piloting, partnering with academic bodies to provide the needed readiness for transformational change, and encouraging innovation labs, startups and incubation processes*.

For external funding: i) rehabilitating infrastructure to address operational inefficiencies in public services (quarantines, laboratories, frontier posts), ii) mobilizing resources for implementing adaptation measures, including international climate financing for health system resilience, biodiversity or other sectoral projects, or iii) allocating the necessary financial resources to DGUP to achieve the design of master plans for all cities and towns on a national scale.

Mixed and domestic financial sources examples include the following examples: i) redirecting subsidies and credit facilitation policies to be in line with the proposed mitigation and adaptation measures in the agriculture sector, ii) creating a regulatory enabling environment for private investment, including innovative technical solutions and improved access to climate finance and insurance, iii) promoting private sector investment in forest protection, sustainable resource management, and energy projects, iv) developing a climate finance framework that emphasizes the importance of climate and green finance taxonomies, and complementary tools to strengthen private-public partnership, while analysing climate and green finance flows towards Lebanon, v) developing financial tools and economic policies (e.g., tariffs, fines, water metering) to ensure the sustainability and financial balance of water and energy services, and, vi) implementing measures to retain skilled staff by offering professional development and career advancement opportunities.

* Adapted from CAE4 of NDC 2.0

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VIII / Information to Facilitate Clarity, Transparency, & Understanding (ICTU)

Mitigation:

Recalling Article 4.8 of the Paris Agreement (decision 1/CP.21), as well as decisions 4/CMA.1, 18/CMA.1, 6/CMA.3, and 1/CMA.51, Lebanon provides the following descriptive and contextual information to enhance the clarity, transparency, and understanding of its NDC 3.0.

1. Quantifiable information on the reference point (including, as appropriate, a base year):	
(a) Reference year(s), base year(s), reference period(s) or other starting point(s);	The reference for Lebanon NDC targets is a BAU scenario estimated from the latest available national GHG inventory to 2035.
(b) Quantifiable information on the reference indicators, their values in the reference year(s), base year(s), reference period(s) or other starting point(s), and, as applicable, in the target year;	Quantification of the emission reductions will be reported under Lebanon Biennial Transparency Report and National Inventory Report in accordance with modalities, procedures and guidelines of the UNFCCC Enhanced Transparency Framework.
(c) For strategies, plans and actions referred to in Article 4, paragraph 6, of the Paris Agreement, or policies 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;	Targets: ▪ Unconditionally reduce GHG emissions by 22% below the BAU scenario (amounting to 7,790 Gg. CO_2eq.) and conditionally reduce GHG emissions by 33% below the BAU scenario (amounting to 12,075 Gg. CO_2eq.) in 2035. ▪ Unconditionally generate 25% of the power demand (i.e. electricity demand) by renewable energy sources and conditionally generate 30% of the power demand by renewable energy sources in 2035.

(e) Information on sources of data used in quantifying the reference point;	The source of data used is the latest available national GHG inventory. Quantification of the reference indicator will be based on data reported in the National Inventory Report submitted in the BTRs.
(f) Information on the circumstances under which the Party may update the values of the reference indicators.	The GHG emissions level for the BAU scenario, unconditional and conditional targets may be updated and recalculated depending on methodological changes in the GHG inventory or changes in Global Warming Potential (GWP) in IPCC Assessment Reports. Information on updates made will be included in Biennial Transparency Reports (BTR).
2. Time frames and/or periods for implementation:	
(a) Time frame and/or period for implementation, including start and end date, consistent with any further relevant decision adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA);	The time frame for the implementation of the NDC is 1st January 2031 to 31st December 2035.
(b) Whether it is a single- year or multi-year target, as applicable.	A single-year target in 2035.
3. Scope and coverage:	
(a) General description of the target;	Please refer to 1 (d) above.
(b) Sectors, gases, categories and pools covered by the nationally determined contribution, including, as applicable, consistent with Intergovernmental Panel on Climate Change (IPCC) guidelines;	As NDC targets are economy-wide, their scope is defined by the sectors and gases included in the national GHG emission inventory, reported as part of its Biennial Transparency Reports (BTR), and consistently with the relevant IPCC guidelines. The sectors and gases included are: **Sectors** Energy, industrial processes and product use, agriculture, forestry and land-use, and waste. **Gases** Carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O). hydrofluorocarbons (HFCs), For agriculture, forestry and land-use, emissions and removals the following reporting categories are included: forest land, cropland, grassland, and wetland (wetland remaining wetland only from 2026), including land use changes between the categories, and between these categories and settlements and other land. The five carbon pools above-ground biomass, below-ground biomass, litter, dead wood and soil organic matters are included. In addition, carbon pool harvested wood products are included.
(c) How the Party has taken into consideration paragraphs 31 (c) and (d) of decision 1/CP.21;	Lebanon's NDC is economy-wide and therefore complies with this provision. All source and sink categories have been included as per the latest national GHG inventory. Notation keys have been used in accordance with the IPCC 2006 Guidelines and paras. 31 and 32 of the Decision 18/CMA.1 Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement.

(d) Mitigation co-benefits resulting from Parties' adaptation actions and/or economic diversification plans, including description of specific projects, measures and initiatives of Parties' adaptation actions and/or economic diversification plans.	Not applicable.
4. Planning processes:	
a) Information on the planning processes that the Party undertook to prepare its nationally determined contribution and, if available, on the Party's implementation plans, including, as appropriate: (i) Domestic institutional arrangements, public participation and engagement with local communities and indigenous peoples, in a gender-responsive manner;	The National NDC committee, chaired by the Minister of Environment and comprising of representatives of line Ministries and relevant public institutions, oversaw the preparation of the NDC 3.0 and endorsed its final version, before sending it to the Council of Minister. The specific mitigation and adaptation targets were developed in line with Lebanon's GHG projections, the National Adaption strategy and plans and the LT-LEDS 2050. Lebanon's NDC 3.0 was prepared taking into account the Country's national circumstances, especially amidst the compound crisis and the recent war on Lebanon. Strategies, policies and plans and technical assessment reports, developed in collaboration and consultation with stakeholders, academic and technical experts, international organizations, private sector and youth representatives served as the main inputs to assess where additional ambition in the NDC could be allocated. Gender representatives were engaged in the different consultation meetings to prepare and review the final NDC 3.0, as lead by the National Council for Lebanese Women (NCLW) in line with 4(a). Consultations and validation session included gender focal points of all sectoral ministries relevant to mitigation and adaptation priorities, UNDP climate-change and gender focal points, UNWomen, and the NCLW Board, always securing a minimum of 50% women representation. Gender representatives will also be engaged in the elaboration of the NDC 3.0 implementation and financing plans.
(ii) Contextual matters, including, inter alia, as appropriate: a. National circumstances, such as geography, climate, economy, sustainable development and poverty eradication;	Please refer to Lebanon's First Biennial Transparency Report (BTR1) and National inventory report submitted to the UNFCCC in December 2024 (https://unfccc.int/documents/645245).
b. Best practices and experience related to the preparation of the nationally determined contribution;	The preparation of Lebanon's NDC 3.0 builds on a strong foundation of previously established climate assessment, policies and institutional developments such as: 1. Lebanon's First Biennial Transparency Report (BTR1), which provided updated data on national greenhouse gas (GHG) emissions. 2. GHG projections developed for BTR2, which informed the setting of realistic and science-based mitigation targets. 3. Institutional arrangements were established through the Capacity Building Initiative for Transparency (CBIT) project, particularly the activation of sectoral task forces that ensure cross-sectoral coordination and stakeholder engagement. 4. National Adaptation Plan (NAP) priorities and activities, ensuring alignment of adaptation priorities with sectoral needs and vulnerabilities.

	5.Lebanon's Low Emission Development Strategy (LEDS), guiding the long-term transition to a net-zero economy by 2050. Importantly, the NDC is also being developed in close alignment with national recovery and reconstruction plans, ensuring that climate action contributes to Lebanon's broader goals of economic revitalization, social resilience, and sustainable development.
c. Other contextual aspirations and priorities acknowledged when joining the Paris Agreement.	Not applicable.
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, including the Parties that agreed to act jointly and the terms of the agreement, in accordance with Article 4, paragraphs 16–18, 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 (GST), in accordance with Article 4, paragraph 9, of the Paris Agreement;	Lebanon's preparation of its NDC 3.0 has been informed by the outcomes of the first global stocktake under Article 14 of the Paris Agreement, the findings of which were adopted at CMA.5 in Dubai in 2023. The GST reaffirmed the urgency of aligning national efforts with pathways consistent with limiting warming to 1.5°C, scaling up adaptation finance and implementation, and enhancing support to developing countries with special circumstances. In response, Lebanon has sought to reflect the GST's key messages across mitigation, adaptation, and means of implementation. On mitigation, the new targets and pathways integrate the GST's call for increased ambition, accelerated deployment of renewable energy, energy efficiency, and just transition strategies.
	On adaptation, Lebanon has mainstreamed the GST's emphasis on strengthening resilience, closing adaptation gaps, and improving transparency through the development of its Enhanced Transparency Framework, the introduction of adaptation indicators, and the establishment of MISCAL as the national reporting platform. The GST's findings on loss and damage and the disproportionate vulnerabilities of fragile and conflict-affected states were particularly relevant, and Lebanon has incorporated these considerations into its adaptation priorities and support needs. Finally, the NDC preparation process also drew on the GST's emphasis on inclusivity and whole-of-society engagement. The consultative approach undertaken in Lebanon, with participation from line ministries, civil society, academia, youth, and gender representatives, mirrors the GST's call for participatory climate governance. In doing so, Lebanon ensures that its NDC 3.0 is not only nationally determined but also globally informed, aligning its ambition and priorities with the collective outcomes of the global stocktake, in accordance with Article 4, paragraph 9, of the Paris Agreement.

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:	Not applicable.
(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-benefits, which may cover, but are not limited to, key sectors, such as energy, resources, water resources, coastal resources, human settlements and urban planning, agriculture and forestry; and economic diversification actions, which may cover, but are not limited to, sectors such as manufacturing and industry, energy and mining, transport and communication, construction, tourism, real estate, agriculture and fisheries.	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;	Lebanon is accounting for its anthropogenic GHG emissions and removals using the 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories, IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories and 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands (collectively, the "2006 IPCC Guidelines"), by way of the Sectoral approach.

(b) Assumptions and methodological approaches used for accounting for the implementation of policies and measures or strategies in the nationally determined contribution;	Lebanon's NDC was informed by 2 GHG scenarios in addition to a revised BAU scenario: a With Existing Measures Scenario (WEM) and a With Additional Measures scenario (WAM). These scenarios considered the impact of policies and measures in the future GHG emissions of the country. The scenarios were estimated from the latest GHG emission inventory available (1994-2022), in line with the 2006 IPCC Guidelines, and ensuring methodological consistency between the inventory, projections and Policies and Measures (PAMs). Under the WEM scenario, the policies and measures that are currently being implemented or are in the pipeline of the government plans have been considered. Under the WAM scenario, additional policies and measures are considered aligned with the LT-LEDS scenarios. The scenarios developed will be reported in Lebanon's Second Biennial Transparency Report (BTR2). It should be noted that the estimated scenarios informed the decision on Lebanon's NDC target; however, they do not constitute a commitment to the implementation of specific PAMs.
(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;	See 5(a) above.
(d) IPCC methodologies and metrics used for estimating anthropogenic greenhouse gas emissions and removals;	The IPCC 2006 guidelines and parts of IPCC 2013 Wetlands Supplement is being used for estimating GHG emissions and removals. The Tier 1 methodology is used for most emissions estimates. Higher tier methodology is used for key categories, where relevant and depending on availability of data. Global Warming Potentials (GWP) for a 100-year time horizon from the IPCC's fifth Assessment Report (AR5) is being used to calculate CO_2 equivalents.
(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;	GHG emissions and removals from natural disturbances, if any, will be accounted for in accordance with the prescribed 2006 IPCC Guidelines.
(ii) Approach used to account for emissions and removals from harvested wood products;	GHG emissions and removals from harvested wood products, if any, will be accounted for in accordance with the prescribed 2006 IPCC Guidelines.
(iii) Approach used to address the effects of age-class structure in forests;	Not applicable.

(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;	1. To quantify the GHG emissions level in the projected BAU scenario in 2035, the following assumptions were made for emission growth drivers: General BAU assumptions: Population growth was estimated to be 0.76% annually till 2035; GDP growth was estimated to grow by 1% annually from 2025 to 2023. For **energy**, electricity demand is estimated to increase by 3% annually for the period 2024-2027 then 5% for reconstruction period of 2028-2030 then back to 3% for 2030-2035. Electricity demand, which cannot be satisfied by the installed generation capacity, continues to be satisfied through private diesel generators. Electricity supply from EDL power plants is increasing during 2025-2030 back to 2018 levels and then hold constant will 2035. Exploration activities in the offshore oil and gas sector are not considered as part of the BAU. For **transport** emissions, it was assumed that electric vehicles will be increasing by 34-40% (depending on the type of vehicle) as an annual average between 2025 and 2035. **Industrial emissions** are estimated to increase by 2.5% during the reconstruction period between 2025 and 2029 then it will remain stable. For **agriculture**, emissions increase by 5% during the reconstruction phase then stabilize at 1% between 2029 and 2035 in the BAU scenario. For **forestry**, due to an increase in deforestation, increase in forest fires and urban sprawl, the LULUCF sink is limited at an average rate of 0.29% per year. For **waste** emissions, generation is estimated to increase with population growth and with waste generation per capita increase.
(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) Approach used to address the effects of age-class structure in forests;	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.	Lebanon does not currently plan to rely on Article 6 mechanisms to achieve its unconditional NDC targets. However, it remains open to exploring cooperation under the Paris Agreement for its conditional targets, subject to national circumstances and the establishment of future arrangements.

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;	Considering Lebanon's difficult national circumstances and its regional context, as depicted in the national circumstances section in this NDC, as well as its low share in global emissions, Lebanon therefore considers the targets put forward in this NDC as fair and ambitious. Lebanon's NDC 3.0 embodies multiple layers of ambition: 1. Increased mitigation ambition: Lebanon has raised its unconditional targets to 22% and conditional target to 33% by 2035, a progression from its 2021 NDC, contingent on access to finance, technology transfer, and capacity-building support. In addition, the NDC expands the sectors (IPPU) and the gases (F-gases) of the previous target. This signals Lebanon's continued commitment to contribute meaningfully to global climate goals, provided international support is mobilized. 2. Expanded adaptation ambition and clarity: Lebanon has advanced from 7 to 8 adaptation priority sectors, adding tourism as a sector to enhance climate resilience and economic diversification and has further elaborated the sectoral activities under each adaptation priority. 3. Improved institutional arrangements and governance: Lebanon is currently advancing climate governance reforms, including the development of a national Climate Change Law and the release of its 2025 climate policy package (comprising the NDC 3.0, Long Term - Low Emissions Development Strategy – LT-LEDS, and National Adaptation Plan – NAP). These instruments institutionalize climate action, provide long-term direction, and integrate climate policy into the country's development agenda. 4. Increased financial clarity: Lebanon has established a National Country Platform to attract climate finance and mobilize private sector investment, notably through the Lebanon Green Investment Facility (LGIF). This initiative aims to bridge the financing gap and scale up both mitigation and adaptation action, even under constrained fiscal conditions. 5. Increased synchronization: NDC 3.0 is aligned with Lebanon's LEDS, NAP, NBSAP, and LDN targets in addition to aligning with all Rio Conventions and other relevant conventions (see section II). 6. Improved integration and inclusiveness: through the institutional taskforces and national consultations, the NDC preparation process engaged a wider range of actors compared to previous cycles including line ministries, civil society, academia, private sector, and gender and youth groups. Taken together, these layers demonstrate that Lebanon is progressing in ambition through enhanced adaptation coverage, strengthened mitigation targets, institutional reforms, and innovative financing approaches. Lebanon is committed to decouple GHG emissions from its economic growth and embark on a low emission development pathway.
(b) Fairness considerations, including reflecting on equity;	Lebanon considers its NDC to be fair, as the share of emission reduction committed has increased, despite the significant changes in national circumstances since the submission of the previous NDC in 2021. These targets reflect both the anticipated recovery and development, and the scaling up of mitigation measures across key sectors. Lebanon reaffirms its dedication to transparency, ambition, and equity in its climate commitments, while acknowledging the need for enhanced international support to achieve its conditional objectives.

(c) How the Party addressed Article 4, paragraph 3, of the Paris Agreement;	The NDC targets represent progression beyond the NDC 2.0 and reflect the highest possible ambition under consideration of the national circumstances.
(d) How the Party addressed Article 4, paragraph 4, of the Paris Agreement;	Lebanon's NDC 3.0 is an economy-wide GHG emissions reduction target, which reflects its effort as a developing country Party to address Article 4, paragraph 4, of the Paris Agreement.
(e) How the Party has addressed Article 4, paragraph 6, of the Paris Agreement.	Not applicable.
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;	Lebanon's NDC 3.0 contributes towards achieving the objective of the Convention as set out in its Article 2, the objective of the Paris Agreement as set out in its Article 2, and Article 4, paragraph 1, of the Paris Agreement through enhancing its mitigation efforts as per 6(c) above, therefore reducing GHG emissions further and accelerating the energy transition.
(b) How the nationally determined contribution contributes towards Article 2, paragraph 2(a), and Article 4, paragraph 1, of the Paris Agreement.	

Annex 1: Climate Enablers

Enablers for the Energy Sector

1. Operational: Establish a Feed-in Tariff (FiT) or competitive tendering system for Independent Power Producers (IPPs) to secure long-term Power Purchase Agreements (PPA) for the sale of their electricity.
2. Operational: Operationalize Law No. 318 of 2023 which establishes the legal framework for promoting distributed renewable energy production in Lebanon.
3. Legal: Provide public instruments to reduce renewable energy investment risks by addressing the underlying barriers that are the root causes of investment risks; transfer risk by shifting risk from the private sector to the public sector and compensate for risk by providing a financial incentive to investors in the renewable energy project.
4. Operational: Streamline permitting through the Electricity Regulatory Authority (ERA), adopt transparent grid codes and standardized contracts, and improve Electricity du Liban's (EDL) management, operational efficiency, and bill collection while gradually phasing out subsidies.
5. Operational: Strengthen EDL operational systems by constructing a new National Control Center (NCC) with necessary electromechanical systems, supplying and installing a SCADA system, energy management, telecommunications, and emergency power equipment, upgrading remote terminal units and communication links between substations and the NCC, and providing operation and maintenance contracts along with staff training on NCC systems.
6. Operational: Strengthen EDL's transmission network by rehabilitating and upgrading selected substations and constructing new substations.
7. Operational: Ensure social acceptance of renewable energy through awareness campaigns, fair compensation, and resettlement alongside investing in capacity building, feasibility studies, training, and R&D to strengthen local expertise.
8. Financial: Implement reforms in the financial sector to unlock long-term green infrastructure financing, backed by strong government commitment, investor security guarantees, and the adoption of low-climate impact technologies with integrated climate impact assessments.
9. Legal: promote energy efficiency standards and regulation through finalizing the draft energy conservation law, applying energy efficient technologies and promoting ESCOs for facilitating financing for energy efficiency.

Enablers for the Waste Sector

1. Legal: Establish and operationalize the National Solid Waste Management Authority (NSWMA) by completing the decrees on the bylaws, operating and recruiting procedures, wage and salary scale and NSWMA staffing and Board of Directors appointment.
2. Legal: Draft and adopt the decree on non-financial incentives for solid waste management (Article 29 of Law 80/2018).
3. Operational: Develop and implement an ISWM training and capacity-building program for central and local authorities and strengthen MoE capacities and mechanisms to ensure effective compliance control and enforcement of regulations.
4. Policy and Institutional: Restructure Unions of Municipalities (UoMs) and reorganizing Municipalities and UoMs to ensure adequate technical and financial capacity, defining conditions and regulations for regionalized waste management and service areas, and preparing and implementing reorganization plans with clear specifications, staffing, and training requirements.
5. Technical: Implement a comprehensive Management Information System (MIS) and self-monitoring reports as per Articles 18 and 15 of Law 80/2018, to Municipalities performance, strengthen enforcement and record-keeping systems and improve financial and technical capacity of waste management services and facilities.
6. Policy and Financial: Secure investment and operational costs through a mix of municipal and national budgets, donor funds, low-interest loans, private operators, fees from waste generators, gate fees, and revenues from recycled materials. This might include economic instruments such as landfill/incineration taxes, product taxes, PAYT schemes, deposit-refund systems, extended producer responsibility, green public procurement, tax reliefs, and environmental funds to support waste hierarchy and financial sustainability.
7. Policy and Technical: Provide material and non-material incentives to promote sustainable waste management, including subsidies, tax reductions, educational campaigns, public recognition, permitting and registration procedures for waste operators, mandatory recycling and composting, green procurement, source separation incentives, and landfill bans on organics, to encourage proper waste disposal, recycling, and adoption of environmentally friendly practices.
8. Operational, Technical, Economic, and Social: Engage local authorities in the design of projects for waste reduction, sorting, treatment, and safe landfilling, while improving supervision and efficiency through digital tools. Build their capacities for the preparation of solid waste databases, assessing human, technical, and financial capacities, developing cost-effective collection and transport systems, engaging with communities in awareness and reduction initiatives and promoting the marketing of sorted waste.

9. Legal and Operational: Enact Extended Producer Responsibility (EPR) legislation making producers financially responsible for the collection, treatment, recycling, and disposal of waste, supported by MoE procedures for monitoring, inspections, national waste databases, and baseline surveys of hazardous waste sources.
10. Financial and Operational: promote private sector participation and investment in waste management through PPP contracts for the design, construction, and operation of waste management facilities, supported by transparent tendering and procurement processes to incentivize investor participation.
11. Policy: Develop and implement a comprehensive ISWM Public Awareness and Education Program and conduct national and local dialogues covering waste reduction, reuse, source sorting, separate collection, recycling, treatment, and safe disposal, while addressing littering, open dumping, and burning.

Enablers for the Transport Sector

1. Legal and Operational: Establish a national public transport policy and update regulations to govern private bus operators, taxi owners, and the informal sector, including the implementation of Decree 6603/1995 on diesel truck and bus emissions and the enforcement of vehicle inspection requirements for hybrid and gasoline cars.
2. Institutional: Clarify and centralize responsibilities among relevant government agencies, strengthen the Traffic Management Organization, and establish dedicated executive and regulatory bodies for mass transit systems, supported by a mechanical inspection unit for imported vehicles.
3. Operational: Design and deploy an integrated bus network covering high-density areas, supported by optimized land use planning, intelligent transport systems, real-time passenger information, and improved supply channels (bus procurement, stations, and maintenance systems).
4. Operational: Stimulate demand for public transport by requiring government fleets to switch to hybrid vehicles, deploying Bus Rapid Transit (BRT) and feeder lines in high-traffic areas, and managing transport demand through access restrictions, personal travel planning, and optimized parking management.
5. Financial: Maintain the exemption of hybrid and electric vehicles from customs and excise fees in the budget law.
6. Legal and Financial: Implement tax reforms to discourage the import of high-fuel-consuming vehicles and establish stringent fuel-efficiency and emission standards for pre-owned imported vehicles.
7. Operational: Promote R&D in transportation, encourage local industry to develop spare parts, incentivize research institutions, and establish mobility monitoring indicators to track progress toward sustainable transport strategies.

Enablers for the Agriculture and Forestry Sector

1. Technical: Upgrade ministry facilities and technological tools to ensure that staff at the central and regional levels can work effectively, and facilitate paperwork for farmers, forest users, shepherds, fishermen, landowners and investors in the agro-industries to encourage work in the agricultural sector.
2. Operational: Conduct a comprehensive assessment of the ministry's current technical capacity and training needs and develop targeted training programs for staff on modern agricultural and forestry practices, project management, and disaster response.
3. Operational: Develop a prototype for operating and managing the regional centers.
4. Financial and Operational: Implement measures to retain skilled technical staff by offering professional development and career advancement opportunities and build capacity of government staff, farmers and university in climate risk assessments.
5. Operational: Establish and dispatch mobile units to visit the village to encourage the farmers and farmer organizations, herders, fishermen, and beekeepers, to register, collaborate with the Agriculture Cooperatives to reach out to the biggest number of stakeholders and upgrade the system to foster the issuance of the Farmers ID after validation.
6. Operational: Define a clear mechanism for data access, management, and protection.
7. Technical: Develop an interactive mobile app for farmers and farmer organizations that provides weather updates, pest control advice, soil and irrigation tips, alerts on agricultural and animal diseases, an e-marketplace, live chat with experts, and fast reporting.
8. Technical: Create systems for data collection, analysis, and reporting to track agricultural production, resource consumption, market trends, and other essential indicators that support policy development and governance.
9. Operational: Encourage collaboration among government agencies, private sector organizations, NGOs, academia and research, and civil society to develop unified and aligned policies that meet both immediate needs and long-term objectives for the agriculture and forestry sectors.
10. Operational: Guarantee that smallholder farmers, women, youth, and other marginalized groups are provided with access to resources, opportunities, and a voice in decision-making.
11. Legal: Review the legislative framework related to agriculture and natural resources management (including forest and rangeland seed, cannabis, and fisheries laws) and harmonize it with the conventions that are ratified by the Government concerning climate change, combating desertification, and biodiversity, and develop a mechanism for monitoring law enforcement.
12. Technical: Strengthen research-extension linkages: by establishing a national platform for optimized and efficient rural advisory services engaging the different stakeholders, internship programs, and research grants and seed funds for start-ups focused on agricultural innovations.

13. Financial: Explore funding mechanisms and economic tools to implement and monitor adaptation measures. Align internal fund resources such as subsidies and credit facilitation policies with the proposed adaptation measures, i.e., good agricultural practices, conservation agriculture, organic farming, agroforestry, permaculture, etc.
14. Financial: Create a regulatory enabling environment for private investment along the agri-food value chain, including innovative technical solutions and improved access to climate finance and insurance.
15. Financial: Rehabilitate infrastructure to address operational inefficiencies in public services related to the inspection and control of imported plants, animals, and plant materials, including measures for managing pesticide residues, antibiotic resistance, and preventing zoonotic diseases.
16. Operational: Engage fishers, coastal communities, herders and aquaculture farmers communities and organizations in project development to ensure optimal efficiency and impact.
17. Legal: Review the regulations and legal framework related to animal trade, quarantine, and access at international entry points, to align with CITES and other relevant international agreements.
18. Technical: Support the green plan to enlarge its scope to cover animal production infrastructure (reservoirs, shade nets, waste recycling, etc.).
19. Financial: Promote private sector investment and innovative financing models in forest protection, sustainable resource management, and developing sites supporting agro-forestry-based industries.
20. Legal: Issue the Forest and Rangelands law.

Enablers for the Biodiversity Sector

1. Financial: Direct Green Climate Fund and financing towards biodiversity projects i.e. Lebanon Green Investment Facility (LGIF) (NBSAP-National Action 22.2).
2. Operational: Enforce legal mechanism allowing active prevention measures such reduction of fire risks, illegal logging, pest outbreaks, illegal fishing activities, coastal zone infringements, and other natural hazards in vulnerable marine and terrestrial ecosystems, regardless of ownership.

Enablers for the Water Sector

1. Financial: Develop financial tools and water economic policies (e.g., tariffs, water metering) to ensure the sustainability and financial balance of water services.
2. Legal: Enforce Water Law 192/2020 and implement articles pertaining to polluting water bodies based on the polluter-pays principle and develop emergency response plans to preserve vulnerable water resources.
3. Technical: Upscale the capacity of relevant institutions' personnel through targeted training and skill-building activities to better equip them for addressing climate-related challenges.

4. Operational: Create win-win coordination mechanisms between sustainable development and climate change adaptation to ensure mutually beneficial outcomes.
5. Operational: Ensure policymakers understand the significance of integrating climate change adaptation into broader development strategies.
6. Legal: Assess and revise incentive mechanisms for efficient and appropriate enforcement of environmental regulations.
7. Legal: Develop a comprehensive data-sharing protocol and legal framework to facilitate the exchange of data between public and private institutions and the Ministry of Energy and Water, the Ministry of Environment, and the Ministry of Agriculture, through the Central Administration of Statistics, with a focus on establishing quality assurance measures and clear guidelines for data management and usage.
8. Legal: Assess the need for a separate legal and operational framework for irrigation and upgrade its institutional structure with a clear definition of responsibilities and coordination among the various relevant institutions (MOA, MOEW, Water Establishments, LRA, Green Plan).
9. Technical: Conduct a comprehensive assessment of the ministry and water establishment's current technical capacity and training needs and develop targeted training programs for staff on modern water practices, project management, and disaster response.
10. Technical: Upscale the capacity of local authorities and municipal councils on understanding climate data/seasonal forecasts to improve preparedness and emergency response for storm management.
11. Financial and Operational: Establish full cost recovery for Water Establishments through improved service efficiency, reduced operating costs, progressive tariff adjustments, and higher collection and subscription rates. Key measures include revised tariff strategy covering water, wastewater, and irrigation, energy efficiency audits, increased use of solar energy, hydropower assessments, and preferential electricity rates when feasible.

Enablers for Urban Infrastructure Sector

1. Financial: Allocate the necessary financial resources to Directorate General for Urban Planning to achieve the design of master plans for all cities and towns on a national scale.
2. Operational: Define roles and swift coordination mechanisms among the various public institutions involved in Urban infrastructure and land use strategic planning.
3. Legal: Review and update the construction and other relevant laws to align with climate change, the Barcelona Convention, the Sendai framework, and other international conventions.
4. Legal: Revise sectoral mandates related to disaster risk management to align with best practices and global lessons.

5. Legal: Strengthen the enforcement of coastal protection by operationalizing Decree 4810/1966 on maritime public property and Law 444/2002 on environmental protection, through real-time monitoring, clear penalties for infringements, and mandatory removal and restoration of illegally occupied zones, in alignment with the Barcelona Convention.

Enablers for Disaster Risk Reduction

1. Operational: Establish a mechanism for regular assessment of current and potential new risks.
2. Operational: Enhance sectoral governance on key components in disaster risk management plans.
3. Legal: Revise sectoral mandates related to disaster risk management to align with best practices and global lessons.
4. Operational: Establish mechanisms for reducing existing risks in the public and private sectors (social, productive, and infrastructure).
5. Operational: Establish mechanisms to prevent new climate risks (that may arise from future investments) across all sectors.
6. Operational: Establish a mechanism to assess the synergies or linkages between disaster risks, sustainable development, poverty reduction, and climate change adaptation and mitigation.

Enablers for the Health Sector

1. Technical: Develop a mechanism to incorporate climate data in the national health information system.
2. Technical: Build the capacity of health sector professionals to identify and manage health impacts across sectors (e.g., transport, energy, food, water, housing).
3. Operational: Evaluate the impact of climate adaptation plans periodically and improve the quality and effectiveness of activities and measures based on findings, while strengthening governance and policy frameworks to ensure health adaptation measures are integrated into broader national and sectoral policies to enhance operational resilience.
4. Operational: Design an efficient coordination and communication mechanism among stakeholders to enhance awareness, policy coherence, and climate-adaptive health governance, by adopting the One Health approach and International Health Regulations (IHR).
5. Financial: Mobilize resources for implementing adaptation measures, including international climate financing for health system resilience projects (e.g., the GEF, Adaptation Fund).

Enablers for the Tourism Sector

1. Operational: Enhance coordination between the Ministry of Tourism (MoT) and relevant stakeholders including the syndicates of various tourism businesses, regional Destination Management/ Marketing Organizations (DMOs), tour operators, and guides to implement climate change actions.

2. Operational: Coordinate with national line ministries, public institutions, and local authorities to align tourism in development projects, through integrated land use planning at regional and local levels.
3. Financial: Provide financial support to SMEs investing in sustainable tourism and retrofitting climate-proof infrastructure.
4. Technical: Conduct awareness campaigns to encourage tourism businesses to mainstream adaptation (and mitigation) to climate change in their business.
5. Legal: Create a legal and regulatory framework for new tourism businesses such as mountain tourism, and agro-tourism, to ensure their environmental safeguard, attractiveness, and sustainability.
6. Financial: Mobilize resources to implement sustainable tourism and climate adaptation measures, including accessing international climate finance mechanisms (e.g., the GEF, Adaptation Fund) to strengthen the Ministry of Tourism's capacity to lead and coordinate resilient tourism development.

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