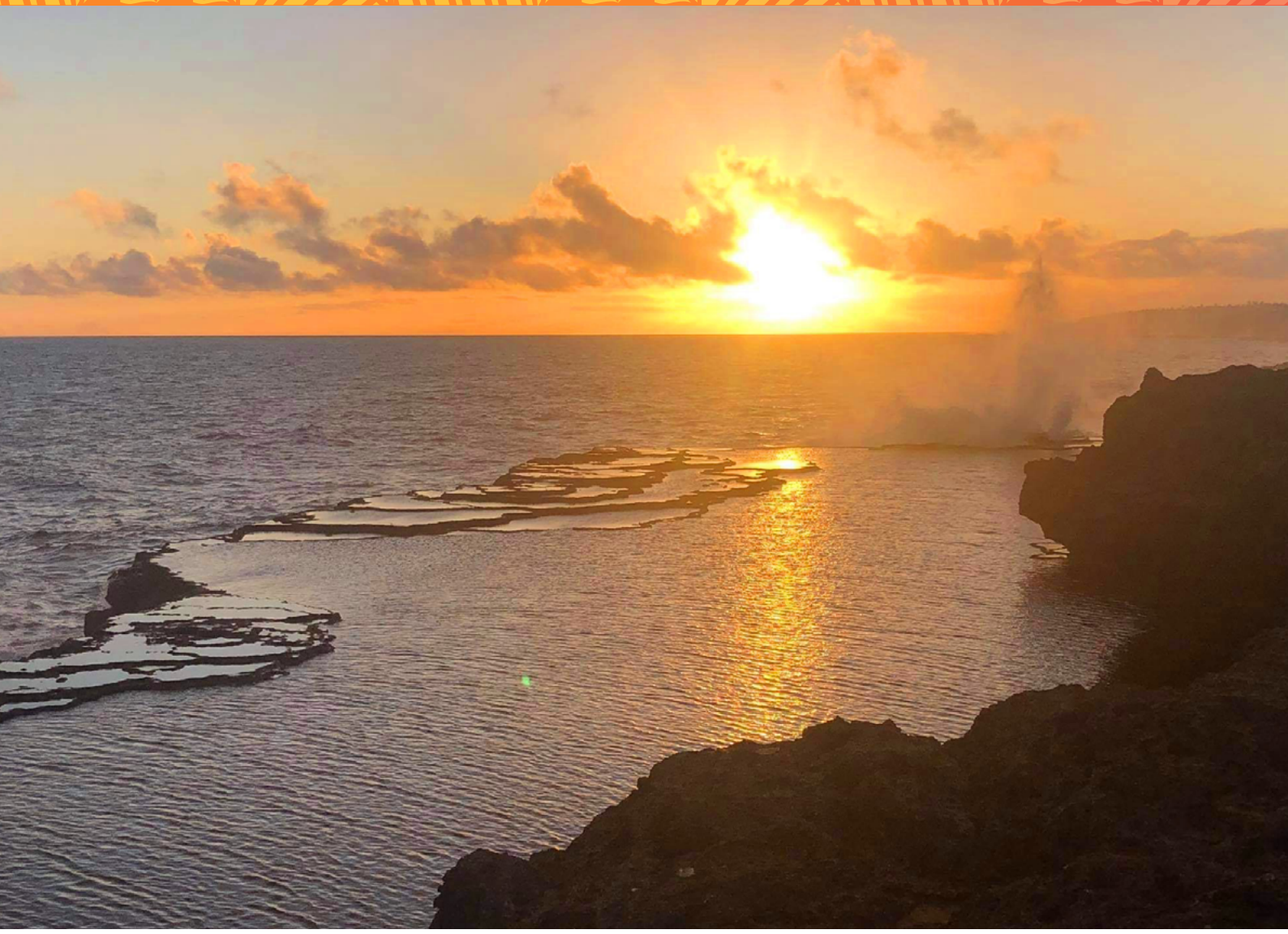
Government of Tonga

Tonga's Third Nationally Determined Contributions (NDC)



Submission under the Paris Agreement

September 2025

Government of Tonga

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Foreword

Climate change continues to be the single greatest threat to the Kingdom of Tonga, undermining Tonga's development aspirations and threatening the lives and livelihoods of our people. Though Tonga's global greenhouse gas emissions are negligible, Tonga is among the most vulnerable countries in the world to the impacts of climate change. Rising sea levels, intensifying cyclones, and shifting rainfall patterns already affect our people every day, threatening food security, water resources, health, and our very way of life. The devastation of Tropical Cyclone Gita in 2018 and the Hunga Tonga–Hunga Ha'apai volcanic eruption and tsunami in 2022 remain stark reminders of our fragility to natural and climate-related hazards. For Tonga, climate action is not a choice—it is a necessity for survival.

Since acceding to the UNFCCC in 1998, Tonga has made important progress in addressing climate change, guided by the Tonga Climate Change Policy 2016 and the Joint National Action Plan on Climate Change and Disaster Risk Management (JNAP2) 2018–2028. Together with our Nationally Determined Contributions (NDCs), these frameworks provide the foundation for national climate action. Since the submission of our Second NDC in 2020, Tonga has achieved more than 60% of our targeted energy emissions reduction, driven by renewable electricity generation investments, and successfully completed the "One Million Trees by 2023" campaign. Yet, we recognize that progress in transport, energy efficiency, and coastal protection remains insufficient, requiring stronger implementation and better data.

With the submission of our Third NDC (NDC 3.0), Tonga builds upon these earlier commitments, demonstrating both ambition and fairness. Anchored in our legal and policy frameworks—including the Climate Change Fund Act 2021, the Energy Act 2021, the Disaster Risk Management Act 2021, the Tonga Strategic Development Framework (TSDF) 2015–2025, and our Long-Term Low Emission Development Strategy (LT-LEDS) 2021–2050—this NDC reaffirms our determination to achieve 70% renewable electricity generation by 2030 and to progress towards 100% by 2035. It also expands coverage across key mitigation sectors, including refining the Energy Sector for the transport, AFOLU and Waste and the inclusion of the Industrial Process and Product Use (IPPU) sector.

This NDC further expands Tonga's adaptation ambition to include Coastal Zone Protection, Fisheries and Marine Resources, Forestry, Education, Water Security, and Disaster Risk Management. These new sectors reflect Tonga's comprehensive approach to safeguarding livelihoods, ecosystems, and critical infrastructure from climate risks.

For the first time, this NDC also introduces Loss and Damage as a dedicated pillar with its own targets, acknowledging the irreversible impacts of climate change that go beyond adaptation. By including Loss and Damage, Tonga signals its determination to strengthen mechanisms for recovery, rehabilitation, and compensation in the face of extreme events and slow-onset climate impacts.

Together, these expansions reaffirm Tonga's Climate Change Policy vision of A Resilient Tonga by 2035, ensuring that mitigation, adaptation, and Loss and Damage are pursued as integrated pillars of sustainable development and resilience.

Importantly, this NDC was developed through an inclusive, transparent, and gender-responsive process, ensuring the voices of government, civil society, youth, women, persons with disabilities, the elderly, and communities across our islands were heard. We recognize that these groups face disproportionate climate risks, yet they are also central to resilience-building. NDC 3.0 therefore commits to equity, empowerment, and inclusive access to finance, green jobs, and decision-making opportunities.

At the same time, we acknowledge that our ambition far exceeds our domestic resources. Implementation of NDC 3.0 will depend on sustained international support in the form of finance, technology, and capacity-building. We stand ready to work with all partners to advance our Technology Needs Assessments, mobilize climate finance through the Tonga Climate Change Fund, and strengthen institutional capacity to deliver.

Tonga contributes only a negligible share of global emissions, yet we bear a disproportionate burden of climate impacts. Our NDC 3.0 represents a fair and ambitious progression under the Paris Agreement—both a statement of responsibility and a call for cooperation. May it serve as a testament to our resilience and determination, and as an urgent call for global solidarity to keep the 1.5°C goal alive—for our people, our islands, and future generations.

As the Minister for the Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC), it is indeed an honour and a privilege to submit Tonga's Third Nationally Determined Contribution (NDC 3.0) to the United Nations Framework Convention on Climate Change (UNFCCC).

Hon. Dr. Taniela Likuohihifo Fusimalohi

Honorable Deputy Prime Minister,

Minister for Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC)

Tonga

Acknowledgements

The Government of Tonga would like to acknowledge and thank the World Resources Institute's (WRI) Partnership Action Fund (PAF) as part of the NDC Partnership for their kind and generous financial support under the "*Technical assistance for the review of progress of Tonga's Second NDC, development of Tonga's NDC 3.0, development of a MRV system for the waste sector, capacity building of youth and investment pipeline planning*." being implemented by the Global Green Growth Institute (GGGI), Asian Development Bank (ADB), and UN Women in Tonga.

The funding supported the provision of expert consultancy and consultation activities to review the progress towards the targets in the 2020 NDC and deliver an enhanced 2025 NDC.

The development of this NDC has been led by the Mitigation Division of the Department of Climate Change under the Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC) with technical assistance provided by GGGI and on the ground support from the many invaluable Government, non-government organisation, and private sector stakeholders.

NDC PARTNERSHIP

NDC PARTNERSHIP ACTION FUND (PAF)
WITH SUPPORT FROM

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GGGI

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Acronyms

ADB	Asian Development Bank
AFOLU	Agriculture, Forestry and Other Land Use
BESS	Battery Energy Storage System
BRACE	Building the Climate Resilience of Children and Communities through the Education Sector
BTR	Biennial Transparency Report
CMA	Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement
CP	Conference of the Parties
CSO	Civil Society Organization
CUP	Christ's University in Pacific
DCC	Department of Climate Change
DERMS	Distributed Energy Resource Management System
DFAT	Department of Foreign Affairs and Trade
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EMS	Energy Management System
EPR	Extended Producer Responsibility
ETF	Enhanced Transparency Framework
EV	Electric Vehicle
FISA	Friendly Islands Shipping Agency
FRLD	Fund for responding to Loss and Damage
GBV	Gender-based violence
GCF	Green Climate Fund
GDP	Gross Domestic Product
GGGI	Global Green Growth Institute
GHG	Greenhouse Gas

GWP	Global Warming Potential
HDI	Human Development Index
ICAT	Initiative for Climate Action Transparency
ICTU	Information to Facilitate Clarity, Transparency, and Understanding
IFAD	International Fund for Agricultural Development
INDC	Intended Nationally Determined Contributions
IPCC	Intergovernmental Panel on Climate Change
IPPU	Industrial Processes and Product Use
JNAP	Joint National Action Plan on Climate Change and Disaster Risk Management
LDV	Light Duty Vehicle
LED	Light Emitting Diode
LLT	Live and Learn Tonga
LT-LEDS	Long-Term Low Emission Development Strategy
LULUCF	Land Use, Land Use Change and Forestry
MAFF	Ministry of Agriculture, Food and Forests
MEIDECC	Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications
MEPS	Minimum Energy Performance Standards
MLNR	Ministry of Lands and Natural Resources
MOF	Ministry of Finance
MOI	Ministry of Infrastructure
MPA	Marine Protected Area
MRF	Material Recovery Facility
MRV	Measurement, Reporting, and Verification
NASA	National Aeronautics and Space Administration
NBSAP	National Biodiversity Strategy and Action Plan
NCCCC	National Climate Change Coordinating Committee
NDC	Nationally Determined Contribution

NEMC	National Emergency Management Committee
NFI	National Forest Inventory
NGO	Non-Governmental Organization
NIIP	National Infrastructure and Investment Plan
NMVOC	Non-Methane Volatile Organic Compound
NNUP	Nuku'alofa Network-Upgrade Project
NSSF	National Sustainable Spatial Framework
PAF	Partnership Action Fund
PAT	Ports Authority Tonga
PISFCC	Pacific Islands Students Fighting Climate Change
PV	Photovoltaic
RCP	Representative Concentration Pathway
RE	Renewable energy
REDD	Reducing Emissions from Deforestation and Forest Degradation
SCADA	Supervisory Control and Data Acquisition
SDG	Sustainable Development Goal
SIDS	Small Island Developing States
SMA	Special Management Area
SPC	Pacific Community (Secretariat of the Pacific Community)
SST	School of Science and Technology
SUTT	Siasi Uesiliana Tau'ataina 'o Tonga (Free Wesleyan Church of Tonga)
TCCF	Tonga Climate Change Fund
TCRP	Tonga Climate Resilience Project
TEEMP	Tonga Energy Efficiency Master Plan
TERMPLUS	Tonga Energy Road Map 2021-2035
TNA	Technology Needs Assessment
TOP	Tongan Pa'anga
TPL	Tonga Power Limited

TSD	Tonga Statistics Department
TSDF	Tonga Strategic Development Framework
TVET	Technical and Vocational Education and Training
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States Dollar
VDRMP	Village Disaster Risk Management Plan
VEMP	Village Emergency Management Plan
VKT	Vehicle Kilometres Travelled
VMS	Vessel Monitoring System
WAL	Waste Authority Limited
WASH	Water, Sanitation, and Hygiene
WEGET	Women's Empowerment and Gender Equality Tonga Policy
WIM	Warsaw International Mechanism for Loss and Damage
WRI	World Resources Institute

Key Messages

Tonga's Third Nationally Determined Contribution (NDC 3.0) sets out Tonga's most ambitious climate commitments to date. Building on the progress of the First and Second NDCs, this new contribution demonstrates Tonga's determination to accelerate renewable energy, strengthen resilience, and expand coverage to all major sectors—Energy, Transport, AFOLU, IPPU, Waste, Adaptation, and Loss & Damage. These commitments are aligned with the Paris Agreement's long-term temperature goal and reflect both Tonga's national priorities and responsibility as a Small Island Developing State on the frontlines of the climate crisis.

The table below provides a consolidated overview of Tonga's sectoral targets, highlighting the mitigation, adaptation, and resilience measures that will guide Tonga's efforts through 2030 and beyond. These targets reflect a balance of ambition and realism—anchored in existing policies such as the Climate Change Policy 2016 and the Joint National Action Plan on Climate Change and Disaster Risk Management (JNAP2)—while identifying areas where scaled-up international support is essential for success.

Table 1: Overview of Mitigation Targets and Means

Sector	Target	Means	Conditionality
Energy	**Electricity:** Reduce emissions by 20 $GgCO_2e$ by 2030 and 25 $GgCO_2e$ by 2035 compared to the baseline emissions of 2006	Achieve 70% of electricity generated from renewable sources by 2030	Conditional
		Limit growth in residential electricity end-use to 1% per year on average	Conditional
	Transport: Reduce emissions by 26 $GgCO_2e$ by 2030 and 45 $GgCO_2e$ by 2035 compared to the baseline emissions of 2006	Implement structural and regulatory measures (from TERMPLUS)	Conditional
		Implement demand-side and behavioural measures (from TEEMP)	Conditional
		Implement technology and fuel switching (TEEMP + TERMPLUS)	Conditional
		Improve maritime transport efficiency through low-carbon technologies	Conditional
IPPU	Identify a GHG emission baseline for IPPU for the 2030 NDC	Establish a centralized IPPU database for emissions from refrigerants and industrial processes, integrated into the national GHG inventory	Conditional
	Reduce HFC imports by 30% by 2035		Conditional

AFOLU	Recommit to the identification of a GHG emission target for AFOLU for the 2030 NDC	Complete and institutionalize the ongoing national forest inventory, including the establishment of a centralized AFOLU data system	Conditional
	Plant 1 million trees	Complete the tree planting initiatives by 2030, ensuring species diversity beyond mangroves, promoting food security, and maintaining forest coverage	Unconditional
	Shift towards sustainable cropland and livestock practices	Expand climate-resilient, regenerative agricultural programs	Conditional
		Implement low-methane livestock management programs for improved herd productivity (via low-methane breeds, improved nutrition, and vaccination) and sustainable manure management	Conditional
Waste	Recommit to identifying a GHG emission target for waste for the 2030 NDC	Establish a centralized waste sector MRV system, including a national waste database by 2030	Conditional
		Upgrade existing landfills, disposal sites and waste management infrastructure in the four main islands by 2035 (Tongatapu by 2030)	Conditional
	Reduce the generation and consumption of single-use plastics by 2030	Reduce the total plastic waste generated per person by 10% by 2030	Conditional
		Recycle 25% of post-consumer single-use plastics by 2030	Conditional

Table 2: Overview of Adaptation Targets and Means

Sector	Target	Means	Conditionality
Coastal Zone Protection	Limit loss of land and enhance the resilience of vulnerable coastal communities on Tonga's four main islands by 2035	Establish a baseline of loss of land by 2030	Conditional
		Construct or rehabilitate at least 4.3km of integrated coastal protection in Hahake	Unconditional
		Rehabilitate existing seawalls from Kolomotu'a to Sopu	Unconditional
	Integrate climate-induced relocation and internal migration into national policy and planning frameworks, ensuring that mobility and land use decisions support climate-resilient development by 2035	Finalize and adopt the Land Use Policy and develop a National Sustainable Spatial Framework as its implementing instrument	Conditional

Fisheries and Marine Resources	Restore and/or limit the decline of coastal fish stocks to support biologically sustainable levels by 2035	Operationalize a comprehensive monitoring, control, and surveillance system for all designated Marine Protected Areas (MPAs) and Special Management Areas (SMAs)	Conditional
		Expand MPAs and SMAs to 30% of Tonga's EEZ area	Conditional
Forestry	Enhance the climate resilience of terrestrial ecosystems and improve food security through expanded agroforestry and forestry	Plant one million new trees through a national, community-based planting initiative, focusing on climate-resilient and socially appropriate species	Unconditional
Education	Ensure school facilities meet national standards for safety and resilience to climate change and disaster risks	Retrofit, replace, or upgrade high-risk school buildings to be structurally sound, functional, and equipped with climate-resilient Water, Sanitation, and Hygiene (WASH) facilities	Unconditional
Water Security	Expand coverage of households that have reliable access to safe and climate-resilient drinking water and sanitation systems	Increase national rainwater harvesting capacity by achieving 100% household coverage	Conditional
		Strengthen the protection of groundwater resources through improved national sanitation coverage	Conditional
		Implement a comprehensive borehole management framework	Conditional
Disaster Risk Management	Strengthen national and community-level preparedness and response capacity for all climate-related hazards	Expand the national multi-hazard early warning system to cover all communities	Conditional
		Develop and operationalize Village Disaster Risk Management Plans (VDRMPs) in all of Tonga's communities	Conditional

Table 3: Overview of Loss and Damage Targets and Means

Sector	Target	Means	Conditionality
Loss and Damage	Strengthen institutional capacity to safeguard livelihoods, cultural assets, and communities through a system that identifies economic and non-economic loss and damage and mobilizes adequate support	Incorporate a comprehensive loss and damage policy framework in the Climate Change Policy amendment, which will establish the institutions and systems necessary to track economic and non-economic loss and damage, as well as to access international sources of loss and damage funding by 2035	Conditional
	Leverage international technical assistance to strengthen Tonga's ability to assess, manage, and finance responses to loss and damage	Request and utilize technical assistance through the Santiago Network to access methodologies and tools for L&D assessment and engage with the UAE Framework to secure capacity building and direct access to international loss and damage finance by 2030	Conditional

Together, these targets form the backbone of Tonga's NDC 3.0. They demonstrate Tonga's clear progression in ambition, transparency, and inclusiveness, compared to previous NDCs. They also affirm Tonga's commitment to gender equality, youth empowerment, disability and social inclusion, and community-driven resilience as cross-cutting principles of climate action. The realization of these commitments, however, depends on strong partnerships and sustained international cooperation in finance, technology transfer, and capacity building.

1. Introduction

The Government of Tonga developed its Intended Nationally Determined Contributions (INDC) in 2015; upon ratifying the Paris Agreement on 21 September 2016 and its entry into force on 4 November 2016, the INDC became Tonga's first NDC. Tonga's second NDC followed in 2020. In accordance with decision 1/CP.21, Tonga hereby communicates its third Nationally Determined Contribution (NDC3.0) towards achieving the objective of the United Nations Framework Convention on Climate Change (UNFCCC) as set out in its Article 2, together with accompanying information to facilitate clarity, transparency and understanding.

The process to develop Tonga's NDC3.0 included a stocktake of progress since the 2020 NDC, an updated assessment of greenhouse gas (GHG) emissions and removals, and the identification of enhanced mitigation and adaptation options consistent with national priorities. Evidence was drawn from official data sets, academic and technical studies, national policies and strategies, and sectoral roadmaps. Targeted consultations and structured interviews were undertaken with national and sub-national stakeholders, the private sector, civil society, youth and traditional leaders across Tonga's island groups. Draft findings and recommendations were discussed and validated with the JNAP technical team and relevant stakeholders through national workshops, and the NDC3.0 was prepared based on these recommendations and taken through a final validation process before approval by the Tongan Cabinet.

NDC3.0 is informed by the outcomes of the first Global Stocktake and responds to its call for accelerated action this decade. It strengthens ambition and implementation by (i) expanding sectoral coverage and deepening mitigation actions in energy, transport, IPPU, waste and AFOLU; (ii) articulating clearer implementation pathways; (iii) integrating an updated adaptation component with quantified objectives and risk-informed measures that enhance resilience and address loss and damage priorities; (iv) operationalizing an improved transparency system aligned with the Enhanced Transparency Framework (ETF), including an inventory improvement plan and results-based MRV for NDC actions; and (v) setting out financing, technology and capacity-building needs with indicative pipelines to facilitate access to international support.

Tonga's NDC3.0 remains anchored in national development aspirations and aligned with relevant international conventions and agreements to which Tonga is a Party and is guided by principles of equity and common but differentiated responsibilities and respective capabilities.

2. National Circumstances

Tonga is a Polynesian archipelago in the South Pacific, comprising four main island groups spread along a north–south axis. In total, there are over 170 islands (about 36 of them inhabited) with a combined land area of roughly 747 km^2. The largest island, Tongatapu (260 km^2) in the south, is home to the capital city Nuku'alofa and the majority of the population. Other major island groups include Vava'u (121 km^2) in the north, Ha'apai (109 km^2) in the center, and the southern island of 'Eua (87 km^2). Two smaller Niuas islands lie further north.

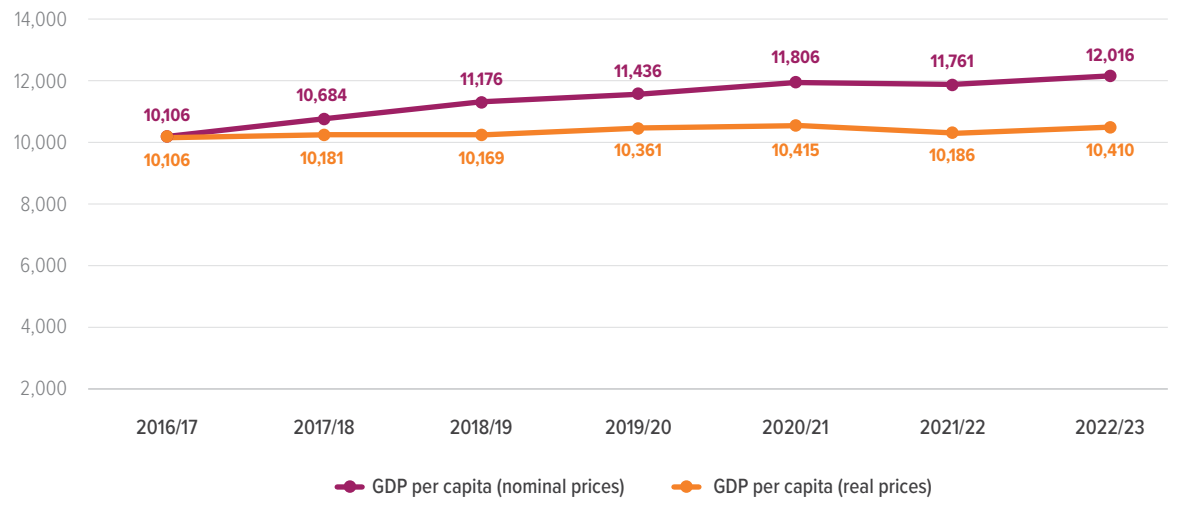
Most of the islands are low-lying coral or raised limestone, with a few volcanic islands, making Tonga geographically low and flat on average. This geography, along with Tonga's location on the Pacific "Ring of Fire," means the country is highly exposed to natural hazards like volcanic activity, earthquakes, and tsunamis, as well as tropical cyclones and sea level rise. The combination of widely scattered islands and low elevation contributes to Tonga's extreme vulnerability to climate change and disasters, which set the context for Tonga's development challenges and its urgent focus on climate resilience.

Figure 1: Map of Tonga

2.1 Macroeconomic Profile

Tonga is classified as a lower-middle-income Small Island Developing State (SIDS), with a small, open economy that is highly vulnerable to external shocks. Annual GDP is on the order of 1,200 mil Tongan Pa'anga (TOP), and GDP per capita is around 12,000 TOP in 2022 (Tonga Statistics Department, 2025). The economy contracted massively in 2021–2022 due to the impacts of the Hunga Tonga–Hunga Ha'apai volcanic eruption and the COVID-19 pandemic, leading to a contraction of real GDP growth by 2.3%.

Figure 2: Tonga's GDP per capita in nominal and real prices (Tonga Statistics Department, 2025)



The services sector remains the dominant contributor to GDP (around 59% in 2023), led by government, trade, transport, and tourism. Agriculture and fisheries collectively contribute just under 17% of GDP but continue to underpin food security and subsistence livelihoods. Tonga's narrow production base cannot meet domestic demand: exports are minimal, so the nation runs a large trade deficit financed chiefly by remittances and aid. Tonga's economy is characterized by a high dependence on remittances, totalling over 35% of GDP in 2023. While this diaspora support provides an economic buffer against economic volatility and supports domestic consumption, it also reflects limited formal employment opportunities, especially for youth and women. Tonga has very high dependence on imported fuel for energy, making it vulnerable to oil price fluctuations. This has spurred efforts to invest in renewable energy.

Overall, structural constraints such as a narrow economic base, geographic isolation, and high import dependence particularly for fossil fuels continue to undermine Tonga's resilience. These challenges are compounded by high disaster and climate risk: Tonga ranks among the world's most vulnerable countries to natural hazards. Cyclone Gita in 2018 caused losses equivalent to nearly 38% of GDP, and average annual disaster-related losses have been estimated at 18% of GDP. After the 2022 Tonga Hunga-Tonga-Hunga-Ha'apai volcanic eruption and subsequent tsunami and ashfall, immediate damages to infrastructure and industry were estimated at 18.5% of GDP, with longer term economic damages likely much higher (World Bank, 2022). Poverty and inequality persist, especially in rural and outer island communities. The most recent estimate indicates that 22% of the population lived below the national poverty line. Although official unemployment remains low (1.1% in 2018), underemployment and informality are widespread. Tonga's HDI was 0.721 in the last recorded year, above the average for developing countries, reflecting good progress in education and health. Still, maintaining socio-economic development is an ongoing effort, especially as climate-related shocks threaten livelihoods.

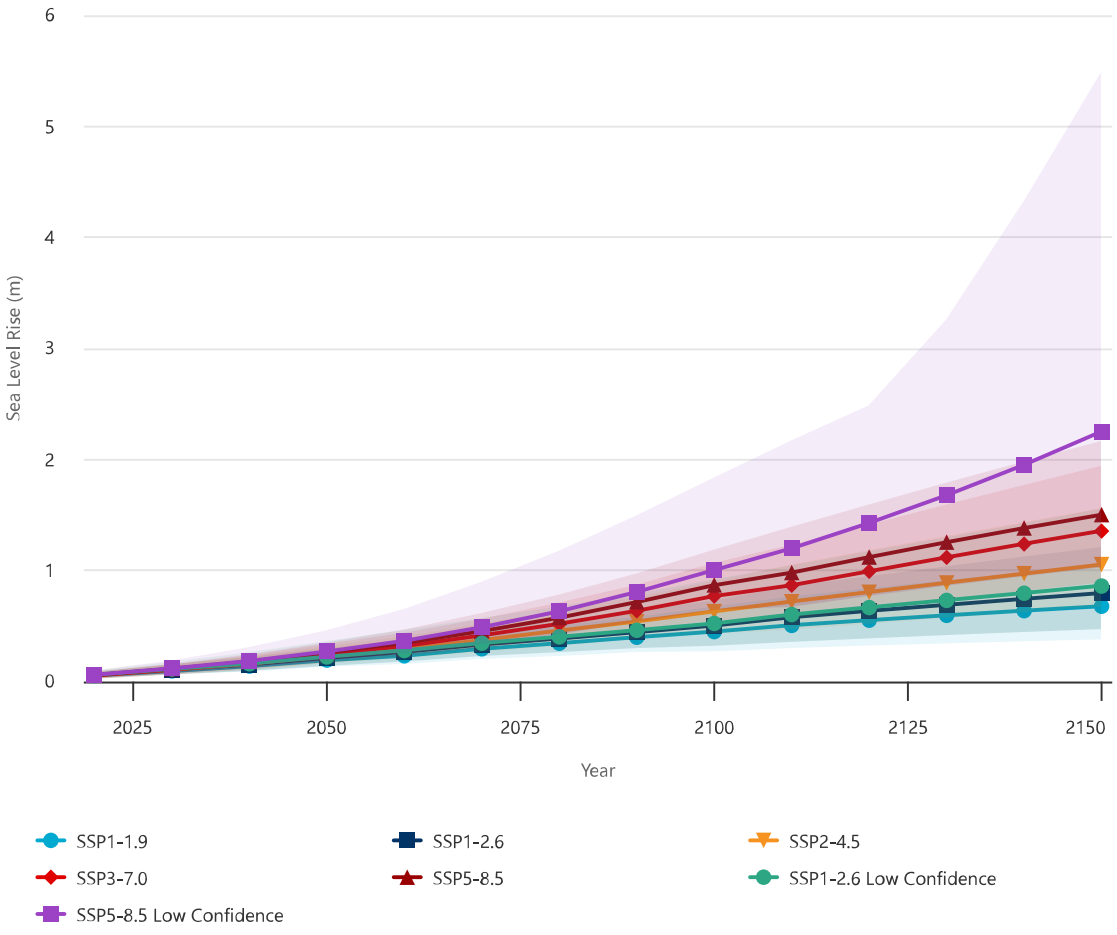
In this context, Tonga's third NDC reflects the centrality of climate action to sustainable economic development. It seeks to enhance energy security, climate resilience, and inclusive growth, while aligning national recovery with low-emission, climate-resilient pathways.

2.2 Impacts of Climate Change and Future Projections

Tonga is already experiencing the impacts of climate change, and future projections project these risks to intensify. The country faces a diverse set of climate risks – including sea level rise, coastal erosion, coral bleaching, increased cyclone intensity, droughts, and flooding. In the last few decades, average temperatures in Tonga have risen by about +0.6°C (1970s to 2018), and warmer days and nights are becoming more frequent. Rainfall patterns are shifting, with some data indicating more variability and extreme precipitation events. Tide gauge and satellite data show that sea levels around Tonga have been rising at roughly 6–8 mm per year since the early 1990s (above the global average), contributing to coastal inundation and saltwater intrusion (Mulhern, Leung, & Lau, 2020).

As 84% of all Tongans live within 1 km of the coast, coastal flooding leading to permanent land loss would cause significant human displacement (DFAT, 2021). Instances of the sea level exceeding the average high tide have become more common, which indicates flooding may already be occurring (NASA, 2024). Projections suggest sea level could rise by an additional 40–80 cm by 2100 under high-emission scenarios, which would dramatically increase coastal flood risk (World Bank, 2025). In all future scenarios, it is probable that Tonga will see more than 100 days of flooding annually by 2100 without adaptation measures (NASA, 2024).

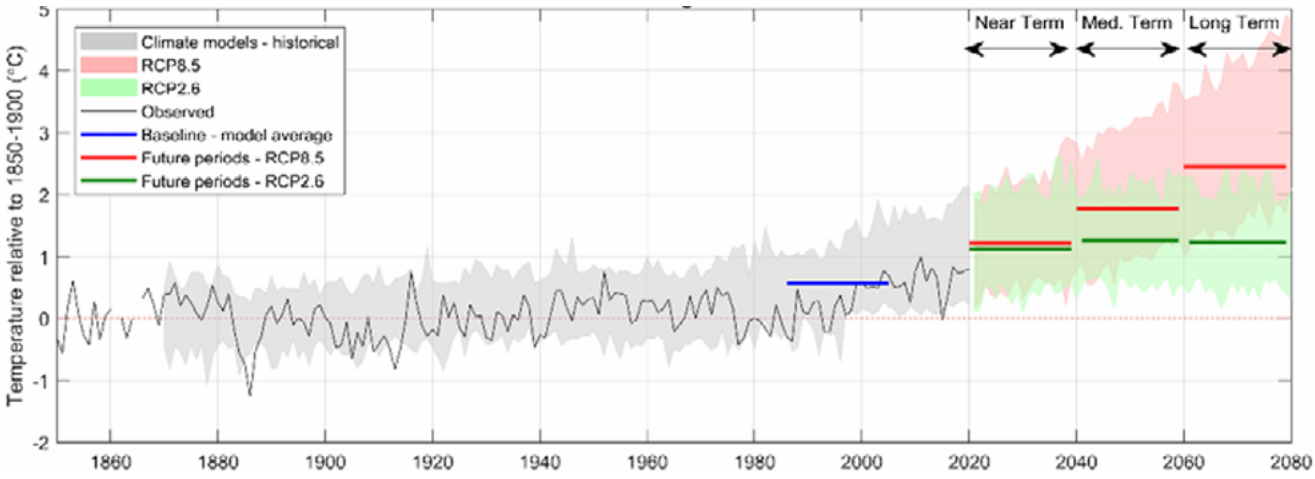
Figure 3: Projected sea level change for Tongan Exclusive Economic Zone (EEZ) relative to 2005 (World Bank, 2025)



Tonga lies in Cyclone Alley and has been struck by several Category 4–5 cyclones in recent years (e.g., Ian in 2014, Gita in 2018, Harold in 2020). Climate change is projected to make cyclones less frequent but more intense, meaning Tonga could see more Category 5 storms with higher wind speeds and rainfall. These storms cause devastation to homes, agriculture, infrastructure and can set back development gains by years. The World Bank's climate risk profile notes that Tonga's exposure to intense cyclones, combined with its small size, means that the country has a *50% chance in the next 50 years of experiencing a disaster causing over USD 175 million in losses* (World Bank, 2011). Climate disasters have already led to significant disruption of livelihoods; between 2016 and 2023, there were 11,400 reported internal displacements, largely following extreme climate events (Othering & Belonging Institute at UC Berkeley, 2025). This figure is more than double the displacements of the previous 8-year period. Displacements will only be compounded by rising sea levels and loss of land.

Alongside cyclones, marine heatwaves, and ocean acidification threaten Tonga's coral reefs and fisheries, further impacting food security and livelihood. Sea level rise, warmer ocean waters, and acidification are projected to reduce the productivity of demersal fish by 50% and intertidal invertebrates by 5-10% by 2100 (GCF, 2020). Fisheries in Tonga are largely traditional/subsistence systems. Sea level rise and climate events also affect agricultural productivity. Following the 2022 Hunga Tonga–Hunga Ha'apai eruption and tsunami, the tsunami-affected soil had significantly higher salinity and sodicity levels, above the typical crop tolerance levels (IFAD, 2022). 85% of Tongans live in rural areas where the main source of livelihood is agriculture or fishing, thus posing a significant climate vulnerability (GCF, 2020).

Figure 4: Average annual temperature in Tonga relative to 1850-1900 with projections (Tonga Meteorological Service, 2021)



Future climate projections for Tonga depend on global emissions pathways. Under an optimistic low-emissions scenario (RCP2.6), further warming could be limited to around +0.6°C by 2090 (relative to 1986–2005), as illustrated in Figure 4. However, under a high-emissions scenario (RCP8.5) where little mitigation occurs, Tonga's annual average temperature is projected to rise by roughly +2.6°C by the

late century. Such a temperature increase would be accompanied by more frequent heatwaves (days over 35°C heat index could become common). Rainfall projections are less certain – some models show slightly increased rainfall overall, but with the risk of more extreme downpours and longer dry spells (DFAT, 2021). Essentially, Tonga can expect greater climate variability, with potentially wetter wet seasons and drier dry seasons, and an uptick in extreme events. By 2090, under high emissions, what is now considered a 1-in-100-year extreme rainfall or drought event could occur far more frequently.

The impacts of these changes in Tonga would be far-reaching. Climate change threatens to undermine coastal villages through erosion and inundation, stress water resources via drought and saltwater intrusion into groundwater, reduce agricultural yields due to shifting rainfall and storm damage, and degrade marine resources. Notably, food security is at risk as warmer, drier conditions and cyclone damage to crops can jeopardize Tonga's staple root crops and fruit trees. Public health could also be affected, for example, through increases in dengue fever or diarrheal disease under warmer temperatures. Recognizing these stakes, Tonga has made climate change adaptation and resilience a top national priority. Future climate scenarios underscore that without ambitious global action to limit emissions and strong local adaptation measures, Tonga's very way of life, its coastal settlements, ecosystems, and economy, will be increasingly strained by climate change.

2.3 Legal Frameworks

Building on the legal foundations, Tonga has put in place a comprehensive policy framework to guide climate change mitigation, adaptation, and sustainable development. The country's strategic vision for climate resilience is articulated in several key policies and plans since the publication of the previous NDC:

- **Forests Act 1961:** Establishes provisions for designating forest and reserve areas and regulates their use and management.
- **Waste Management Act 2005:** Provides the legal framework for solid waste collection, disposal, and overall waste management in Tonga.
- **National Spatial Planning Act 2012:** Sets out the framework for planning, development, and protection of land in the public interest and for related purposes.
- **Environmental Impact Assessment Act 2016:** Mandates Environmental Impact Assessments (EIA) for all major development projects to manage potential risks.
- **Environmental Management Act 2016:** Defines the government's role in environmental management, including climate change reporting and decision-making processes.
- **Fisheries Management Act 2016:** Regulates the conservation and sustainable use of fisheries resources to safeguard ecosystems and minimize pollution.
- **Water Resources Act 2020:** Provides for the conservation and sustainable management of water resources to set water quality standards, regulate activities affecting water, and control waste discharges, with penalties for water pollution.

- **Energy Act 2021:** Tonga's first comprehensive energy law establishing a coherent institutional and regulatory framework across all energy sources. It created an Energy Commission and clarified the roles of the Energy Ministry and other bodies, enabling better coordination of the electricity, gas, petroleum, and renewable energy sectors. The Act promotes energy efficiency and renewable power development through robust sector oversight, directly supporting NDC targets for increased renewable energy and reduced emissions.
- **Ozone Layer Protection (Amendment) Act 2021:** Updates Tonga's ozone protection regime in line with the Montreal Protocol's Kigali Amendment. This 2021 amendment added hydrofluorocarbons (HFCs) to controlled substances, prohibiting certain HFC imports from 2024 and establishing quotas based on their global warming potential
- **Tonga Climate Change Fund Act 2021:** Establishes a dedicated national climate change fund to receive and manage climate finance from domestic and international sources. The Fund finances climate mitigation and adaptation projects, providing a mechanism to resource NDC implementation.
- **Disaster Risk Management Act 2021 (assented 2023):** Replaced the older Emergency Management Act 2007 with a modern DRM framework. Its purpose is to set up a "*coherent legal, institutional and regulatory framework*" for disaster risk reduction, emergency response, and post-disaster recovery. The Act defines clear structures (such as a National Disaster Risk Management Office and cluster system) and processes for managing climate-related hazards and disasters.

2.4 Policy Frameworks

Tonga has established a comprehensive and legally robust policy framework to support the implementation of its NDC and guide its long-term transition to a low-emission, climate-resilient future. This framework is anchored by the overarching *Tonga Climate Change Policy* (revised 2021), which sets the national vision of achieving "A Resilient Tonga by 2035" through an integrated approach to mitigation, adaptation, and disaster risk management.

The primary implementation vehicle for this vision is the *Joint National Action Plan on Climate Change and Disaster Risk Management* (JNAP 2) 2018–2028, translating high-level goals into 22 specific, actionable targets across all key sectors, including coastal protection, water and food security, infrastructure, and energy. Climate resilience is further mainstreamed at the highest level of national planning through the *Tonga Strategic Development Framework (TSDF) 2015–2025* and its successor plan for 2026–2036, ensuring whole-of-government coherence.

Tonga's five-year NDC commitments are strategically aligned with its *Long-Term Low Emission Development Strategy (LT-LEDS) 2021-2050*, which charts a course toward a resilient, autonomous, and self-reliant nation. Sector-specific policies provide detailed pathways for achieving NDC targets. The energy sector is guided by the ambitious *Tonga Energy Road Map 2021-2035 (TERMPLUS)*,

which targets 70% renewable electricity by 2025 and 100% by 2035, and is complemented by the *Tonga Energy Efficiency Master Plan*. The *SDG 7 Roadmap for Tonga (2020)* further provides a matrix of technological and policy options to accelerate NDC and energy access goals. In parallel, the *National Ocean Policy (2021)* and the *Special Management Area Strategy 2025-2030* promote community-led, nature-based solutions for a sustainable and resilient future for coastal communities. In the AFOLU sector, the *National Forest Policy (2009)*, its *Management Plan for Forests and Tree Resources (2017)*, and the *Tonga Agriculture Sector Plan (2016–2020)* guide sustainable resource use and food security, reinforcing the role of the land and agriculture sector in both mitigation and resilience.

Complementing these sectoral plans are cross-cutting frameworks that reinforce the implementation of NDCs. The *National Biodiversity Strategy and Action Framework (2018–2025)*, along with its successor, the *National Biodiversity Strategy and Action Plan (NBSAP) 2030*, provides a coherent agenda for ecosystem restoration and conservation, serving as the foundation for both mitigation and adaptation. The *National Infrastructure and Investment Plan (NIIP)* ensures that climate resilience is embedded in future infrastructure priorities across energy, water, waste, and transport. Moreover, the *National Women's Empowerment and Gender Equality Tonga Policy (WEGET) 2019–2025* institutionalizes gender-responsive climate action, ensuring that resilience-building efforts are socially inclusive and equitable. Together, these frameworks complement sectoral policies and strengthen the coherence of the country's transition toward a low-emission, climate-resilient future.

A father and daughters join Tonga's 1 million tree campaign, restoring coastal areas and building climate resilience at Mui'i Sopu.
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3. Implementation Progress of Tonga's Second NDC

Progress of Mitigation Interventions

Energy: Tonga set a 13% reduction target (≈16 $GgCO_2e$) in energy-sector emissions by 2030 (relative to 2006). As of 2023, 9.89 Gg of the targeted 16 Gg have been achieved – roughly 62% of the goal. This progress is primarily due to increased renewable electricity generation, which reached 16.7% of total generation in 2023 (on track toward the 70% renewable power goal by 2030). However, no measurable progress has been made on improving vehicle fuel efficiency or limiting residential electricity demand (original "Means 2" and "Means 3" targets), as no initiatives or data collection systems were put in place for these measures. The lack of action on transport and efficiency means Tonga risks falling short of its overall 2030 energy emissions target.

IPPU: Tonga's Second NDC did not include a GHG reduction target for IPPU, reflecting the sector's negligible emissions and limited industrial activity. With no heavy industry and minimal use of industrial gases, IPPU emissions are very low.

AFOLU: No quantitative GHG target was set for AFOLU in NDC 2020 due to incomplete data, but Tonga pursued enabling measures. Notably, the "1 Million Trees by 2023" planting campaign was successfully completed, enhancing carbon sinks and engaging communities. Work to establish a national forest inventory is about 25% complete and on track for full completion by 2030. Completing the forest and GHG inventory (now ~75% done for AFOLU data) is expected to inform a concrete emissions target for AFOLU in the 2030 NDC.

Waste: Tonga is yet to complete the groundwork to define a waste-sector GHG target for inclusion in the 2025 NDC, as outlined in the 2020 NDC. However, there has been clear progress in expanding the formal waste collection system, adding new recycling infrastructure, and improving monitoring. Collection coverage in Tongatapu now exceeds 90%, and since collection services were introduced in 2020, approximately 99% of general waste in Ha'apai has been collected.

Progress of Adaptation Interventions

AFOLU: Tonga aimed to have 30% of its land area under agro-forestry or forestry by 2025, a first-time land-use adaptation target. While the country did plant one million trees to achieve a milestone that also has mitigation co-benefits, it has been difficult to assess progress toward the 30% land cover goal. Conflicting and outdated land cover data (the last full mapping was in 2006) means the current percentage of land under agro-forestry/forestry is uncertain. Given that forest cover was only ~12% in recent estimates, the 30% target appears overly ambitious and likely unmet to date. In summary, Tonga's nature-based adaptation efforts (e.g., community agro-forestry initiatives) are underway, but a lack of monitoring data obscures the actual percentage of land achieved.

Coastal protection: Tonga's adaptation goal to prevent any permanent loss of land on its four main islands is "in progress but at risk". Sea levels have risen 0.22 m from 1993 to 2024 (with a further ~0.18 m rise projected in the next 30 years), intensifying coastal erosion threats. Data on actual land lost to the sea are not available, making it hard to gauge success. Efforts to protect marine resources have seen mixed progress: the number of community Special Management Areas (SMAs) grew from 46 in 2019 to 64 in 2025, yet the combined Marine Protection Area (MPA) accounts for only 0.06% of Tonga's EEZ (far below the 30% marine protection target). Initiatives to maintain fish stocks and marine biodiversity are therefore ongoing but currently insufficient in scale. Overall, while Tonga has elevated adaptation as a national priority, many adaptation targets lack quantitative evidence of progress, highlighting the need for better data and more attainable indicators.

Aerial view of Talafo'ou village, where coastal protection efforts are helping safeguard homes from erosion.

4. Development Process of the Third NDC

Tonga's approach to preparing its third NDC has been inclusive, coordinated, and gender-responsive and socially inclusive, ensuring that the commitment reflects national priorities and the voices of stakeholders. The Department of Climate Change (DCC) within the Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC) led the technical work on the NDC, but a multi-stakeholder consultation group was established to guide and endorse the content. This group included representatives from relevant ministries (energy, transport, waste, forestry, agriculture, finance), as well as Tonga Power Limited (for energy data) and civil society organizations. High-level oversight came from the National Climate Change Coordination Committee, ensuring alignment with other national plans. Regular inter-agency meetings were held to compile data and to agree on feasible targets.

Tonga recognized that broad consultation was a prerequisite for developing an effective NDC. Thus, the DCC convened 2 national workshops, which included workshops with government agencies and development partners to set the targets, as well as community and NGO consultations to gather input on needs and to raise awareness. Meetings were held with women's groups, youth representatives, and outer island community leaders as part of the NDC consultations. These dialogues ensured that the NDC's adaptation components responded to on-the-ground concerns. The full list of stakeholders that were consulted and their affiliations are listed in Annex D.

Throughout the NDC preparation, Tonga aimed to uphold transparency by improving data quality and clarity of targets. The process involved updating emissions data and assumptions from the Third National Communication (aligning with the ongoing completion of the Fourth National Communication) and conducting analyses to quantify the impacts of proposed actions.

The draft NDC went through endorsement by the Cabinet, reflecting strong political support from the highest level. MEIDECC presented the NDC to Cabinet highlighting how the targets are ambitious yet achievable with support, and how they align with the national development priorities.

5. Mitigation

Tonga wishes to communicate the following targets for the third NDC:

Energy: 70 Gg CO_2e reduction in GHG emissions by 2035 (25 Gg CO2e from the electricity sector and 45 Gg CO_2e from the transport sector).

IPPU: Recommitment to identifying a GHG emission baseline through a centralized database, and the non-emission target of a 30% reduction in HFC imports.

AFOLU: Recommitment to identifying a GHG emission target through a forest inventory, and the non-emission targets of scaling land-based carbon sinks with the planting of one million trees and further shifts towards sustainable agriculture and livestock practices.

Waste: Recommitment to identifying a GHG emission target through a waste MRV system, database and infrastructure upgrade, and the non-emission target of reducing the generation and consumption of single-use plastics by 2030.

5.1 Energy

Table 4: Mitigation targets, means, and requirements for the Energy sector

Target	Means	Conditionality	Requirement
Electricity: Reduce emissions by 20 GgCO_2e by 2030 and 25 GgCO_2e by 2035 compared to the baseline emissions of 2006	Achieve 70% of electricity generated from renewable sources by 2030	Conditional	Financing, grid reinforcement, technical capacity, MRV systems
	Limit growth in residential electricity end-use to 1% per year on average	Conditional	Regulation, financing, technical capacity, public engagement
Transport: Reduce emissions by 26 GgCO_2e by 2030 and 45 GgCO_2e by 2035 compared to the baseline emissions of 2006	Implement structural and regulatory measures (from TERMPLUS)	Conditional	Regulation, institutional capacity, financing, MRV systems

Transport: Reduce emissions by 26 $GgCO_2e$ by 2030 and 45 $GgCO_2e$ by 2035 compared to the baseline emissions of 2006	Implement demand-side and behavioural measures (from TEEMP)	Conditional	Policy framework, public engagement, technical capacity, financing
	Implement technology and fuel switching (TEEMP + TERMPLUS)	Conditional	Financing, regulation, technical capacity, MRV system
	Improve maritime transport efficiency through low-carbon technologies	Conditional	Technical capacity, financing, regulation, MRV system

Tonga is committed to significant emission reductions in the energy sector, focusing on both electricity and transport. In electricity, the target is to reduce emissions by 20 Gg CO_2e by 2030 and 25 Gg CO_2e by 2035, primarily through achieving 70% renewable energy generation by 2030, as outlined in TERMPLUS, the LT-LEDS, and the SDG7 Roadmap. Current projections, however, indicate a potential shortfall due to limited grid absorption capacity, emphasizing the need for substantial grid reinforcement and distribution upgrades. On the demand side, residential electricity growth will be capped at 1% annually to prevent rising reliance on diesel generation.

Solar panels at Mata ‘oe La’a Solar Farm reducing emissions and powering homes with clean energy at Vaini.
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In transport, Tonga aims to reduce emissions by 26 Gg CO_2e by 2030 and 45 Gg CO_2e by 2035 through structural reforms, behavioural changes, fuel switching, and enhanced maritime efficiency with low-carbon technologies. T*onga Energy Road Map 2021-2035 (TERMPLUS)* (Government of Tonga, 2024) includes the Motor Industry Quality Assurance Programme and stricter vehicle and fuel standards to improve fleet efficiency. T*onga Energy Efficiency Master Plan (TEEMP)* (Government of Tonga, 2020) promotes behavioural change by reducing vehicle kilometres travelled, enhancing the efficiency of light-duty vehicles, and curbing unnecessary idling. These initiatives, together with biodiesel blending and early adoption of electric vehicles, strive to diversify fuel sources, decrease reliance on imported fossil fuels, and align with Tonga’s broader energy transition. Low-carbon maritime technologies further support these efforts. Achieving these commitments requires sustained financing, institutional and technical capacity, monitoring and evaluation systems, effective regulations, and active stakeholder engagement.

5.2 IPPU

Table 5: Mitigation targets, means, and requirements for the IPPU sector

Target	Means	Conditionality	Requirement
Identify a GHG emission baseline for IPPU for the 2030 NDC	Establish a centralized IPPU database for emissions from refrigerants and industrial processes, integrated into the national GHG inventory	Conditional	Financing, public engagement
Reduce HFC imports by 30% by 2035		Conditional	Technical capacity, financing, institutional coordination

Despite its currently small share of national emissions, Tonga is integrating the Industrial Processes and Product Use (IPPU) sector into its climate commitments. Tonga has established two key targets: identifying a quantified 2030 emission baseline goal for the sector, and achieving a 30% reduction in hydrofluorocarbon (HFC) imports in alignment with the Kigali Amendment by 2035. These objectives are supported by the establishment of a centralized IPPU database, enabling robust accounting of refrigerant and process emissions, a critical improvement given the historic lack of reliable data. This data will be integrated into the IPPU component of the GHG inventory. While Tonga's industrial base remains limited, growing demand for refrigeration and air-conditioning makes HFC management a national mitigation priority. Success will depend on financing, technical capacity, institutional coordination, regulatory engagement, and public participation, forming the foundation for expanded integration of IPPU in future NDCs.

Fuel storage tanks at Touliki Terminal managing energy supply while working towards lower emissions.

5.3 AFOLU

Table 6: Mitigation targets, means, and requirements for the AFOLU sector

Target	Means	Conditionality	Requirement
Recommit to the identification of a GHG emission target for AFOLU for the 2030 NDC	Complete and institutionalize the ongoing national forest inventory, including the establishment of a centralized AFOLU data system	Conditional	Technical capacity, financing, institutional coordination, staff training
Plant 1 million trees	Complete the tree planting initiatives by 2030, ensuring species diversity beyond mangroves, promoting food security, and maintaining forest coverage	Unconditional	Technical capacity, MRV system, financing
Shift towards sustainable cropland and livestock practices	Expand climate-resilient, regenerative agricultural programs	Conditional	Technical capacity, financing, enforcement, community engagement, R&D
	Implement low-methane livestock management programs for improved herd productivity (via low-methane breeds, improved nutrition, and vaccination) and sustainable manure management	Conditional	Technical capacity, financing, enforcement, community engagement, R&D, vaccines

Tonga is strengthening its approach to reducing emissions and enhancing carbon sinks in the AFOLU sector. The priority is to complete the national forest inventory, supported by improved data systems and institutional capacity, so that future AFOLU targets can be based on robust evidence. Building on the success of the national one-million-tree campaign, Tonga is already scaling up its ambition through another 1-million-tree initiative by 2030. The Ministry of Agriculture, Food and Forests (MAFF) has already begun this initiative, with a focus on ensuring greater species diversity beyond mangrove and inland planting. This effort delivers both mitigation and adaptation

Lush landscape shows how reforestation and agroforestry improve food security and climate resilience at Vaotu'u.

benefits by enhancing carbon sequestration and strengthening ecosystem resilience. The initial phase of tree planting prioritized mangroves, whereas the primary focus of the current phase is on diversifying species to support food security, besides providing ecosystem services. While the precise sequestration impact cannot yet be quantified in this NDC, the completion of the national forest inventory and the inclusion of this initiative will provide a clearer assessment of its contribution to Tonga's carbon sequestration potential.

In parallel, Tonga will advance sustainable agriculture practices through climate-resilient, regenerative agriculture programs, which will contribute to improved soil health, fertility, and enhanced soil carbon sequestration. Tonga will also pursue the implementation of local programs to promote methane-reducing livestock practices such as vaccination and improved nutrition to increase herd productivity and low-methane breeds. Such programs would also target manure management practices such as methane pits or biogas units. These measures respond directly to recent trends of rising agricultural emissions, particularly from livestock and savannah burning, and will be supported by financing, enforcement, technical and institutional capacity, and alignment with REDD+ and other international frameworks.

5.4 Waste

Table 7: Mitigation targets, means, and requirements for the Waste sector

Target	Means	Conditionality	Requirement
Recommit to identifying a GHG emission target for waste for the 2030 NDC	Establish a centralized waste sector MRV system, including a national waste database by 2030	Conditional	Technical capacity, financing, regulation, institutional coordination
	Upgrade existing landfills, disposal sites and waste management infrastructure in the four main islands by 2035 (Tongatapu by 2030)	Conditional	Financing, technical capacity, institutional coordination, monitoring system
Reduce the generation and consumption of single-use plastics by 2030	Reduce the total plastic waste generated per person by 10% by 2030	Conditional	Behavioural study, financing, enforcement
	Recycle 25% of post-consumer single-use plastics by 2030	Conditional	Regulation, incentives, stakeholder engagement, R&D

This NDC3.0 reaffirms Tonga's previous commitment to establishing a quantified GHG emission reduction target for the waste sector by the 2030 NDC. To achieve this, Tonga will implement robust MRV systems, including the development of an MRV framework delineating data collection methods,

reporting protocols, and verification procedures tailored to waste management. In parallel, upgrading and expanding waste infrastructure is central to meeting this target, including modernizing Tapuhia (Tongatapu) and Kalaka (Vava'u) landfill with enhanced cells, leachate management, capping, and gas monitoring systems, while upgrading Ha'apai and 'Eua dumpsites into compliant landfills. These landfills will also be equipped with weighbridges to provide precise waste flow data critical for GHG inventory and MRV. A barge-transfer system will be explored to move waste from smaller islands to centralized facilities to reduce open dumping and burning. Recycling and waste diversion will also be boosted through community composting programs, the establishment of a Material Recovery Facility (MRF) in Tongatapu, and the establishment of community collection points across the main islands.

The second target is fully aligned with Tonga's Single-Use Plastics Roadmap and directly supports its six defined targets (Government of Tonga, 2025). Actions include phased bans and restrictions on priority plastic items, implementation of container deposit schemes and extended producer responsibility (EPR) initiatives, public-sector green procurement policies to reduce plastic consumption, and strengthened customs and border controls for imported plastics. Behaviour-change campaigns and educational initiatives will complement these measures, enhancing community awareness and compliance. The infrastructure established under the first target, including the MRF and collection points, will facilitate the collection, recycling, and export of recovered plastics, directly supporting roadmap implementation.

Public recycling bins in Nuku'alofa: A step toward a cleaner, plastic-free future.
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6. Adaptation

Tonga wishes to communicate the following adaptation targets for the third NDC:

Coastal zone protection: Limit loss of land and enhance the resilience of vulnerable coastal communities on Tonga's four main islands and establish a National Sustainable Spatial Framework to guide climate-induced relocation and internal migration.

Fisheries and marine resources: Restore and limit the decline of coastal fish stocks to support biologically sustainable levels.

Forestry: Enhance the climate resilience of terrestrial ecosystems by planting 1 million trees.

Education: Enhance school facilities to meet national standards for safety and resilience to climate change and disaster risks

Water security: Expand coverage of households that have reliable access to safe and climate-resilient drinking water and sanitation systems

Disaster risk management: Strengthen national and community-level preparedness and response capacity for all climate-related hazards.

6.1 Coastal Zone Protection

Table 8: Adaptation targets, means, and requirements for the Coastal zone protection sector

Target	Means	Conditionality	Requirement
Limit loss of land and enhance the resilience of vulnerable coastal communities on Tonga's four main islands by 2035	Establish a baseline of loss of land by 2030	Conditional	Financing, technical capacity
	Construct or rehabilitate at least 4.3km of integrated coastal protection in Hahake	Unconditional	Financing, technical capacity, maintenance systems
	Rehabilitate existing seawalls from Kolomotu'a to Sopu	Unconditional	Financing, assessment systems

Integrate climate-induced relocation and internal migration into national policy and planning frameworks, ensuring that mobility and land use decisions support climate-resilient development by 2035	Finalize and adopt the Land Use Policy and develop a National Sustainable Spatial Framework as its implementing instrument	Conditional	Technical capacity, community engagement, data and mapping, institutional coordination, policy/legal framework

Tonga's vulnerability to climate change is most acutely felt along its coastlines, where land loss, inundation, and erosion threaten communities, infrastructure, and livelihoods. The establishment of a national baseline is the first step, building on work already underway by the Ministry of Lands, Survey, Planning and Natural Resources, which is conducting LiDAR surveys of the coastline. These data, once collated and harmonised, will provide the foundation for measuring land loss, prioritising vulnerable sites, and tracking progress towards resilience. By 2035, Tonga aims to limit land loss and enhance the resilience of vulnerable coastal communities across the four main islands. This will build on existing initiatives such as the Tonga Climate Resilience Project (TCRP) and rehabilitation of seawalls in Nuku'alofa, using a combination of infrastructure and nature-based solutions (e.g., mangrove restoration, beach nourishment), guided by the *National Coastal Protection and Management Guidelines*.

Rehabilitated seawalls in Manuka, part of the Climate Resilience Project, to protect vulnerable coastal communities at Manuka.

Complementing physical adaptation, Tonga recognises that in some cases, climate change will make continued habitation of certain areas unsustainable. In anticipation, Tonga commits that by 2035 climate-induced relocation and internal migration will be fully integrated into national policy and planning frameworks. This will not establish a parallel system but will build upon and align with the *Tonga Migration and Sustainable Development Policy (2019–2024)*, which already provides a framework for safe, dignified mobility. It will also draw on outputs of the GCF-funded TCRP, particularly on finalising the Land Use Policy, which will set principles for land allocation and development, while the proposed *National Sustainable Spatial Framework NSSF* (to be finalized around March 2026) will serve as the operational tool, guiding settlement planning, relocation site identification, and coordination across sectors. The NSSF, once completed, will outline priority coastlines with the highest exposure to erosion, cyclones, and sea-level rise across the islands, which will be the basis for the expansion of the rehabilitation measures across the islands.

6.2 Fisheries and Marine Resources

Table 9: Adaptation targets, means, and requirements for the Fisheries and marine resources

Target	Means	Conditionality	Requirement
Restore and/or limit the decline of coastal fish stocks to support biologically sustainable levels by 2035	Operationalize a comprehensive monitoring, control, and surveillance system for all designated Marine Protected Areas (MPAs) and Special Management Areas (SMAs)	Conditional	Financing, technical capacity, monitoring equipment
	Expand MPAs and SMAs to 30% of Tonga's EEZ area	Conditional	Marine spatial planning, regulation enforcement, MRV system

Tonga's fisheries are central to its economy, culture, and national food security, with coastal subsistence fishing being a vital part of life for approximately 80% of households (Friedman, et al., 2009). These critical resources are under serious threat from the combined impacts of climate change, such as ocean warming, and local pressures like overfishing. To address this, Tonga's adaptation target is to restore and limit the decline of coastal fish stocks to support biologically sustainable levels by 2035. A key national strategy to achieve this is the area expansion and effective management of a network of MPAs and community-based SMAs. While concrete evidence of MPAs effectively rebuilding fish stocks has yet to be established, they appear to play a role in stabilizing the total fish population (Canty, et al., 2024; Rodríguez-Rodríguez & Martínez-Vega, 2022). In Tonga, the evidence for SMAs is also mixed, with some having been shown to increase fish size and abundance (Ford-Learner, et al., 2024).

Thus, a crucial means to achieve the target is to make these areas fully effective by operationalizing a comprehensive monitoring, control, and surveillance system. This system will address the current lack of technical capacity, improve data collection on fish landings, and strengthen the enforcement of regulations to ensure the long-term health of Tonga's marine ecosystems. Tonga has prepared a *National Ocean Policy* and an accompanying *Ocean Management Bill*, which once enacted, will provide the statutory pathway to gazette the national MPA network at scale, moving Tonga from today's very limited legal coverage to a system capable of delivering the 30% commitment. The immediate priority would then shift from designation to operationalization, resourcing management plans, compliance, monitoring and community partnerships. For the expansion of the SMAs, it is also important to note that there is a recent aim outlined in the *Tonga Special Management Area Strategy 2025-2030* by the Ministry of Fisheries to sustainably increase the number to 100 SMAs, which is aligned with the overall target and means in this sector in the NDC.

6.3 Forestry

Table 10: Adaptation targets, means, and requirements for the Forestry sector

Target	Means	Conditionality	Requirement
Enhance the climate resilience of terrestrial ecosystems and improve food security through expanded agroforestry and forestry	Plant one million new trees through a national, community-based planting initiative, focusing on climate-resilient and socially appropriate species	Unconditional	Financing, technical capacity, planning and monitoring of the type of trees planted

Building on the resounding success of its previous "One Million Trees Initiative," Tonga is scaling up its efforts to enhance the climate resilience of its ecosystems and improve national food security. The new, more ambitious target recognizes the significant adaptation co-benefits of healthy forests and agroforestry systems. The primary means to achieve this is a national, community-based initiative to plant one million additional trees. This will deliver a wide range of benefits that directly counter the adverse impacts of climate change, including reducing soil erosion, providing natural protection from damaging winds and coastal storm surge, improving water management, and increasing local food production. The initiative will be community-driven, ensuring that the placement and selection of climate-resilient tree species are socially appropriate and meet local needs. As a testament to Tonga's commitment, this initiative is fully funded through the government budget and Tonga Climate Change Fund, making it an unconditional contribution to the nation's climate adaptation efforts.

Sustainable nursery farming in Vaini supporting food security and healthy ecosystems for Tonga's future.

6.4 Education

Table 11: Adaptation targets, means, and requirements for the Education sector

Target	Means	Conditionality	Requirement
Ensure school facilities meet national standards for safety and resilience to climate change and disaster risks	Retrofit, replace, or upgrade high-risk school buildings to be structurally sound, functional, and equipped with climate-resilient Water, Sanitation, and Hygiene (WASH) facilities	Unconditional	Financing, technical capacity, disaster risk assessments, maintenance systems

The Government of Tonga recognizes that a resilient nation requires a resilient education system. There is an urgent need to invest in school infrastructure, as a high proportion of buildings fail to meet national safety codes, with approximately 92% of primary schools identified as being at high risk from climate and disaster hazards. To address this, Tonga's target is to ensure school facilities meet national standards for safety and resilience to climate change and disaster risks. The primary means of achieving this is to retrofit, replace, or upgrade all high-risk school buildings to be structurally sound, functional, and equipped with climate-resilient Water, Sanitation, and Hygiene (WASH) facilities. This comprehensive overhaul is being driven by two major, fully-funded initiatives: the World Bank's 'Tonga Safe and Resilient Schools Project' and the GCF's 'BRACE' project (GCF, 2025). As funding is secured for these projects, this represents an unconditional adaptation commitment for Tonga.

6.5 Water Security

Table 12: Adaptation targets, means, and requirements for the Water security sector

Target	Means	Conditionality	Requirement
Expand coverage of households that have reliable access to safe and climate-resilient drinking water and sanitation systems	Increase national rainwater harvesting capacity by achieving 100% household coverage	Conditional	Financing, technical capacity, community engagement, supply chain, MRV system
	Strengthen the protection of groundwater resources through improved national sanitation coverage	Conditional	Financing, engineering capacity, regulation enforcement, public awareness
	Implement a comprehensive borehole management framework	Conditional	Financing, hydrogeological surveys, regulations and permitting, community management training

While Tonga is a relatively freshwater-rich nation, its water security is threatened by the vulnerability of its primary water sources: rainwater and groundwater aquifers. These sources face growing risks from contamination and climate change impacts like saltwater intrusion due to sea-level rise. To address these challenges, Tonga's key adaptation target is to expand household coverage with reliable and climate-resilient drinking water and sanitation systems. National rainwater harvesting capacity will be expanded through the National Water Tank Program, aiming for 100% household coverage. Rainwater is essential not only for drinking but also for sanitation, particularly in outer islands. According to the 2021 Census, 65% of households rely on household tanks, 15% on community or neighbour tanks, and 20% on bottled or piped supply. Building on this progress, Tonga will also improve national sanitation coverage through a household latrine program and implement a comprehensive borehole management framework to ensure the sustainable use of aquifers. These initiatives require additional financial support to be fully realized.

6.6 Disaster Risk Management

Table 13: Adaptation targets, means, and requirements for the Disaster risk management sector

Target	Means	Conditionality	Requirement
Strengthen national and community-level preparedness and response capacity for all climate-related hazards	Expand the national multi-hazard early warning system to cover all communities	Conditional	Hazard monitoring capacity and equipment, telecommunications coverage, financing
	Develop and operationalize Village Disaster Risk Management Plans (VDRMPs) in all of Tonga's communities	Conditional	Community engagement, disaster risk training, institutional capacity

Tonga is extremely vulnerable to severe, climate-related hazards like intense tropical cyclones, which have caused devastating economic damage equivalent to over a third of the nation's GDP in a single event. To counter this threat, Tonga's target is to strengthen national and community-level preparedness and response capacity for all climate-related hazards. This will be achieved through a two-tiered strategy. At the national level, the goal is to expand the national multi-hazard early warning system to cover all communities, ensuring timely alerts reach every part of the country. At the local level, this will be complemented by developing and operationalizing Village Disaster Risk Management Plans (VDRMPs) in all of Tonga's communities. This proven, community-led framework, established under the Emergency Management Act 2007 for Village Emergency Management Plans (VEMPs), empowers villages to manage resources, raise disaster awareness, and coordinate response and recovery efforts aligning with the 2021 Disaster Risk Management Act. The full implementation of these life-saving initiatives is conditional on receiving additional financial support.

7. Loss and Damage

Tonga wishes to communicate the following loss and damage targets for the third NDC:

Strengthen the capacity for Tonga to respond to loss and damage needs through a system that identifies L&D and mobilizes support.

Leverage technical assistance through the mechanisms provided by the Santiago Network and the UAE Framework.

Table 14: Loss and damage targets, means, and requirements

Target	Means	Conditionality	Requirement
Strengthen institutional capacity to safeguard livelihoods, cultural assets, and communities through a system that identifies economic and non-economic loss and damage and mobilizes adequate support	Incorporate a comprehensive loss and damage policy framework in the Climate Change Policy amendment, which will establish the institutions and systems necessary to track economic and non-economic loss and damage, as well as to access international sources of loss and damage funding by 2035	Conditional	Financing, institutional coordination, legal framework, monitoring capacity
Leverage international technical assistance to strengthen Tonga's ability to assess, manage, and finance responses to loss and damage	Request and utilize technical assistance through the Santiago Network to access methodologies and tools for L&D assessment and engage with the UAE Framework to secure capacity building and direct access to international loss and damage finance by 2030	Conditional	Financing, international partnerships, technical expertise, institutional coordination

Despite international mitigation efforts, global average temperature continues to rise and impacts are projected to increase in frequency and severity for the foreseeable future. Tonga is already experiencing climate impacts that exceed its ability to adapt, resulting in both economic and non-economic loss and damage (L&D). Both extreme events like stronger tropical cyclones and storm surges, and slow onset events like sea-level and temperature rise threaten homes, critical infrastructure, and government revenue. The devastation caused by Tropical Cyclone Gita demonstrated the scale of potential economic loss, with lasting impacts on housing, schools, and

essential services. Key sectors such as forestry, tourism, agriculture, and fisheries are all vulnerable, increasing the risks to livelihoods and national development without proper response mechanisms in place.

To ensure that the country is capable of addressing both economic and non-economic L&D, Tonga will by 2035 incorporate a comprehensive L&D policy framework in the climate change policy amendment that can both identify and monitor L&D and mobilize funding from international sources for L&D caused by both extreme and slow-onset events. Tonga will seek to leverage international technical assistance through the mechanisms provided by WIM and FRLD. Tonga will endeavour to develop data systems to record climate impacts leading to L&D such as displacement, cultural heritage loss, and health impacts. This may require increased technical capacity for attribution studies and monitoring of slow-onset events. When possible, such data will be disaggregated by gender and other vulnerabilities. The framework for displacement and relocation shall be integrated into national planning and land-use policies, with strengthened institutional coordination and community engagement to ensure that such policies are inclusive and culturally sensitive.

Cyclone Gita's damage in Nuku'alofa highlights the urgent need for stronger climate preparedness and response.
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8. Gender and Social Inclusion

Tonga is committed to achieving SDG 5: Gender Equality and implementing gender-responsive and socially inclusive approaches under the UNFCCC framework. Climate change affects women and girls disproportionately, intensifying existing inequalities in access to land, finance, and decision-making. Women make up 51% of Tonga's population (Tonga Statistics Department, 2021). Yet, their participation in political and leadership roles remains limited. Women are central to food security, markets, and care work, but cultural and legal barriers, including restrictions under the land tenure system, limit their ability to own land and access finance. Climate change increases women's exposure to economic hardship, malnutrition, water scarcity, and possibilities of gender-based violence (GBV) in post-disaster contexts. Tonga's National Women's Empowerment and Gender Equality Policy provides a framework for whole-of-government action on gender mainstreaming. The Gender and Environment Survey (2023), provides evidence on how climate is impacting women and girls differently (Tonga Statistics Department, 2023).

Youth face unemployment and migration pressures, and many young people risk losing livelihoods in farming and fisheries due to climate impacts. National Youth Policy 2021–2025 calls for greater youth participation in decision-making, skills development, and leadership opportunities (Ministry of Internal Affairs, Youth Development Division, 2021). Persons with disabilities in Tonga face heightened climate risks due to mobility constraints, health needs, limited access to information and services, and social barriers to participation. According to the Disability Survey Report 2018, about 7.6% of the population lives with a disability (Tonga Statistics Department, 2018). Climate change events such as cyclones, tsunamis, and droughts disproportionately affect people with disabilities, as shelters, early warning systems, and emergency responses are not always accessible. The migration of young people for better economic opportunities has a negative impact on Tongan elders. Almost half of Tongans aged 65 years old and above have low levels of social support defined by: (i) living alone, or (ii) nobody to help them when they are sick, needing help with chores, or taking them to a nurse or doctor. Low levels of social support increase the risk of social isolation for Tongan elders (ADB, 2021).

Tonga's NDC 3.0 commits:

- to ensure women and youth are active agents of climate action, by expanding leadership opportunities and equitable access to land, finance, and green jobs.
- promote climate literacy in schools, expand green-skills training and apprenticeships for youth in solar operation and maintenance, energy efficiency, e-mobility, and waste management.
- mainstream disability and age inclusion by making climate adaptation and mitigation interventions fully accessible.

- ensure representation of young people and women in climate negotiations, project development, decision-making processes, implementation, and monitoring.
- improve sex, age, and disability-disaggregated data
- apply gender, youth, and disability responsive budgeting in all NDC sectors, i.e., Energy, AFOLU, IPPU, Waste, and in Adaptation and Loss & Damage priorities.

Tongan youth take the lead in climate negotiations, shaping decisions for a sustainable future at Queen Salote Hall.

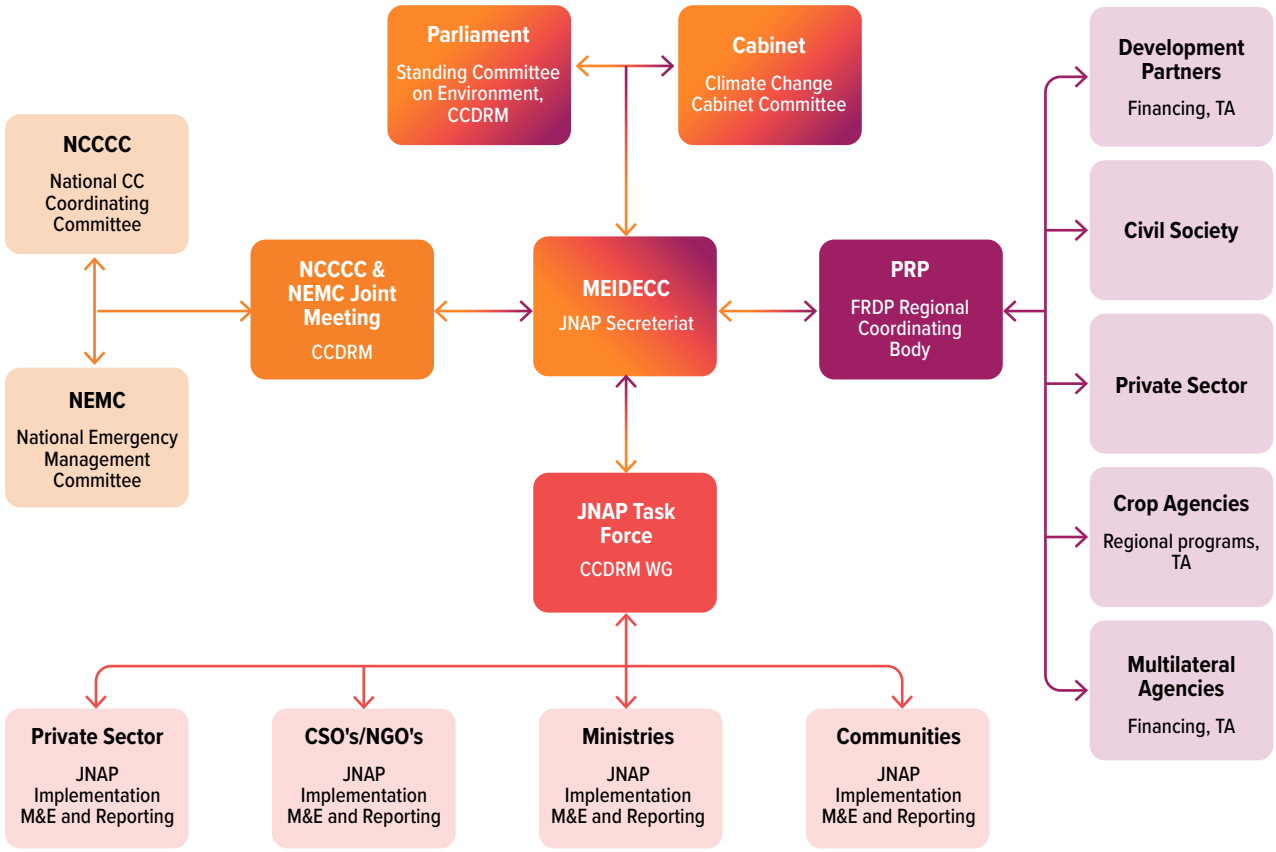
Youth-led climate action at Queen Salote Hall building climate literacy and green skills for Tonga's next generation.

9. Implementation Arrangements

9.1 Governance and Institutional Arrangement

The implementation of Tonga's third NDC will be fully integrated within the country's established national governance framework for climate change and disaster risk management. This approach leverages the existing, robust structure of the Joint National Action Plan (JNAP), ensuring a coordinated, "whole-of-Tonga" effort and avoiding the creation of parallel systems. Strategic oversight and high-level political endorsement for NDC implementation will be provided by the Climate Change Cabinet Committee, a ministerial-level body, and the joint meeting of the National Climate Change Coordinating Committee (NCCCC) and the National Emergency Management Committee (NEMC), which serves as the principal JNAP oversight body.

Figure 5: Third NDC governance structure for implementation



The Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC) will serve as the central coordinating authority. Within MEIDECC, the Department of Climate Change and the JNAP Secretariat are responsible for day-to-day coordination, policy alignment, and resource mobilization. The primary technical and implementation-coordinating body will be the multi-stakeholder JNAP Task Force. This task force comprises key government ministries, civil society, and private sector representatives, ensuring a comprehensive and inclusive approach to planning and project oversight.

For the direct implementation of NDC actions, the relevant line ministries responsible for specific mitigation and adaptation sectors will serve as the lead implementing agencies. These ministries will execute sectoral targets and projects, forming the operational base of the governance structure. Progress, monitoring, and reporting from these ministries and other implementing partners, including communities and non-governmental organizations, will be channelled through the JNAP Task Force to the JNAP Secretariat.

Representatives from CSOs and the private sector are integral members of the JNAP Task Force, contributing directly to technical coordination, policy, and project oversight. At the grassroots level, local communities, CSOs, NGOs, and the private sector act as crucial implementing partners, responsible for carrying out climate actions and participating in monitoring and reporting.

9.2 Technology Needs and Transfer

Tonga has undertaken a comprehensive Technology Needs Assessment (TNA) to identify and prioritize climate technology needs for both mitigation and adaptation. This country-driven process engaged stakeholders across four key sectors: Energy and Transport for mitigation, and Water and Agriculture for adaptation.

Mitigation

For mitigation, the TNA (Phase IV, 2023–2025) prioritized six key low-carbon technologies across the energy and transportation sectors (Tevita Tukunga, 2025). These include on-grid renewable energy systems (solar photovoltaic and wind power), energy-efficient household appliances, and electric mobility options (battery electric vehicles, hybrid vehicles, and grid-integrated EVs). These priorities align with Tonga's goal of increasing the share of renewable electricity (targeting 70% by 2030), a goal that will require considerable expansion of solar, wind, and battery capacity, making technology transfer and capacity support essential. To facilitate uptake of the prioritized technologies, Tonga completed a Barrier Analysis and Enabling Framework in 2024 and a Technology Action Plan in 2025 (Tevita Tukunga, 2024; Tevita Tukunga, 2025), which outlines measures to overcome adoption barriers and promote the transfer and diffusion of these technologies. International partnerships and knowledge exchange will be pursued to accelerate the deployment of these mitigation solutions as part of NDC implementation.

Adaptation

On the adaptation side, Tonga's TNA focused on reducing vulnerability in the agriculture and water sectors (Moala, 2023). Several priority adaptation technologies were identified to strengthen resilience in these areas. For example, top-ranked options include integrated farming systems and community-based farmer training programs in the agriculture sector, and enhanced community water supply management, along with scaling up rainwater harvesting in the water sector. The adaptation TNA has been formulated to align closely with Tonga's broader climate strategies, including the NDC 2020, the JNAP2, the national Climate Change Policy, and the LT-LEDS to ensure coherence with national adaptation goals. As with mitigation, the successful implementation of adaptation technologies will depend on effective technology transfer and capacity development. Tonga will leverage the TNA outcomes to seek international cooperation and technical support for acquiring and deploying these resilience-building technologies under NDC 3.0.

9.3 Capacity Building Requirements

Tonga will deliver this NDC through existing institutions, principally MEIDECC, acting via the JNAP Secretariat and sector focal points. Capacity development will therefore be embedded in the JNAP workplan and tracked through established MRV/M&E arrangements consistent with the Paris Agreement's ETF. Priority capabilities span MRV for mitigation and adaptation (inventory systems, activity-data pipelines, indicators and verification), results-based planning and evaluation, safeguards and inclusion, and core delivery skills such as procurement, asset O&M and outer-island logistics. Sector-specific needs include grid integration of variable renewables and storage, efficiency regulation and market surveillance, low-emission transport policy and standards, landfill-gas monitoring and refrigerant management, groundwater and water-quality monitoring, sanitation, coastal and ecosystem restoration (including nurseries and mangroves), fisheries compliance and surveillance across MPAs/SMAs, and multi-hazard early warning operations. L&D competencies will cover accounting of economic and non-economic losses and readiness to access emerging international support.

Consistent with the UNFCCC and reflecting the GST call for scaled-up action and support, Tonga will rely on capacity-building assistance from developed country Parties and other partners to achieve and sustain these competencies. International cooperation through the UNFCCC's capacity-building arrangements, the Technology Mechanism's networks, and partnerships with regional agencies will therefore be essential to complement national efforts. At the same time, Tonga will maximize domestic ownership by prioritizing training-of-trainers, twinning and mentorship, and the institutionalization of standard operating procedures, shared templates, and interoperable data systems across ministries.

9.4 Investment Needs

In order to create a more reliable source of climate finance for urgent projects, the Government of Tonga established the Tonga Climate Change Fund in 2014. The very first of its kind in the Pacific region, the Fund provides supplementary financial support to community-based adaptation and

mitigation efforts. The Fund enables much greater local ownership over climate action and increases the responsiveness of the Government to community needs.

The Fund is designed to be a self-sustaining financial mechanism, with only the investment proceeds used for project funding. A sound fiduciary management and robust governance system have been established to ensure potential donors have confidence in the effectiveness and sustainability of the Fund. The Government of Tonga is inviting new donors to contribute to the Fund in order to help address the growing needs of vulnerable communities experiencing the negative impacts of climate change.

Therefore, in order to ensure a domestic source of climate funding, Tonga commits to the following new funding contribution: By 2035, raise a total of USD 50 million in contributions for the Tonga Climate Change Fund from development partners.

Together with the investment requirements for all the NDC 3.0 actions, the total cost of implementing the NDC 3.0 for Tonga is between **USD 400 – 530 million**, of which **USD 328 – 456 million are conditional contributions and USD 73 – 76 million are unconditional contributions**[1] from Tonga.

Table 15: Funding Requirements

Cost Type	Conditional (USD million)	Unconditional (USD million)
Mitigation	222 – 312	7 – 10
Adaptation	40 - 78	65.5
Loss & Damage	16	-
Tonga Climate Change Fund	50	-
Sub-total	**328 – 456**	**72.5 – 75.5**
Total	**~ USD 400 – 530 million**	

1. The unconditional contributions refer to funding that has been already secured by Tonga, e.g., the GCF funded coastal protection and BRACE project as well as the Japan-funded Seawall Rehabilitation project. The unconditional contribution also includes the Tree Planting Initiative by MAFF, which will be funded by domestic budget.

10. MRV, M&E and Transparency Framework

Tonga is fully committed to the implementation of the Paris Agreement and its Enhanced Transparency Framework (ETF) under Article 13. It recognizes that robust transparency is fundamental to tracking collective progress and promoting effective climate action. Tonga will fulfill its reporting obligations in a manner that is facilitative and respectful of the flexibility provided for Small Island Developing States (SIDS) in light of national capacities.

Tonga will leverage our existing, robust national monitoring and evaluation (M&E) architecture, which is already aligned with international reporting principles. The foundation of our approach is the M&E System Guide for Tonga's *Joint National Action Plan on Climate Change and Disaster Risk Management 2018-2028 (JNAP2)*. This NDC will also leverage and continue the M&E framework from Tonga's NDC Implementation Roadmap, which builds upon the JNAP2 M&E system. This system, designed for learning, accountability, and adaptive management, provides the institutional framework for tracking progress across all adaptation and mitigation actions outlined in this NDC. The processes and data generated through the JNAP2 M&E system will directly inform the preparation of Tonga's Biennial Transparency Reports (BTRs).

Tonga is pursuing a pragmatic and phased approach to strengthening its MRV capabilities, focusing on continuous improvement. For key mitigation sectors, including Energy and Transport, Tonga is actively developing a dedicated NDC tracking framework with the support of the Initiative for Climate Action Transparency (ICAT).

For sectors such as AFOLU and Waste, we acknowledge the existence of data gaps that currently limit the use of higher-tier reporting methodologies. In line with the targets set in our Second NDC, Tonga is undertaking foundational work, including the establishment of a national forest inventory, to build the data infrastructure required for more accurate GHG accounting.

BTR-aligned data requirements and indicators will be embedded into the project cycle management framework of the Tonga Climate Change Fund (TCCF). This will ensure that all nationally funded climate projects automatically generate data in a format that is useful for international reporting, creating a powerful, bottom-up data pipeline. Tonga's BTRs will transparently report on progress using the best available data and methodologies for each sector, while clearly outlining the steps we are taking to enhance the quality and scope of our reporting over time. This iterative approach ensures that our national transparency system evolves in line with our capacity, embodying the spirit of the ETF.

11. Fairness and Ambition

Tonga has negligible GHG emissions globally yet faces severe and disproportionate impacts from climate change, including intensified cyclones, sea-level rise, and coastal erosion. Despite significant economic and technical constraints, Tonga has demonstrated ambitious leadership through robust mitigation commitments, such as achieving 70% renewable electricity generation by 2030 and strengthened adaptation measures to secure the safety and livelihoods of its vulnerable communities. These commitments represent an ambitious progression compared to Tonga's previous NDCs, aligning with Article 4.3 of the Paris Agreement and the GST outcomes, which call for increasing ambition with each submission.

Tonga's NDC 3.0 expands sectoral coverage by including transport sector emissions and specific targets for the IPPU and Waste sectors. It introduces clearer, more specific sectoral targets and stronger institutional arrangements, thereby demonstrating progression in both ambition and clarity. Recognizing the critical role of adaptation, Tonga's NDC prioritizes resilience-building measures that directly respond to its national circumstances and vulnerabilities, fully aligning with Article 4.4 and Article 4.6 of the Paris Agreement.

Nevertheless, achieving these ambitious targets is beyond Tonga's limited domestic resources. The implementation of these commitments depends significantly on sustained and scaled-up international support in finance, technology transfer, and capacity building. The necessity for international cooperation reflects the historical responsibility of larger emitters and wealthier nations, whose past and ongoing emissions have substantially contributed to the adverse climate impacts experienced by Tonga. Considering these unique national circumstances of limited historical emissions, extreme vulnerability, constrained resources, and the need for international support, Tonga considers its enhanced commitments in NDC 3.0 both fair and ambitious.

Annexure

Annex A	Information to Facilitate Clarity, Transparency, and Understanding (ICTU)
Annex B	Detailed Information on Targets and Means
Annex C	Aggregate Investment Requirements for Sectoral Target
Annex D	List of Stakeholders

Annex A. Information to Facilitate Clarity, Transparency, and Understanding (ICTU)

Table A1: ICTU Information

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)	Base year for GHG emissions: 2006
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.	Total emissions in base year (2006) for energy: 120.4 $GgCO_2e$ Total emissions in base year (2006) for waste: 0.9 $GgCO_2e$ Total emissions in base year (2006) for agriculture: 1.8 $GgCO_2e$ Total emissions in base year (2006) for LULUCF: 187.4 CO_2e
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	Relevant strategies, plans, and actions include: • Tonga Climate Change Policy (2016) • National Climate Change Fund Act (2021) • Low Emission Development Strategy (LT-LEDS) (2021-2050) • Strategic Development Framework II (2015-2025) • Joint National Action Plan 2 on Climate Change and Disaster Risk Management (2018-2028) • Tonga Energy Road Map (TERMPLUS) (2021-2035) • Tonga Energy Efficiency Master Plan (2020) • National Infrastructure Investment Plan 3 (2021-2030) • SDG7 Roadmap for Tonga (2020) • National Ocean Policy (2021) • Special Management Area Strategy (2025-2030) • National Forest Policy (2009) • Management Plan for Forests and Tree Resources (2017) • Tonga Agriculture Sector Plan (2016-2020) • National Biodiversity Strategy and Action Framework (2018-2025) • National Biodiversity Strategy and Action Plan 2030 • National Women's Empowerment and Gender Equality Tonga Policy (2019-2025

d	Target relative to the reference indicator, expressed numerically, for example in percentage or amount of reduction	Energy sector emissions from electricity reduction of 20 GgCO2e by 2030 and 25 GgCO2e by 2035 compared to the baseline emissions of 2006. Energy sector emissions from transportation reduction of 26 GgCO2e by 2030 and 45 GgCO2e by 2035 compared to the baseline emissions of 2006. Identification of GHG reduction targets for the AFOLU. In pursuit of a quantifiable target for the AFOLU sector, Tonga aims to complete a national forest inventory before 2030. Identification of a baseline for IPPU and 30% reduction of HFC imports in 2035 compared to the baseline. Identification of GHG reduction targets for the Waste sector and a 10% reduction in waste generation per capita and 25% reduction of single-use plastic by 2030.
e	Information on sources of data used in quantifying the reference point(s)	Government of Tonga's Third National Communication
f	Information on the circumstances under which the Party may update the values of the reference indicators	GHG emissions from the energy sector in 2006 may be updated and recalculated as a result of methodological improvements. Information on updates made will be included in the Government of Tonga's Fourth National Communication to the UNFCCC.
2	**Time frames and/or periods for implementation**	
a	Time frame and/or period for implementation, including start and end date	From 1st January 2026 to 31st December 2035
b	Whether it is a single-year or multi-year target, as applicable.	Multi-year target (2030 and 2035)
3	**Scope and coverage**	
a	General description of the target	GHG Mitigation Targets: • Reduce electricity generation emissions in the energy sector by 20 GgCO2e by 2030 and 25 GgCO2e by 2035 compared to the baseline emissions of 2006. • Reduce transport emissions in the energy sector by 26 GgCO2e by 2030 and 45 GgCO2e by 2035 compared to the baseline emissions of 2006. Non-GHG Mitigation Targets: • Identification of a GHG emission baseline for IPPU, and targets for AFOLU and waste sectors by the 2030 NDC • Planting 1 million trees by 2030 • 30% reduction in HFC imports

		• Shift towards sustainable cropland and livestock practices • Reduce the use of single-use plastics through circular economy practices Adaptation Targets: • Limit loss of land and enhance coastal resilience • Integrate climate-induced relocation and internal migration into national policy • Limit the decline of coastal fish stocks • Enhance resilience of terrestrial ecosystems and food security through (agro-)forestry • Achieve national standards for climate and disaster resilient schools • Expand residential WASH systems coverage • Strengthen preparedness for climate hazards Loss & Damage Targets: • Strength institutional capacity for L&D • Leverage technical assistance for L&D from international sources
b	Sectors, gases, categories and pools covered by the nationally determined contribution, including, as applicable, consistent with Intergovernmental Panel on Climate Change (IPCC) guidelines	Sectors: • Mitigation - Energy, IPPU, AFOLU, Waste • Adaptation – Coastal resilience, fisheries and marine resources, education, forestry, water security, disaster risk management Gases: • Carbon dioxide (CO_2) • Methane (CH_4) • Nitrous oxide (N_2O) • Carbon monoxide (CO) • Nitrogen Oxide (NO_x)
c	How the Party has taken into consideration paragraph 31(c) and (d) of decision 1/CP.21	Industrial processes and product use (IPPU): There is a paucity of data for the IPPU sector, preventing the inclusion of the sector. In addition, GHG emissions from IPPU represent a fraction of Tonga's total greenhouse gas emissions, given the absence of mineral, chemical, metal, electronics, and other manufacturing industries, as well as the limited use of lubricants, paraffin waxes, and solvents. Therefore, omission of the sector has a negligible impact on Tonga's NDC.

		Agriculture, forestry and other land use (AFOLU) sector: Paucity of reliable data leads to significant uncertainty in any attempt to quantify GHG emissions and carbon sequestration from forests and other woody biomass. Therefore, the AFOLU sector is not considered as part of Tonga's NDC. However, Tonga is striving to include anthropogenic emissions or removals from the AFOLU sector in its 2030 NDC. The national forest inventory is in progress, and the AFOLU component of the national GHG inventory is nearly complete, which should allow for the inclusion of the AFOLU sector in the 2030 NDC. Waste: The degree of comprehensiveness of relevant data on waste amounts and waste composition hindered the setting of a GHG emission reduction target. However, Tonga is striving to include anthropogenic emissions from waste in its 2030 NDC.
d	Mitigation co-benefits resulting from Parties' adaptation efforts and/or economic diversification plans, including description of specific projects, measures and or initiatives of Parties adaptation actions and/or economic diversification plans	Tonga accounts for any mitigation co-benefits from adaptation actions and/or economic diversification as mitigation actions in accordance with the assumptions and methodological approaches indicated in the detailed information of the targets and means presented in Annex B.
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:	
a(i)	Domestic institutional arrangements, public participation and engagement with local communities and indigenous peoples, in a gender-responsive manner	Tonga's NDC 3.0 was prepared through an inclusive, coordinated, and gender-responsive process. The Department of Climate Change (MEIDECC) led the technical work, supported by a multi-stakeholder consultation group that included line ministries (energy, transport, waste, forestry, agriculture, finance), Tonga Power Limited, and civil society organizations. Oversight was provided by the National Climate Change Coordination Committee, ensuring alignment with national plans and policies. Two national workshops were convened with government agencies, development partners, community leaders, and NGOs. Special consultations were held with women's groups, youth representatives, and outer island communities to ensure diverse voices were integrated, particularly in shaping adaptation priorities.

a(ii)	Contextual matters, including, inter alia, as appropriate	
a(ii) a	National circumstances, such as geography, climate, economy, sustainable development and poverty eradication	Tonga is a Small Island Developing State of 170 islands, 36 of which are inhabited, with a total land area of 747 km^2. Its geography, low-lying, scattered islands in the Pacific "Ring of Fire," creates extreme vulnerability to cyclones, sea-level rise, tsunamis, and volcanic activity. The economy is narrow and import-dependent, with remittances contributing around 35% of GDP, while agriculture and fisheries, though only 17% of GDP, remain central to livelihoods. Poverty affects about 22% of the population, particularly in rural and outer islands. Disasters have caused losses of up to 38% of GDP, compounding development challenges. These circumstances shape Tonga's prioritization of resilience, energy security, and poverty reduction within its NDC.
a(ii) b	Best practices and experience related to the preparation of the nationally determined contribution	In developing NDC 3.0, Tonga applied lessons from previous submissions, emphasizing inclusivity, transparency, and institutional coordination. Preparation of NDC 3.0 was driven by the progress review report of the previous NDC. Tonga regards coordination between and consultation of all relevant stakeholders as a prerequisite to developing its NDC and its effective implementation. Consultations extended beyond government to include NGOs, communities, and vulnerable groups, making the process more representative and gender-responsive. Tonga also regards consistency with existing policies, strategies, and roadmaps as pertinent for developing its NDC and its effective implementation. Technical improvements were made by updating emissions inventories and linking them to the Third and ongoing Fourth National Communication. Successful initiatives such as the "One Million Trees" campaign and waste-sector reforms provided practical experience for setting measurable and credible targets. This approach combined participatory dialogue with stronger data systems to improve both ambition and feasibility. Tonga recognises the need to continue to strengthen data collection in order to comply with the 2006 IPCC guidelines. NDC 3.0 puts forward specific targets to increase clarity and transparency in this area.
a(ii) c	Other contextual aspirations and priorities acknowledged when joining the Paris Agreement	When ratifying the Paris Agreement, Tonga underscored its negligible global emissions but high climate vulnerability. Its aspirations remain cantered on safeguarding communities, reducing reliance on imported fossil fuels, and aligning development with a resilient, low-carbon pathway.

		Social inclusion: Tonga puts a strong emphasis on ensuring the consideration of aspects such as gender, income, age, etc., when developing its nationally determined contributions. NDC 3.0 reflects commitments to equity and social inclusion by mainstreaming gender, youth, and disability considerations across sectors. These priorities are grounded in Tonga's climate and development frameworks, including the Climate Change Policy (2021), the Joint National Action Plan (2018–2028), and the LT-LEDS (2021–2050), which collectively articulate the national vision of "A Resilient Tonga by 2035. Food security: Given the country's geographical and economic characteristics, ensuring food security for its population is an additional priority for Tonga.
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. Tonga submits its NDC individually and has not entered into joint implementation arrangements under Article 4, paragraph 2
c	How the Party's preparation of its nationally determined contribution has been informed by the outcomes of the global stocktake, in accordance with Article 4, paragraph 9, of the Paris Agreement	Tonga's NDC 3.0 was shaped by the findings of the first Global Stocktake, which highlighted the need for accelerated ambition and stronger implementation this decade. In response, Tonga expanded sectoral coverage to transport, waste, and AFOLU, enhanced transparency systems aligned with the Enhanced Transparency Framework, and introduced clearer adaptation targets with quantifiable outcomes. Additionally, targets for loss and damage were included. Financing and capacity needs were explicitly linked to project pipelines to facilitate access to international support.
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:	

d(i)	How the economic and social consequences of response measures have been considered in developing the nationally determined contribution	Tonga accounts for economic and social consequences of actions by identifying and clearly communication the alignment with national development plans and socio-economic impacts of the targets and means as indicated in the detailed information tables in Annex B.
d(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.	Tonga accounts for the mitigation co-benefits of the adaptation actions in all categories of adaptation actions as indicated in the detailed information tables in Annex B.
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	For the energy sector, Tonga reported GHG emissions and determined its emission reduction targets using the 2006 IPCC Guidelines for National GHG Inventories, applying the Tier 1 approach and default emission factors. For the IPPU, AFOLU, and waste sectors, Tonga acknowledges current data limitations but is undertaking foundational work, including the completion of a national forest inventory and the establishment of centralized databases, to enable fuller coverage in future NDCs. Tonga strives to report a complete national GHG inventory by the next NDC updated in 2030, in line with the 2006 IPCC Guidelines and the 2019 Refinement to the 2006 IPCC Guidelines, progressively improving methodological rigor as data systems and technical capacity are strengthened.
b	Assumptions and methodological approaches used for accounting for the implementation of policies and measures or strategies in the nationally determined contribution	For the implementation of policies and measures in NDC 3.0, Tonga will continue to apply the 2006 Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories using the Tier 1 approach with default emission factors for energy. Tonga will progressively incorporate the 2019 Refinement to the 2006 IPCC Guidelines as data systems improve.

		For IPPU, AFOLU, and waste, the aforementioned foundational work for a national forest inventory and centralized databases will enable more robust accounting in future NDCs. Reporting on progress toward NDC 3.0 targets will be aligned with the Enhanced Transparency Framework, with methodological improvements introduced as national capacity strengthens.
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 elements 5a and 5d.
d	IPCC methodologies and metrics used for estimating anthropogenic greenhouse gas emissions and removals	Methodologies: • 2006 IPCC Guidelines for National Greenhouse Gas Inventories • 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories • Tier 1 approach with default emission factors (applied to the energy sector, with progressive improvements planned for AFOLU, IPPU, and waste)
e	Sector-, category- or activity specific assumptions, methodologies, and approaches consistent with IPCC guidance, as appropriate, including, as applicable.	
e(i)	Approach to addressing emissions and subsequent removals from natural disturbances on managed lands.	Not applicable at present, as Tonga's current GHG inventory does not adequately capture emissions and removals from agriculture, forestry, and other land use. Tonga is, however, strengthening the AFOLU sector through the development of a national forest inventory and improved land-use data systems. The country strives to report anthropogenic emissions and removals from AFOLU in future submissions, following the 2006 IPCC Guidelines for National GHG Inventories and the 2019 Refinement to the 2006 Guidelines, using the Tier 1 approach with default emission factors until more detailed data allows higher-tier methods.
e(ii)	Approach used to account for emissions and removals from harvested wood products.	Not applicable. See 4e(i).
e(iii)	Approach used to address the effects of age-class structure in forests;	Not applicable. See 4e(i).

f	Other assumptions and methodological approaches used for understanding the nationally determined contribution and, if applicable, estimating corresponding emissions and removals, including:	
f(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;	For the energy sector, Tonga reported GHG emissions and determined its emission reduction targets using the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, applying the Tier 1 approach and default emission factors.
f(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;	Tonga's non-GHG components in NDC 3.0 focus on enhancing resilience and driving co-benefits beyond direct emission reductions. These include targets for increasing renewable electricity generation to 70% by 2030, improving energy efficiency in the transport and residential sectors, and strengthening adaptation measures such as forest restoration and ecosystem resilience. Non-GHG measures also include institutional actions, such as the establishment of centralized databases for AFOLU and IPPU, improved MRV systems, and capacity-building for data collection and reporting. These components are not based on explicit emission factor methodologies. Some are aligned with national strategies, including the Tonga Climate Change Policy, the Joint National Action Plan, and the LT-LEDS. Their purpose is to provide complementary pathways for achieving sustainable development and resilience outcomes, alongside Tonga's quantified emission reduction targets.
f(iii)	For climate forcers included in nationally determined contributions not covered by IPCC guidelines, information on how the climate forcers are estimated	Not applicable. Tonga's 2020 NDC does not include any climate forcers that are not determined contributions not covered by the IPCC guidelines.
f(iv)	Further technical information, as necessary;	Not applicable.
g	The intention to use voluntary cooperation under Article 6 of the Paris Agreement, if applicable	At present, Tonga does not envisage the use of internationally transferred mitigation outcomes under Article 6 of the Paris Agreement, but continues to rely on international support in the form of finance, technology transfer, and capacity-building to achieve its targets.

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	Tonga is a Small Island Developing State with negligible global GHG emissions but extremely high exposure to climate change impacts, including cyclones, sea level rise, and volcanic hazards. Despite its limited economic and technical capacity, Tonga has committed to ambitious mitigation measures, such as achieving 70% renewable electricity by 2030, while also prioritizing adaptation to safeguard communities and livelihoods. Accounting for these circumstances, Tonga considers its NDC as fair and ambitious.
b	Fairness considerations, including reflecting on equity	
c	How the Party has addressed Article 4, paragraph 3, of the Paris Agreement	Tonga's NDC 3.0 builds on and enhances ambition compared to its previous NDCs, consistent with Article 4.3. It introduces expanded sectoral coverage beyond energy to include waste, transport, and AFOLU, and strengthens both mitigation and adaptation components. The NDC sets more ambitious renewable energy targets (70% of electricity from renewables by 2030), clearer sectoral measures, and improved transparency systems. These updates represent a progression beyond NDC 2.0 in scope, clarity, and ambition.
d	How the Party has addressed Article 4, paragraph 4, of the Paris Agreement	Tonga's circumstances align with Article 4.4, which recognizes that developing countries will take enhanced actions over time, supported by finance, technology, and capacity-building. Tonga's commitments are ambitious relative to its capacity, but their full implementation is contingent on adequate international support.
e	How the Party has addressed Article 4, paragraph 6, of the Paris Agreement	Article 4.6 provides flexibility for SIDS in the scope, coverage, and level of ambition of their NDCs. Tonga, as a SIDS, exercises this flexibility by prioritizing adaptation alongside mitigation, tailoring targets to its national context, and adopting a phased approach to data improvements and inventory coverage. Tonga's approach builds upon its national plans, including its Low Emission Development Strategy plan (LT-LEDS) from 2021.

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	As part of its NDC 3.0, Tonga increases the ambition of its mitigation targets for energy, while also expanding coverage to transport, waste, and AFOLU. These measures contribute to the Convention's objective by reducing GHG emissions, lowering dependence on fossil fuels, and advancing a low-carbon development pathway. NDC 3.0 also sets clear adaptation priorities, including forest restoration, coastal protection, and resilient water management. Tonga further identifies where international finance, technology transfer, and capacity-building are required to achieve these outcomes, ensuring its contribution is both nationally appropriate and globally relevant. Lastly, NDC 3.0 includes loss and damage priorities for the first time, in recognition that much of the future climate impacts will not be mitigated nor adapted to.
b	How the nationally determined contribution contributes towards Article 2, paragraph 1(a), and Article 4, paragraph 1, of the Paris Agreement	Tonga's NDC 3.0 contributes to holding the global temperature increase to well below 2°C and pursuing efforts towards 1.5°C by reducing domestic emissions through renewable energy expansion, efficiency improvements, and waste-sector actions. It also addresses Article 4.1 by outlining an enhanced, economy-wide progression beyond previous NDCs and aligning mitigation and adaptation priorities with sustainable development objectives. In the future, Tonga aims to expand to an economy-wide reduction target. To do so, Tonga will also pursue its non-emission targets that make target-setting possible, and remains contingent on adequate international support.

Annex B. Detailed Information on Targets and Means

Mitigation

Energy

Table B1: Details on the mitigation target for electricity

Target	Energy - Electricity Reduce emissions by 20 $GgCO_2e$ by 2030 and 25 $GgCO_2e$ by 2035 compared to the baseline emissions of 2006
Means	• Achieve 70% of electricity generated from renewable sources by 2030 • Limit growth in residential electricity end-use to 1% per year on average
Conditionality	Conditional
Activities	**Initiative 1: 70% RE by 2030** Phase 1 - Grid-first: • NNUP Area 4 & 5, 33 kV grid strengthening, SCADA/EMS/DERMS, Smart meter rollout, Operate 4×BESS to spec, Enforce siting rules) Phase 2: Tranche A and gap cover • TPL RFT Tranche A (+34 GWh/yr), Storage add-on BESS (30 MWh), "Gap-closer" PV/wind (12.9 GWh/yr), Fast-acting capacitors, Synchronous condenser. Phase 3: Optimisation and resilience • o TPL RFT Tranche B (+16.5 GWh/yr), Additional BESS (20–30 MWh), Full smart-grid features, Loss-reduction programmes, Firm-renewable pilots **Initiative 2: Limit growth in residential demand by 1%/yr** Phase 1 - Foundations • MEPS enforcement at borders, LED transition Phase 2 - Rollout • Solar water heating, building audits (enabler) Phase 3 - Consolidation • Building codes, appliance replacement, demand cap
Funding requirement	**Initiative 1: 70% RE by 2030** • Phase 1 - Grid-first: ~ USD 35.2 mil • Phase 2- Tranche A and gap cover: ~ USD 61 – 86 mil • Phase 3- Optimization and resilience: ~ USD 10 – 20 mil **Initiative 2: Limit growth in residential demand by 1%/year** • Phase 1 - Foundations: ~ USD 5 - 7 mil

	• Phase 2- Rollout: ~ USD 4 - 6 mil • Phase 3- Consolidation: ~ USD 3 - 5 mil **Total investment: ~USD 118 - 159 mil**
Socio-economic benefits	• Reduce fuel import dependence and national energy expenditure. • Create green jobs in the renewable energy sector. • Stabilize electricity costs for households and businesses. • Strengthen national energy security.
Adaptation co-benefits	• Expand decentralized renewable energy systems to enhance resilience in outer islands. • Reduce exposure to global fossil fuel price volatility. • Improve energy reliability during climate-induced disruptions.
Responsible entity	• **MEIDEC**C: Responsible for Tonga's energy planning and development; oversees implementation of TERM • **TPL:** Responsible for ensuring sufficient electricity supply, acting as the transmission and distribution system operator
Additional requirement	Financing, grid reinforcement, technical capacity, MRV systems, regulation, public engagement
Alignment with SDGs	
Alignment with LT-LEDS	**Energy - Actions 1-8**
Alignment with the National Development Plan	**Pillar 4:** Infrastructure and Technology Inputs - Outcome 1: More reliable, safe, and affordable energy services
Alignment with JNAP 2	**Target 5:** 100% renewable energy by 2035 (consistent with Tonga's NDC).

Table B2: Details on the mitigation target for transport

Target	**Energy - Transport** **Reduce emissions by 26 $GgCO_2e$ by 2030 and 45 CO_2e by 2035 compared to the baseline emissions of 2006**
Means	• Implement structural and regulatory measures (from TERMPLUS) • Implement demand-side and behavioural measures (from TEEMP) • Implement technology and fuel switching (TEEMP + TERMPLUS) • Improve maritime transport efficiency through low-carbon technologies
Conditionality	Conditional

Activities	**Initiative 1: Structural and regulatory measures** • Phase 1: Vehicle import standards (fuel economy, emissions, registration/ inspection reform) • Phase 2: Tariff/duty adjustments for cleaner vehicles • Phase 3: Full compliance and data/MRV systems **Initiative 2: Demand side and behavioural measures** • Phase 1: VKT reduction – Nuku'alofa Sustainable City, walkways, cycle lanes, paid parkings, pedestrianisation pilot. • Phase 2: Smart public transport pilot (bus electrification prep, scheduling systems); fuel economy programme for LDVs • Phase 3: Idle-time bans; auxiliary power tech training; full smart transport deployment **Initiative 3: Technology and fuel switching** • Phase 1: Biodiesel 5% pilot blending; electrify part of government fleet • Phase 2: Expand biodiesel to 10%; electrify passenger fleet (incentives for private LDVs) • Phase 3: Electrify public transport (e-buses, charging depots) **Initiative 4: Maritime efficiency and electrification** • Phase 1: Ship efficiency programme: hull maintenance, slow steaming, fuel mgmt; outboard motor replacement • Phase 2: Sailing multi-hull pilots; whale-watch zero-carbon vessels; wind-assist cargo design • Maritime electrification: hybrid inter-island freighters; FISA fleet retrofit/ replacement
Funding requirement	**Initiative 1: Structural and regulatory measures** • Phase 1: Vehicle import standards: ~ USD 2 mil • Phase 2: Tariff/duty adjustments: ~ USD 1 - 2 mil • Phase 3: Full compliance and MRV systems: ~ USD 1 - 2 mil **Initiative 2: Demand side and behavioural measures** • Phase 1: VKT reduction – Nuku'alofa Sustainable City: ~ USD 8 - 12 mil • Phase 2: Smart public transport pilot & fuel economy programme for LDVs: ~ USD 4 - 6 mil • Phase 3: Idle-time bans & auxiliary power tech training: ~ USD 3 - 4 mil **Initiative 3: Technology and fuel switching** • Phase 1: Biodiesel 5% pilot blending & electrify part of government fleet: ~ USD 9 - 12 mil • Phase 2: Expand biodiesel & electrify passenger fleet: ~ USD 9 - 12 mil • Phase 3: Electrify public transport: ~ USD 15 - 18 mil

	Initiative 4: Maritime efficiency and electrification • Phase 1: Ship efficiency programme: ~ USD 4 - 5 mil • Phase 2: Sailing multi-hull pilots: ~ USD 5 mil • Phase 3: Maritime electrification: ~ USD 7 - 10 mil **Total Investments: USD ~ 68 - 92 mil**
Socio-economic benefits	• Reduce fossil fuel import costs. • Create new employment opportunities in sustainable transport services. • Improve public health by reducing urban air pollution. • Enhance connectivity and trade efficiency through modernized transport systems.
Adaptation co-benefits	• Enhance resilience of transport infrastructure to climate impacts. • Expand use of diversified fuel sources to reduce vulnerability to global supply shock. • Improve maritime safety and reliability during extreme weather events.
Responsible entity	• **MEIDECC:** Responsible for policy oversight and coordination of low-carbon transport initiatives under TERMPLUS/TEEMP • **Ministry of Infrastructure (MoI):** Responsible for the transport sector, covering land, maritime, and aviation. • **Ports Authority Tonga (PAT):** Overseeing operation, maintenance, and efficiency improvements of national ports.
Additional requirement	Regulation, institutional capacity, financing, MRV systems, policy framework, public engagement, technical capacity
Alignment with SDGs	
Alignment with LT-LEDS	**Transport/Actions 1-9**
Alignment with the National Development Plan	**Pillar 4:** Infrastructure and Technology Inputs - Outcome 1: More reliable, safe, and affordable transport services
Alignment with JNAP 2	**Target 2:** Resilient land, air, and marine infrastructure (roads, buildings, causeways, bridges, communication, transportation)

IPPU

Table B3: Details on the mitigation target for IPPU

Target	• **Identify a GHG emission baseline for IPPU for the 2030 NDC** • **Reduce HFC imports by 30% by 2035**
Means	• Establish a centralized IPPU database for emissions from refrigerants and industrial processes, integrated into the national GHG inventory
Conditionality	Conditional
Activities	Create IPPU inventory, methodology, and MRV integration • Customs and importer reporting system • Establish an advanced` monitoring and verification system to fully operational Tier-2 IPPU MRV system Phasedown of HFC consumption and imports so that it is below the Kigali pathway • Integrated HFC inventory within the GHG inventory • Enforcing quota and labelling rules • Periodic quota reviews Increase servicing coverage by certified technicians • Adoption of the code of practice Ensuring 100% of new equipment uses low-GWP refrigerants • Green procurements and standards for safe alternatives
Funding requirement	• Create IPPU inventory, methodology, and MRV integration: ~ USD 1.5 – 3 mil • Phasedown of HFC consumption and imports: ~ USD 4 – 6 mil • Increase servicing coverage by certified technicians: ~ USD 0.5 – 5 mil • Using low-GWP refrigerants: ~ USD 1 – 3 mil **Total Investments: USD ~ 7 – 17 mil**
Socio-economic benefits	• Reduce costs associated with inefficient refrigerant imports. • Create jobs in monitoring, reporting, and verification (MRV) and in low-GWP technology markets. • Strengthen industrial data transparency and accountability.
Adaptation co-benefits	• Improve resilience of cooling systems under higher climate stress. • Expand use of low-GWP refrigerants that perform better in warmer conditions.
Responsible entity	MEIDECC, Ministry of Revenue & Customs, TVET Institutions, Ministry of Trade

Additional requirement	Importer reporting, Customs-Climate data link, advanced enforcement & market compliance, training curricula and exams, registry of certified professionals, independent audits
Alignment with SDGs	
Alignment with LT-LEDS	**Energy/Action 8**
Alignment with the National Development Plan	**Pillar 1:** Economic Institutions - Outcome 2: Closer public/private partnership for economic growth
Alignment with JNAP 2	**Target 19:** An economy aligned with resilient environment and society. **Target 22:** Efficient, strengthened information and knowledge management and monitoring system

5.3 AFOLU

Table B4: Details on the mitigation target for an AFOLU GHG emission target

Target	Recommit to the identification of a GHG emission target for AFOLU for the 2030 NDC
Means	• Complete and institutionalize the ongoing national forest inventory, including the establishment of a centralized AFOLU data system
Conditionality	Conditional
Activities	• Complete the NFI • Institutionalize the NFI with a centralized AFOLU data system
Funding requirement	USD 0.5 Mil
Socio-economic benefits	• Create jobs for local communities in forest monitoring and inventory work. • Strengthen land-use planning and agricultural productivity. • Improve transparency for forest- and land-related climate finance.
Adaptation co-benefits	• Enhance ecosystem resilience through improved forest management. • Expand knowledge on forest and land resources to inform adaptation policies. • Strengthen community capacity to manage land against climate risks (erosion, drought, flooding).
Responsible entity	MAFF, Tonga Statistics Department (TSD)

Additional requirement	Technical capacity, financing, institutional coordination, staff training
Alignment with SDGs	
Alignment with LT-LEDS	**AFOLU/Action 2**
Alignment with the National Development Plan	**Pillar 5:** Natural Resource & Environment Inputs - Outcome 1: Improved land use planning, administration & management for private & public spaces **Pillar 5:** Natural Resource & Environment Inputs - Outcome 2: Improved use of natural resources for long term flow of benefits
Alignment with JNAP 2	**Target 22:** Efficient, strengthened information and knowledge management and monitoring system

Table B5: Details on the mitigation target for planting 1 million trees

Target	Plant 1 million trees
Means	• Complete the tree planting initiatives by 2030, ensuring species diversity beyond mangroves, promoting food security, and maintaining forest coverage
Conditionality	Unconditional
Activities	• Seedling production & community nurseries; site prep & planting (incl. outer-island logistics); 2–3 yrs maintenance/replacements; monitoring (survival rates); program management & safeguards
Funding requirement	USD 7 – 10 Mil
Socio-economic benefits	• Create rural and community employment in tree planting and maintenance. • Improve livelihoods through potential agroforestry and non-timber forest products. • Enhance ecosystem services such as soil fertility and water regulation supporting agriculture.
Adaptation co-benefits	• Expand natural buffers against coastal erosion, flooding, and drought. • Improve biodiversity resilience through species diversification. • Strengthen carbon sequestration capacity to reduce vulnerability to climate change impacts.
Responsible entity	MAFF
Additional requirement	MRV system, technical capacity, financing, community capacity building, conservation site identification

Alignment with SDGs	
Alignment with LT-LEDS	**AFOLU/Actions 1, 3, 4, and 5**
Alignment with the National Development Plan	**Pillar 5:** Natural Resource & Environment Inputs - Outcome 1: Improved land use planning, administration & management for private & public spaces **Pillar 5**: Natural Resource & Environment Inputs - Outcome 2: Improved use of natural resources for long term flow of benefits
Alignment with JNAP 2	**Target 7:** 30% of land in Tonga utilized for agroforestry or forestry.

Table B6: Details on the mitigation target for sustainable agriculture

Target	Shift towards sustainable cropland and livestock practices
Means	• Expand climate-resilient, regenerative agricultural programs • Implement low-methane livestock management programs for improved herd productivity (via low-methane breeds, improved nutrition, and vaccination) and sustainable manure management
Conditionality	Conditional
Activities	• Farmer capacity building, adoption input on at least 2000 ha • Setting up solar-powered vaccine fridges, cold boxes, data tools, farmer trainings, and field mobility
Funding requirement	USD 4.5 – 5.5 Mil
Socio-economic benefits	• Increase farmers' income through improved yields and resource efficiency. • Reduce input costs with sustainable soil and nutrient management. • Create new opportunities in climate-smart agriculture and manure-to-energy value chains.
Adaptation co-benefits	• Improve soil fertility and water retention to enhance resilience against droughts. • Reduce livestock vulnerability to heat stress and disease. • Expand sustainable land practices that lower erosion and land degradation risks.
Responsible entity	MAFF
Additional requirement	Technical capacity, financing, enforcement, community engagement, research & development, vaccines

Alignment with SDGs	
Alignment with LT-LEDS	**AFOLU/Actions 1, 4, 5, and 6**
Alignment with the National Development Plan	**Pillar 5:** Natural Resource & Environment Inputs - Outcome 1: Improved land use planning, administration & management for private & public spaces **Pillar 5**: Natural Resource & Environment Inputs - Outcome 2: Improved use of natural resources for long term flow of benefits
Alignment with JNAP 2	**Target 6:** Resilient low-chemical or organic farming systems

Waste

Table B7: Details on the mitigation target for identifying a waste GHG emission target

Target	Recommit to identifying a GHG emission target for waste for the 2030 NDC
Means	• Establish a centralized waste sector MRV system, including a national waste database by 2030 • Upgrade existing landfills, disposal sites and waste management infrastructure in the four main islands by 2035 (Tongatapu by 2030)
Conditionality	Conditional

Activities	• Setting up a MRV system for the Waste sector
	  • Focused stakeholder consultations, development of a MRV framework with data collection methods, reporting protocols and verification procedures, capacity building workshops
	  • Install weighbridges at all major landfills
	  • Integrate key waste sector indicators into national climate MRV systems for improved transparency and Paris Agreement compliance (Enhanced Transparency Framework), beginning with Tier-1 from 2021 baselines, and progress to Tier-2 by 2035.
	  • Carry out annual monitoring – publishing reports on emissions, waste flows, and mitigation progress – and conduct regular national waste audits.
	• Waste collection fleet expansion and outer-island services
	  • Use of a barge system to transport waste from Vava'u, Ha'apai and 'Eua to the main island for proper disposal

	• Establish new transfer stations and formal waste collection systems in outer island communities
	• Modernize existing landfill sites with advanced waste cells, leachate management, capping, and gas monitoring, with a focus on Tapuhia (Tongatapu) and Kalaka (Vava'u). Upgrade Ha'apai and 'Eua from basic dumpsites to environmentally compliant landfills; explore barge transport solutions for waste generated on outer islands to ensure proper disposal and reduce open dumping.
	• Expand organic waste diversion to ≥50%, prioritizing methane mitigation.
	  • Scale up community and school-based composting, market-sector organic segregation, and household biogas programs.
	  • Establish regional organic waste hubs.
	• • Introduce nationwide segregation norms for plastics & metals.

Funding requirement	• Setting up an MRV system ~ USD 0.5 Mil • Fleet expansion to increase coverage and service reliability ~ USD 6.5 – 9.5 Mil • Upgrading all existing landfills ~ USD 3 – 5 Mil • Upscaling composting and biogas projects ~ USD 2 – 4 Mil **Total Investments: USD ~ 12 – 19 Mil**
Socio-economic benefits	• Create local jobs in waste collection, recycling, and facility management. • Reduce waste-related public health risks. • Lower waste management costs through resource recovery. • Stimulate circular economy opportunities.
Adaptation co-benefits	• Reduce climate vulnerability by preventing waste-related flooding and drainage blockages. • Expand community resilience through cleaner environments. • Improve coastal and marine ecosystem health, enhancing natural buffers against storms.
Responsible entity	MEIDECC
Additional requirement	Technical capacity, financing, regulation, institutional coordination
Alignment with SDGs	
Alignment with LT-LEDS	**Waste/Actions 1-8**

Alignment with the National Development Plan	**Pillar 5:** Natural Resource & Environment Inputs - Outcome 3: Cleaner environment with improved waste recycling
Alignment with JNAP 2	**Target 11:** A zero-waste policy during normal times and after disasters. **Target 22:** Efficient, strengthened information and knowledge management and monitoring system

Table B8: Details on the mitigation target for single-use plastics

Target	Reduce the generation and consumption of single-use plastics by 2030
Means	• Reduce the total plastic waste generated per person by 10% by 2030 • Recycle 25% of post-consumer single-use plastics by 2030
Conditionality	Conditional

Activities	• Fully implement the Tonga Single-Use Plastics Roadmap
	  • Develop a robust and interconnected institutional framework
	  • Ban the use of problematic single-use plastics by 2030 with import bans and retail enforcement
	  • Behavioural change programme addressing single-use plastic use with awareness campaigns
	  • Creating Extended Producer Responsibility (EPR) legislation
	  • Uniform recycling facility and landfill standards
	• Recover 300 t/year PET & HDPE by installing container deposit and segregation pilots
	• Expand Material Recovery Facility (MRF), baling and enhance regional markets
	• Expand recycling streams to cover tyres, e-waste, whiteware, and hazardous waste, developing either local processing options or overseas partnerships for material recovery.
	• Implement the planned Waste Levy on selected imported items to boost WAL's financial sustainability, allowing greater investment in infrastructure and services. Explore and strengthen additional internal revenue mechanisms to reduce reliance on donor funding and support long-term infrastructure investments.
	• Finalize and operationalize Tonga's National Waste Strategy by 2030 to provide a holistic governance and investment framework.

Funding requirement	• Implementation of the Roadmap ~ USD 6 – 10 Mil • Container deposit and segregation pilots ~ USD 0.5 – 1 Mil • Expansion of MRF ~ USD 4 - 5 Mil • Expansion of recycling streams ~ USD 1 – 1.5 Mil • Implementation of the planned waste levy & strengthen internal revenue ~ USD 0.2 – 0.5 Mil

	• Finalization and operationalization of National Waste Strategy ~ USD 0.5 – 1 Mil **Total Investments: USD ~ 12 – 19 Mil**
Socio-economic benefits	• Create jobs through new collection and sorting facilities. • Reduce illegal dumping and associated health risks. • Empower communities and schools via behaviour change programmes. • Promote local innovation and entrepreneurship in plastic alternatives. • Unlock business opportunities in the recycling and circular economy sectors.
Adaptation co-benefits	• Reduce marine plastic pollution, supporting fisheries and food security. • Improve resilience of coastal ecosystems through less plastic leakage. • Strengthen community engagement in sustainable practices. • Reduce landfill pressure and pollution, supporting land and water resilience. • Enhance local capacity to repurpose plastic waste for construction or energy use.
Responsible entity	MEIDECC, WAL, Ministry of Tourism
Additional requirement	Policy/legal framework, institutional coordination, stakeholder engagement, infrastructure, public awareness, MRV system
Alignment with SDGs	
Alignment with LT-LEDS	**Waste/Actions 1-8**
Alignment with the National Development Plan	**Pillar 5:** Natural Resource & Environment Inputs - Outcome 3: Cleaner environment with improved waste recycling
Alignment with JNAP 2	**Target 11:** A zero-waste policy during normal times and after disasters.

Adaptation

Coastal Zone Protection

Table B9: Details on the adaptation target for limiting land loss

Target	Limit loss of land and enhance the resilience of vulnerable coastal communities on Tonga's four main islands by 2035
Means	• Establish a baseline of loss of land by 2030 • Construct or rehabilitate at least 4.3km of integrated coastal protection in Hahake • Rehabilitate existing seawalls from Kolomotu'a to Sopu
Conditionality	Unconditional (for the rehabilitation works in Hahake and seawalls in Nuku'alofa), Conditional (for baseline setting)
Activities	Unconditional • Completion of the GCF Coastal Resilience Project • Completion of the Japan Seawall Rehabilitation project Conditional • Multi-epoch shoreline mapping and baseline, including acquisition and processing of aerial imagery using LiDAR or satellite images. Computation of erosion and establishment of a geodatabase and public dashboard.
Funding requirement	Unconditional • GCF Coastal Resilience Project – USD 10.5 Mil • Japan Seawall Rehabilitation project – USD 23.9 Mil Conditional • Establishment of baseline ~ USD 1 Mil **Total Investments: USD ~ 11.5 – 25 Mil**
Socio-economic benefits	• Prevent internal displacement/migration and protect social amenities. • Strengthen knowledge sharing and co-creation.
Mitigation co-benefits	• Support carbon sequestration and enhance carbon sinks. • Promote blue carbon systems.
Responsible entity	• **Implementing Agency:** MEIDECC, Ministry of Lands and Natural Resources • **Supporting Agency:** MOI
Additional requirement	Financing, technical capacity, maintenance systems, assessment systems

Alignment with SDGs	
Alignment with LT-LEDS	**Human settlements/Action 9**
Alignment with the National Development Plan	**Pillar 5:** Natural resource & environment inputs; outcome 2: improve use of natural resources for long-term flow of benefits
Alignment with JNAP 2	**Target 1:** Resilient coastal development, infrastructures, and integrated coastal ecosystems management (including offshore minerals exploration and mining). **Target 22:** Efficient, strengthened information and knowledge management and monitoring system

Table B10: Details on the adaptation target for relocation

Target	**Integrate climate-induced relocation and internal migration into national policy and planning frameworks, ensuring that mobility and land use decisions support climate-resilient development by 2035**
Means	Finalize and adopt the Land Use Policy and develop a National Sustainable Spatial Framework as its implementing instrument
Conditionality	Conditional
Activities	• Land Use Policy and National Sustainable Spatial Framework development & Cabinet adoption (including scoping and multi-island consultations) • Enabling data and systems to run the plan (including geospatial data integration and establishment of a small spatial planning team)
Funding requirement	Total – USD 1.5 – 3 Mil
Socio-economic benefits	Prevent internal displacement/migration, protect social amenities, strengthen knowledge sharing, and co-creation
Mitigation co-benefits	Support carbon sequestration, enhance carbon sinks, and promote blue carbon systems.
Responsible entity	• **Implementing Agency:** MEIDECC • **Supporting Agency:** MLNR
Additional requirement	Technical capacity, community engagement, data and mapping, institutional coordination, policy/legal framework

Alignment with SDGs	
Alignment with LT-LEDS	**Human settlements/Action 9**
Alignment with the National Development Plan	**Pillar 5:** natural resource & environment inputs; outcome 2: improve use of natural resources for long-term flow of benefits
Alignment with JNAP 2	**Target 12:** Strengthened capacity and awareness for families and communities on climate change and disaster risk management (preparedness, response, recovery, rehabilitation, build back better).

Fisheries and Marine Resources

Table B11: Details on the adaptation target for fisheries

Target	Restore and/or limit the decline of coastal fish stocks to support biologically sustainable levels by 2035
Means	• Operationalize a comprehensive monitoring, control, and surveillance system for all designated Marine Protected Areas (MPAs) and Special Management Areas (SMAs) • Expand MPAs and SMAs to 30% of Tonga's EEZ area
Conditionality	Conditional
Activities	• Setting up community wardens across all SMAs, drones/VMS & data system, small patrol craft and fuel, joint operations & legal procedures, training & M&E • Conduct a stock assessment and ocean accounts pilot projects • Marine spatial planning updates & consultations; ecological baselining; legal designation & gazettal; zoning maps & community outreach; monitoring plan
Funding requirement	• USD 15 – 30 Mil (Higher cost of offshore patrol vessel is included as part of the monitoring and surveillance system) • Stock assessment and oceans account ~ USD 4 -6 Mil
Socio-economic benefits	• Restore healthy fish stocks, create new jobs • Contribute to GDP, enhance food production/nutrition
Mitigation co-benefits	• Enhance blue carbon ecosystems • Promote low-emissions protein sources

Responsible entity	• **Implementing Agency:** Ministry of Fisheries, MEIDECC • **Supporting Agency:** MAFF, Attorney General's Office
Additional requirement	Financing, technical capacity, monitoring equipment, marine spatial planning, regulation enforcement, MRV system
Alignment with SDGs	
Alignment with LT-LEDS	**AFOLU & Fisheries/Action 5**
Alignment with the National Development Plan	**Pillar 5:** Natural resource & environment inputs; outcome 2: improve use of natural resources for long-term flow of benefits
Alignment with JNAP 2	**Target 4:** Resilient fisheries development and marine and coastal ecosystems (reefs, mangroves, seagrass, etc.). **Target 8:** Ecosystem-based approach to biodiversity conservation and special management areas (including cultural/historical sites). **Target 22:** Efficient, strengthened information and knowledge management and monitoring system

Forestry

Table B12: Details on the adaptation target for forestry

Target	Enhance the climate resilience of terrestrial ecosystems and improve food security through expanded agroforestry and forestry
Means	Plant one million new trees through a national, community-based planting initiative, focusing on climate-resilient and socially appropriate species
Conditionality	Unconditional
Activities	Seedling production & community nurseries; site prep & planting (incl. outer-island logistics); 2–3 yrs maintenance/replacements; monitoring (survival rates); program management & safeguards
Funding requirement	USD 7 – 10 Mil
Socio-economic benefits	Enhance food security/multiple sources of vitamins/minerals/calories, improve household incomes,
Mitigation co-benefits	Carbon sequestration, soil fertility, reduce GHG emissions

Responsible entity	• **Implementing Agency:** MAFF • **Supporting Agency:** MLNR, MEIDECC
Additional requirement	Financing, technical capacity, planning and monitoring of the type of trees planted
Alignment with SDGs	
Alignment with LT-LEDS	**AFOLU/Action 3**
Alignment with the National Development Plan	**Pillar 5:** Natural Resources and Environment Inputs; outcome 2-improve the use of natural resources for long-term flow of benefits, outcome 4: improved resilience to the impact of climate change
Alignment with JNAP 2	**Target 7:** 30% of land in Tonga utilized for agroforestry or forestry.

Education

Table B13: Details on the adaptation target for education

Target	Ensure all school facilities meet national standards for safety and resilience to climate change and disaster risks
Means	Retrofit, replace, or upgrade all high-risk school buildings to be structurally sound, functional, and equipped with climate-resilient Water, Sanitation, and Hygiene (WASH) facilities
Conditionality	Unconditional
Activities	Completion of the GCF funded "Building the Climate Resilience of Children and Communities through the Education Sector (BRACE)" project and the World Bank funded Schools Rehabilitation Project
Funding requirement	USD 10 Mil (GCF) + USD 21 Mil (The World Bank)
Socio-economic benefits	Leverage/scale climate funding, protect the most vulnerable communities/ people, ensure ownership of climate adaptations, and faster response time during climate disasters
Mitigation co-benefits	Funds for mitigation projects such as agroforestry, reforestation, mangrove restoration, coastal protection, renewable energies, etc.
Responsible entity	• **Implementing Agency:** Ministry of Education and Training • **Supporting Agency:** Ministry of Finance (MOF), MOI, MEIDECC, Ministry of Internal Affairs, MLNR

Additional requirement	Financing, technical capacity, disaster risk assessments, maintenance systems
Alignment with SDGs	
Alignment with LT-LEDS	Related to all pillars and actions of LT-LEDS, AFOLU/human investments/ transport/energy/waste
Alignment with the National Development Plan	**Pillar 1:** economic institutions: outcome 1-improve macroeconomic management, outcome 3-strengthen business enabling environment; outcome 4-improve public enterprise performance **Pillar 3:** political institutions; outcome 1-efficient & transparent public service, outcome 6-improved collaboration with development partners
Alignment with JNAP 2	**Target 3:** Resilient public and community infrastructure (schools, churches, community halls, including emergency shelters). **Target 16:** Education for resilience incorporated at all levels (primary, secondary, tertiary).

6.5 Water Security

Table B14: Details on the adaptation target for water security

Target	Expand coverage of households that have reliable access to safe and climate-resilient drinking water and sanitation systems
Means	• Increase national rainwater harvesting capacity by achieving 100% household coverage • Strengthen the protection of groundwater resources through improved national sanitation coverage • Implement a comprehensive borehole management framework
Conditionality	Conditional
Activities	• Supply & install household rainwater tanks (5,000–10,000 L) with gutters under the National Water Tank Program to achieve 100% coverage • Targeted Sanitation System Upgrade Program • Creation of a National Borehole Assessment and Management Framework • Institutional Strengthening & Public Awareness
Funding requirement	USD 15 – 25 Mil

Socio-economic benefits	• Reduce waterborne diseases. • Provide clean drinking water and access to free/reliable water.
Mitigation co-benefits	Sustainable water collection
Responsible entity	• **Implementing Agency:** Tonga Water Board, Waste Authority Limited • **Supporting Agency:** Ministry of Health, Ministry of Public Enterprises, MLNR
Additional requirement	Financing, technical and engineering capacity, community engagement, supply chain, MRV system, regulation enforcement, public awareness, hydrogeological surveys, community management training
Alignment with SDGs	
Alignment with LT-LEDS	**Human settlements/Action 4**
Alignment with the National Development Plan	**Pillar 5:** Natural Resources and Environment Inputs; outcome 3-cleaner environments and waste management (which affects water quality)
Alignment with JNAP 2	**Target 10:** Water security through integrated management and conservation.

6.6 Disaster Risk Management

Table B15: Details on the adaptation target for disaster risk management

Target	Strengthen national and community-level preparedness and response capacity for all climate-related hazards
Means	• Expand the national multi-hazard early warning system to cover all communities • Develop and operationalize Village Disaster Risk Management Plans (VDRMPs) in all of Tonga's communities
Conditionality	Conditional
Activities	• Infrastructure and technology upgrade, centralized data and forecasting hub, last-mile communication and dissemination system • Institutional Strengthening & Community Preparedness
Funding requirement	USD 8 - 13 Mil

Socio-economic benefits	Protect/save lives and reduce injuries, prevent destruction of businesses/farms and social amenities
Mitigation co-benefits	Reduce carbon emissions from reconstructions
Responsible entity	• **Implementing Agency:** MEIDECC, National Disaster Management Office • **Supporting Agency:** National Disaster Council/Committee/ Working Group
Additional requirement	Hazard monitoring capacity and equipment, telecommunications coverage, financing, community engagement, disaster risk training, institutional capacity
Alignment with SDGs	
Alignment with LT-LEDS	**Human settlement/Action 2, 9**
Alignment with the National Development Plan	**Pillar 5:** natural resources & environment inputs: outcome 4-improved resilience to extreme natural events and impact of climate change
Alignment with JNAP 2	**Target 3:** Resilient public and community infrastructure (schools, churches, community halls, including emergency shelters). **Target 15:** Strengthened and relevant climate services and early warning systems.

Loss and damage

Table B16: Details on the loss and damage target for an L&D institutional capacity

Target	**Strengthen institutional capacity to safeguard livelihoods, cultural assets, and communities through a system that identifies economic and non-economic loss and damage and mobilizes adequate support**
Means	Incorporate a comprehensive loss and damage policy framework in the Climate Change Policy amendment, which will establish the institutions and systems necessary to track economic and non-economic loss and damage, as well as to access international sources of loss and damage funding by 2035
Conditionality	Conditional
Activities	Institutional design; national loss database (e.g., DesInventar-style); methodologies & baselines; legal/policy drafting; pilot applications
Funding requirement	USD 15 Mil

Socio-economic benefits	Safeguard investments, mitigate the non-economic/economic losses, unlock climate financing/disaster emergency fund/contingency fund/scale social protection
Mitigation co-benefits	Reduce carbon emissions from reconstructions
Responsible entity	• **Implementing Agency:** MEIDECC • **Supporting Agency:** MOF
Additional requirement	Financing, institutional coordination, legal framework, monitoring capacity
Alignment with SDGs	
Alignment with LT-LEDS	**N/A**
Alignment with the National Development Plan	**Pillar 5:** Natural resources & environment inputs: outcome 4-improved resilience to extreme natural events and impact of climate change
Alignment with JNAP 2	**Target 13:** Strengthened parliamentary and institutional capacities for resilience. **Target 14:** Resilience measures mainstreamed into legislation and integral to public/private policies and programs. **Target 22:** Efficient, strengthened information and knowledge management and monitoring system

Table B17: Details on the loss and damage target for technical assistance

Target	**Leverage international technical assistance to strengthen Tonga's ability to assess, manage, and finance responses to loss and damage**
Means	Request and utilize technical assistance through the Santiago Network to access methodologies and tools for L&D assessment and engage with the UAE Framework to secure capacity building and direct access to international loss and damage finance by 2030
Conditionality	Conditional
Activities	National liaison & coordination; data prep; hosting experts
Funding requirement	USD 1 Mil
Socio-economic benefits	Safeguard investments, mitigate the non-economic/economic losses, unlock climate financing/disaster emergency fund/contingency fund/scale social protection
Mitigation co-benefits	Reduce carbon emissions from reconstructions

Responsible entity	• **Implementing Agency:** MEIDECC • **Supporting Agency:** MOF
Additional requirement	Financing, institutional coordination, legal framework, monitoring capacity
Alignment with SDGs	
Alignment with LT-LEDS	**N/A**
Alignment with the National Development Plan	**Pillar 5:** Natural Resources & Environment Inputs - Outcome 4: Improved resilience to extreme natural events and impact of climate change
Alignment with JNAP 2	**Target 20:** Sustainable funding for resilience building.

Annex C: Aggregate Investment Requirements for Sectoral Target

Table C1: Funding requirements for mitigation actions

Sector	Target	Conditional [Million USD]	Unconditional [Million USD]
Energy	Electricity: Reduce emissions by 20 GgCO2e by 2030 and 25 GgCO2e by 2035 compared to the baseline emissions of 2006	118 - 159	
	Transport: Reduce emissions by 26 GgCO2e by 2030 and 45 GgCO2e by 2035 compared to the baseline emissions of 2006	68 – 92	
IPPU	Identify a GHG emission baseline for IPPU for the 2030 NDC	6 – 14	
	Reduce HFC imports by 30% by 2035		
AFOLU	Recommit to the identification of a GHG emission target for AFOLU for the 2030 NDC		0.5 – 1.5
	Plant 1 million trees		15 - 20
	Shift towards sustainable cropland and livestock practices	4.5 – 5.5	
Waste	Recommit to identifying a GHG emission target for waste for the 2030 NDC	16 - 25	
	Reduce the generation and consumption of single-use plastics by 2030	9 - 13	

Table C2: Funding requirements for adaptation actions

Sector	Target	Conditional [Million USD]	Unconditional [Million USD]
Coastal Zone Protection	Limit loss of land and enhance the resilience of vulnerable coastal communities on Tonga's four main islands by 2035	1	34.5
	Integrate climate-induced relocation and internal migration into national policy and planning frameworks, ensuring that mobility and land use decisions support climate-resilient development by 2035	1.5 - 3	
Fisheries and Marine Resources	Restore and/or limit the decline of coastal fish stocks to support biologically sustainable levels by 2035	19 - 36	
Forestry	Enhance the climate resilience of terrestrial ecosystems and improve food security through expanded agroforestry and forestry		15 – 20

Education	Ensure all school facilities meet national standards for safety and resilience to climate change and disaster risks		31
Water Security	Expand coverage of households that have reliable access to safe and climate-resilient drinking water and sanitation systems	15 - 25	
Disaster Risk Management	Strengthen national and community-level preparedness and response capacity for all climate-related hazards	8 - 13	

Table C3: Funding requirements for L&D actions

Sector	Target	Conditional [Million USD]	Unconditional [Million USD]
Loss and Damage	Strengthen institutional capacity to safeguard livelihoods, cultural assets, and communities through a system that identifies economic and non-economic loss and damage and mobilizes adequate support	15	
	Leverage international technical assistance to strengthen Tonga's ability to assess, manage, and finance responses to loss and damage	1	

Annex D: List of Stakeholders

Name	Gender	Affiliation
Adi Pasikala	M	Tonga National University
Akesa Loumoli	F	Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change & Communications
Akesiu Fifita	F	Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change & Communications
Aloisio Fifita	M	Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change & Communications
Ana 'Ahofono	F	SST
Andrew Kautoke	M	Tonga Power Limited
Anna J Lagi	F	Ministry of Internal Affairs
Asela Taufa	F	Initiative for Climate Action Transparency
Ayako Imai	F	Japan Embassy
Charles Kato	M	Ministry of Agriculture, Food and Forests
Christine Conway	F	NDC Partnerships
Dirk Snyman	M	Pacific Community (SPC)
Eliate Laulaupeaalu	M	Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change & Communications
Elisaia Ika	M	Ministry of Agriculture, Food and Forests
Elizabeth 'Akauola	F	Global Green Growth Institute
Elizabeth Finau	F	Global Green Growth Institute
Elizabeth Kite	F	She Leads
Elsie Fukofuka	F	Pacific Community (SPC)
Esafe Huni	M	Ministry of Customs and Revenue
Eunkoo Lee	M	UN Women
Fakatu'amelie Ha'unga	M	Initiative for Climate Action Transparency
Feauini Laumanu	F	Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change & Communications
Filimone Fifita	M	Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change & Communications
Folauhola Tautuaa	M	Ministry of Health

Fololenitina Asau	F	Pacific Community (SPC)
Fololita Sila	F	Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change & Communications
Frances Satini	F	NGO Civil Society
Halalilika Etika	F	Ministry of Lands, Survey, Planning and Natural Resources
Halamehi Asitomani	F	Tonga Youth Parliament
Hannah Grardeau	F	NDC Partnerships
Hinemoa Langi	F	Ministry of Finance
Kakau Foliaki	M	Global Green Growth Institute
Kara Medina	F	Pacific Community (SPC)
Karishma Narayan	F	Ministry of Internal Affairs
Kava Moala	F	Tonga National Youth Congress
Kevin Falesiva	M	Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change & Communications
Lano Fonua	M	Global Green Growth Institute
Lesieli Mahe	F	Ministry of Health
Letili Kafoa	F	Tonga National University
Letisia Maamaloa	M	LLT
Lia Inisi	F	CUP
Lilly Maafu	F	Tonga National Youth Congress
Lorraine Folau	F	Ministry of Internal Affairs
Losana Latu	F	Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change & Communications
Lu'isa T. Malolo	F	Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change & Communications
Lupe Tupu	F	Pacific Community (SPC)
Luseane 'Aho	F	Prime Minister's Office
Malia Moala	F	LLT
Malia Siale	F	CARITAS
Maria Vuni	F	Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change & Communications
Mark Jariabka	M	Asian Development Bank
Mausa Halahala	M	Tonga National Youth Congress

Mele 'Akau	F	Initiative for Climate Action Transparency
Mele Katea Paea	F	Prime Minister's Office
Mele Manitisa	F	Tonga Statistics Department
Mele Soakai	F	Tonga Power Limited
Mele Tovi	F	Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change & Communications
Mele'ana Kava	F	Tonga Leiti Association
Melesi Tenifa	F	Tonga National Youth Congress
Mesuilame Vea	M	Prime Minister's Office
Monalisa Fehoko	F	Tonga National Youth Congress
Moni Sofele	F	Tonga Leiti Association
Ngungutau Tupola	M	Monford Technical Institute
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Olive Mafi	F	NGO Civil Society
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Peni Lakai	M	Tonga Statistics Department
Petelo Lelea	M	350
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Rosalyn Latu	F	Ministry of Internal Affairs
Samisoni M. Tupou	M	Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change & Communications
Seini Fifita	F	NGO Live & Learn
Sela Matoto	F	NGO Live & Learn
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Siaila Jagroop	F	Japan Embassy
Sinama Fuao	F	Ministry of Internal Affairs

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Taaniela Kula	M	Ministry of Lands, Survey, Planning and Natural Resources
Taisenga Mafi	F	CUP
Talaiasi Suka	M	Ministry of Trade and Economic Development
Talaivosa Tuipulotu	F	The Church of Jesus Christ of Latter-day Saints
Taniela Hoponoa	M	Global Green Growth Institute
Tenielle	F	Ministry of Internal Affairs
Tevita Sikulu	M	SUTT
Vijay Kesari	M	UN Women
Viliami Palaki	M	Tonga Power Limited
Yuna Ushida	F	Japan Embassy

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