Republic of Nauru

Updated
Nationally Determined Contribution

Glossary

ADB	Asian Development Bank
GCF	Green Climate Fund
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (*German Corporation for International Cooperation)*
GEF	Global Environment Facility
NAP	National Adaptation Plan
NDC	Nationally Determined Contribution
NSDS	National Sustainable Development Strategy
NUC	Nauru Utilities Corporation
RPC	Regional Processing Centre
RONAdapt	Republic of Nauru Framework for Climate Change Adaptation and Disaster Risk Reduction
RONPHOS	Republic of Nauru Phosphate Corporation
SAMOA Pathway	SIDS Accelerated Modalities of Action Pathway
SDG	Sustainable Development Goals
SIDS	Small Island Developing States
SME	Small to Medium Enterprise
SPC	The Pacific Community
UN	United Nations

UNDP	United Nations Development Programme
UNFCCC	United Nations Framework on Climate Change
WHO	World Health Organization

I. Introduction / Structure

The Republic of Nauru welcomes this opportunity to submit its updated nationally determined contribution pursuant to Article 4.2 of the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC). This updated nationally determined contribution (NDC) is intended to cover the time period of 1 January 2021 through 31 December 2030, and replaces the initial NDC submitted by Nauru to the UNFCCC on 17 November 2015.

The overriding priority of the Government of Nauru is to eradicate poverty and to improve the safety, security, and quality of life of its citizens. To this end, Nauru's climate action has been aligned with national efforts to achieve the Sustainable Development Goals and is fully integrated with our *National Sustainable Development Strategy* (NSDS). Therefore, this updated NDC has been similarly structured around the following seven national sustainable development priorities:

- **Productive Land**
- **Healthy and Productive People**
- **Water Security**
- **Food Security**
- **Energy Security**
- **Healthy Environment**
- **Good Governance**

In addition, an eighth area of contributions – **Loss & Damage** – has been included to address climate change impacts that exceed Nauru's adaptive capacity.

Nauru intends to pursue a range of sustainable development actions within these policy areas, which are described in this updated NDC, all of which bring significant climate change adaptation and mitigation co-benefits.

There is enormous opportunity for transformational change in Nauru. The centerpiece of our ambitious sustainable development strategy is the Higher Ground Initiative, which will dramatically increase the resilience of the country by migrating vulnerable homes and critical infrastructure to higher elevation, significantly expanding local food production, restoring degraded natural habitats, and pioneering a new Pacific Island urbanism. Combined with construction of the new port facility, jointly funded by the Green Climate Fund and the Asian Development Bank, Nauru can become a new hub of climate-resilient and sustainable economic opportunity for the Pacific region.

The Government of Nauru is committed to building genuine and durable partnerships, which will be needed to fully implement this updated NDC, particularly with regard to affordable finance and capacity building. To the extent possible, the resources required are described in this updated NDC.

Nauru will continue to show leadership in the effort to address climate change. As Chair of the Alliance of Small Island States from 2012 through 2014, Nauru fought for a strong Paris Agreement and was one of the first countries in the world to submit its instrument of ratification to the Secretary-General. Nauru also co-chairs, along with the Government of Germany, the Friends of Climate and Security at the United Nations. With this updated NDC, Nauru demonstrates that its commitment to climate action extends to its ambitious national implementation efforts.

II. Summary of Nauru's Nationally Determined Contribution

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Contribution	Conditions	SDGs Advanced	Climate Change Co-Benefits
Productive Land & Coast			
HIGHER GROUND INITIATIVE			
Develop master land use plan for relocation of homes and critical infrastructure to Topside as part of Higher Ground Initiative	**Unconditional**	1 2 6 7 8 9 11 13 15 17	**Adaptation** • Increased resilience to sea level rise • Increased resilience to extreme rainfall events • Increased resilience to drought • Increased resilience to disruption of food supply **Mitigation** • Increased land availability for expanded deployment of solar energy • Increased land availability for high efficiency residential development • Reduced dependency on automobile transport
Construction of [xx sustainable][pilot Smart Village] residential units on Topside	**Conditional** on access to means of implementation		
REDUCE COASTAL EROSION			
Conduct technical assessment of coastal erosion and develop plan for implementing hard and nature-based solutions	**Conditional** on access to means of implementation	1 3 9 11 13 15 17	**Adaptation** • Increased resilience of housing and critical infrastructure to climate change impacts • Increased resilience of coastal zone ecosystems and biodiversity
RESILIENT PORT FACILITY			
Complete construction of new climate change-resilient port facility	**Unconditional**	2 8 9 13 17	**Adaptation** • Increased reliability of imports, including essential food and medical supplies • Increased capacity to receive heavy equipment necessary for large infrastructure improvements **Mitigation** • Reduced emissions associated with off-shore mooring and loading/unloading of shipping vessels
Healthy & Productive People			
IMPROVE EDUCATION			
Conduct national assessment of public education system	**Unconditional**	4 13 17	**Adaptation** • Increased domestic capacity to implement effective adaptation actions

			Mitigation • Increased domestic capacity to implement effective GHG emissions mitigation actions
PUBLIC HEALTH			
Conduct assessment of national public health implications of climate change, including resilience of public health infrastructure	**Unconditional**	3 13 17	**Adaptation** • Increased preparedness for tropical diseases, heat stress, dehydration, and other climate change-driven public health impacts • Increased resilience of public health care infrastructure
Integrate climate change into primary school curriculum	**Unconditional**		
DISPOSAL OF ASBESTOS			
Collect, transport, and dispose of all asbestos waste at a secure site off island.	**Conditional** on access to means of implementation	3 6 13 17	**Adaptation** • Decreased risk exposure to asbestos due to flooding and other extreme weather events
Water Security			
Establish NUC water office and laboratory to monitor the quality of water supplied to population	**Unconditional**	2 3 6 13 15 17	**Adaptation** • Improved water supply, storage and distribution would provide water security in the case of prolonged droughts and other changes in precipitation patterns • Increased resilience of domestic food supply to interruption by climate change-driven impacts **Mitigation** • Potential use of groundwater supplies would reduce energy use for water desalination
Undertake repairs to NUC water storage tanks	**Conditional** on access to means of implementation		
Increase NUC water storage capacity	**Conditional** on access to means of implementation		
Implement water supply components of the *Water and Sanitation Master Plan*	**Conditional** on access to means of implementation		
Modeling of impacts of sea level rise and salt water intrusion into groundwater	**Conditional** on access to means of implementation		
Assess the condition of groundwater supplies	**Conditional** on access to means of implementation		
Food Security			
Prepare and approve the *Strategic Plan for the Sustainable Development of Agriculture*	**Unconditional**	2 3 13 14 17	**Adaptation** • Improve resilience by collecting data to better understanding climate impacts on agriculture, fisheries and marine resources
Maintain ongoing agricultural technical trials	**Unconditional**		

Draft Coastal Fisheries and Aquaculture Bill	**Unconditional**		• Improve resilience by increasing domestic food production • Improve resilience by providing a legislative framework to strengthen governance of fisheries and marine resources **Mitigation** • Reduced emissions related to the import of foods from great distances
Collect and analyze data on climate change impacts on fisheries and marine resources	**Unconditional**		
Develop milkfish farming in support of the development and expansion of aquaculture	**Conditional** on access to means of implementation		
Energy Security			
Establish power grid capable of providing stable and affordable power	**Conditional** on access to means of implementation		**Adaptation** • Infrastructure with increased resilience to climate change impacts and natural disasters • Increased economic resilience and diversification • Increased ability to invest in other sustainable development and climate priorities **Mitigation** • Increased access to cleaner and affordable energy • Reduced greenhouse gas emissions • Reduced dependency on fossil-fuel intensive technology and transport • Reduced risk to energy supply chain disruptions
Renewable energy comprises 50% of Nauru's power generation	**Conditional** on access to means of implementation		
Achieve 30% energy savings	**Conditional** on access to means of implementation		
Healthy Environment			
ENHANCEMENT OF WASTE MANAGEMENT FACILITY			
Improve organization and physical structure of dumpsite cells to prevent contamination of ground water supplies and minimize run off.	**Unconditional**		**Adaptation** • Increase resilience of natural ecosystems • Enhance water security by reducing leachate intrusion into groundwater • Increase food security through production of compost for agriculture **Mitigation** • Reduce methane emissions
Build new resource recovery facility for inorganic waste	**Unconditional**		
Build new organic waste recovery and composting facility to	**Conditional** on access to means of implementation		
ECOSYSTEM RESTORATION AND SUSTAINABLE LAND MANAGEMENT			

Develop Land Use & Restoration Plan and begin implementation	**Unconditional**	2 6 13 15 17	**Adaptation** • Increased resilience of sensitive ecosystems to climate change impacts • Increased resilience of local water supply to climate change-induced drought by through improved hydrological cycle and ground water recharge • Increased resilience to climate change-induced interruption of affordable food imports through expansion of agro-forestry practices to increase local food production
Pilot soil restoration methods and SLM techniques	**Unconditional**		
Establish terrestrial protected area in Anibare Bay	**Unconditional**		
SEWERAGE			
Implementation of the sewerage components of the *Water and Sanitation Master Plan*	**Conditional** on access to means of implementation	3 6 13 14 15 17	**Adaptation** • Improved resilience by better protection of groundwater supplies **Mitigation** • Reduced emissions from need to pump and truck sewage • Increased use of groundwater will reduce demand for water from electricity intensive RO plants
Addressing household cesspits	**Conditional** on access to means of implementation		

Governance			
Develop and Adopt Republic of Nauru Environmental Management and Climate Change Bill	**Unconditional**	13 16 17	**Adaptation** • Improved coordination of Government Ministries in adaptation actions • Increased effectiveness of implementation efforts **Mitigation** • Improved coordination of Government Ministries in mitigation actions • Increased effectiveness of implementation efforts
Develop and Adopt Nauru Climate Change Policy	**Unconditional**		
Loss & Damage			
National Long-Term Risk Assessment			
Conduct a long-term risk assessment to understand the scale, timing, and costs of climate change impacts on important national assets	**Conditional** on technical and financial support mobilized through the Warsaw International Mechanism	13 17	**Loss & Damage** • Increased capacity to cope with climate change impacts that cannot be avoided and exceed the capacity to adapt

III. National Context

The Republic of Nauru is one of the smallest and most geographically isolated countries in the world.

Image courtesy of the U.S. Department of Energy Atmospheric Radiation Measurement (ARM) user facility

Our single, coral-capped island (21 square kilometers) is home to approximately 13,000 residents, over 90% of whom are indigenous Nauruan. The island itself is located in the central Pacific Ocean approximately 40 kilometers south of the Equator, and can be roughly divided into two distinct topographical areas – the low-lying coastal area known as "Bottomside," and the much higher elevation interior area (up to 65 meters above sea level) known as "Topside." The vast majority of homes and critical infrastructure is located Bottomside.

Nauru is currently considered an upper-middle income country, with a gross national income per capita of USD 12,060 in 2018 according to World Bank. Phosphate mining, and more recently Australia's

Regional Processing Center, were reliable sources of revenue for a time, but both are in significant decline and are projected to decline further over the coming years. As a micro-state with small landmass and population, few marketable resources, and isolation from major international markets, traditional development indicators fail to provide an accurate picture of the circumstances on the ground and the fact that many traditional development pathways are foreclosed to us. While income has risen in recent years, Nauru remains one of the most economically vulnerable countries in the world and sustainable development is a persistent challenge.

Despite our challenges, Nauru is working to leverage its strategic advantages to create new economic opportunities. Nauru's national carrier, Nauru Airlines, already provides important connectivity within the Pacific. Funded by the Green Climate Fund (GCF) and the Asian Development Bank (ADB), the new port facility currently under construction will further establish Nauru as an important regional transportation hub in the central Pacific, and will open opportunities for local businesses to deliver value-added services for the shipping and fishing industries. This will augment the modest but reliable stream of revenue derived from the international sale of fishing licenses under the Parties to the Nauru Agreement, which governs one of the most sustainably managed tuna fisheries in the world.

Securing these emerging economic opportunities will depend in large part on Nauru's ability to respond to climate change. Like most Small Island Developing States (SIDS), Nauru is highly vulnerable to the effects of climate change, which has the potential to negatively impact coastal infrastructure, food security, water security, public health and safety, and local terrestrial and marine ecosystems. In addition, an ambitious transition to renewable energy has the potential to significantly enhance the reliability and resilience of the energy system, as well as improve the country's balance of trade, which is currently distorted by a high reliance on imported fossil fuels. Therefore, the Government of Nauru has integrated climate action throughout its NSDS. The NSDS, along with the *Republic of Nauru Framework for Climate Change Adaptation and Disaster Risk Reduction* (RONAdapt), have been the guiding policy documents for three successive administrations.

Despite the strong commitment of the Government to climate action, Nauru has struggled to secure the financial and capacity resources required for full and effective implementation in an environment of declining foreign assistance. The barriers to access of support for SIDS are well-established, and include:

- Limited institutional capacity,
- Burdensome application and reporting requirements,
- Small projects that are not eligible for many international and bilateral funds,
- Low credit worthiness due to existing levels of public debt and unreliable revenue streams to service new debt, and
- Higher per capita cost of projects, which penalizes SIDS with regard to some social impact metrics.

In addition, some multi-lateral development banks evaluate the creditworthiness and income classification of SIDS based on metrics that do not adequately reflect the real economic situation in the country, which presents an additional hurdle to accessing climate and sustainable development finance. Like many SIDS, Nauru currently has a very narrow economic base with its national revenue dependent on only a few key sectors that are vulnerable to external economic shocks. Removing these barriers to affordable finance, would significantly accelerate the implementation of the the NSDS and RONAdapt along with this updated NDC.

Bringing about transformational change to Nauru through the implementation of these priority country-driven strategies and initiatives, including this updated NDC, is a top priority of the Government. This will require scaled up financial resources from the international community, including grant-based resources, along with technical and capacity building support.

IV. Fairness, Ambition and Progress

The Republic of Nauru communicates its updated NDC and the accompanying information to facilitate clarity, transparent and understanding. This updated NDC is fair, ambitious, and represents a progression beyond the initial NDC submitted by the Republic of Nauru to the UNFCCC on 17 November 2015.

Nauru is one of the world's smallest republics and one of the least responsible for the impacts of climate change, with levels of CO^2 equivalent emissions estimated at 0.000061 gigatons in 2014, or 0.00019% of global emissions. Coupled with its limited natural resources and economic prospects, Nauru's updated NDC represents a level of climate ambition that far outweighs its size and demonstrates its climate leadership.

The SAMOA Pathway reaffirmed that SIDS "remain a special case for sustainable development in view of their unique and particular vulnerabilities and that they remain constrained in meeting their goals in all three dimensions of sustainable development." It further recognized that "sea-level rise and other adverse impacts of climate change continue to pose a significant risk to small island developing States and their efforts to achieve sustainable development and, for many, represent the gravest of threats to their survival and viability, including, for some, through the loss of territory." For these reasons, Nauru is working to integrate climate action into its efforts across all policy areas and economic sectors to achieve its sustainable development priorities.

This updated NDC is a significant enhancement from our initial NDC from 2015 as it elaborates in detail specific policies and actions across a wide array of priority sustainable development sectors that were not previously included, which Nauru aims to undertake with appropriate international assistance and support. Whereas our initial NDC stated our general desire to increase our country's resilience to climate impacts through increased adaptation efforts and an overall desire to lower the carbon footprint of the energy sector, this updated NDC enumerates specific targets and actions for which Nauru hopes to implement to achieve our climate and sustainable development objectives and that will deliver significant climate change benefits.

This NDC increases transparency by specifying specific polices and measures across Nauru's main priority sustainable development sectors, which were prepared through extensive and inclusive consultation processes with stakeholders and ministries across the Government.

V. Gender

Achieving gender equality and empowering all women and girls is a key outcome of the NSDS, as doing so improves the overall quality of life for all Nauruans. Nauru thus remains committed to advancing gender equality and social inclusiveness through efforts to implement the Paris Agreement, the SAMOA Pathway and the 2030 Agenda. Nauru hereby reaffirms its commitment to the implementation of SDG 5 and to raising capacity for effective climate change action in accordance with SDG 13 and target 13(b).

VI. 2050 Aspirational Goal

Nauru aspires to achieve a balance between anthropogenic emissions by sources and removals by sinks by 2050, on the basis of equity and in the context of sustainable development and efforts to eradicate poverty. This updated NDC sets the beginning of the path for Nauru to progress towards our aspiration of achieving net zero greenhouse gas emissions by 2050. But achieving this aspirational goal will be contingent on the effective mobilization of sufficient international financial, technical and capacity building support. This ambitious mitigation effort must be pursued in tandem with urgent adaptation

actions, including the full realization of the Higher Ground Initiative, along with major improvements to national food security, water security, and public health and safety.

VII. Detailed Contributions

This section provides further details of the contributions enumerated in the summary table in Section II above.

These detailed contributions are organized by the following eight thematic areas:

1. Productive Land & Coast
2. Healthy and Productive People
3. Water Security
4. Food Security
5. Energy Security
6. Healthy Environment
7. Good Governance
8. Loss & Damage

For each of these thematic areas, specific contributions are identified and details are provided. Additionally, each focus area identifies the SDGs advanced by the contributions.

Higher Ground Initiative

One of the dubious legacies of colonialism in Nauru is the phosphate mining industry. For much of the twentieth century, Nauru's mineral wealth was exported abroad by foreign mining interests, with very little of the economic benefits accruing to Nauruans. Only with its national independence in 1968 was Nauru finally able to purchase control of mining operations. However by then annual production had already begun a steady decline. While mining operations under the state-owned enterprise RONPHOS did provide a high standard of living for Nauruans up until the late 1990s, it left most of the interior of the island ragged with large limestone pinnacles, which has made further development of the land impossible without their removal.

As a consequence, the vast majority of homes and critical infrastructure in Nauru, including the airport, hospital, and major arterial road, are located only a few meters above sea level on the coast. The mined-out interior, known as "Topside" due to its significantly higher elevation, was largely written off by successive governments, but the impacts of climate change, including sea-level rise, have made the restoration and development of Topside under the Higher Ground Initiative an urgent political priority for the Government.

The future of Nauru depends on moving to "Higher Ground"

Relocating homes and critical infrastructure away from low-lying coastal areas will be an enormous undertaking for our small country. However, the Higher Ground Initiative aspires to achieve far more than simply retreat from the Pacific Ocean. It will pioneer a new model of Pacific urban development that is sensitive to the specific vulnerabilities and constraints of a small island nation, and also celebrate our unique cultural traditions and contributions. It offers a unique and transformational opportunity to build a more sustainable and prosperous future for the citizens of Nauru.

The incorporation of sustainable urban planning strategies and concepts into Higher Ground will deliver significant climate change adaptation and mitigation co-benefits and create an enabling environment conducive to sustained and sustainable economic development. This new Pacific "Smart Village" will harness prevailing winds to passively cool homes and buildings. High efficiency appliances will significantly reduce energy demand. Ubiquitous rainwater harvesting will support urban agriculture and recharge groundwater aquifers. Mixed-use development, with connectivity to employment centers around the island, has the potential to reduce the need for personal car use and facilitate the adoption of alternative mobility options. In addition to these obvious quality of life improvements, the pressures of human settlement on local ecosystems would be significantly reduced.

The Smart Village and the new port facility together would become a new hub of regional economic activity, including value-added services for shipping and fishing vessels, as well as a nascent eco-tourism industry in Nauru. Most exciting, the Village will incorporate traditional architectural designs and building materials, so that both the built and natural environment strengthens our Central Pacific cultural heritage. Nauru includes the following actions to implement the Higher Ground Initiative as part of its NDC.

Unconditional Contribution

Develop Master Land Use Plan for relocation of homes and critical infrastructure to Topside as part of Higher Ground Initiative

The next step for the Higher Ground Initiative will be the development of a *Master Plan for Topside* through a national consultative process with communities and landowners. Building a shared national vision will ensure that Nauru's development meets the needs of current and future generations of Nauruans.

The Government of Nauru intends to engage development partners and leading sustainability experts to support this process as appropriate so that Nauru can draw on international best practices suitable for Nauru's tropical climate and small island circumstances. The target for approval of the Master Plan is the end of 2021.

Conditional Contribution

Construction of pilot Smart Village residential units on Topside

A top priority of the Higher Ground Initiative is to increase the stock of affordable climate change-resilient housing available on the island. In addition to the obvious vulnerability of most existing residential buildings in the low-lying coastal areas, Nauru suffers from an acute housing shortage. The country has the highest population density in the Pacific region, and it is now common to find multiple families forced to share single housing units.

To address the need for more housing, the Government of Nauru is planning a new residential development on Topside, which would accommodate 120 Houses. Completion of these new units is expected by 2023 and is contingent on securing approximately USD 16 million in financing.

Adaptation Co-Benefits	Mitigation Co-Benefits
• Increased resilience to sea level rise • Increased resilience to extreme rainfall events • Increased resilience to drought • Increased resilience to disruption of food supply	• Increased land availability for expanded deployment of solar energy • Increased land availability for high efficiency residential development • Reduced dependency on automobile transport

SDGs Advanced by Nauru's NDC on the Higher Ground Initiative

Poverty will be reduced by the greater availability of safe, sustainable housing, as well as the creation of new jobs and economic opportunities for local businesses.

Food security will be increased by supporting urban agriculture and making land available for larger scale domestic food production.

Water security will be increased by the incorporation of water harvesting into new residential, commercial, and government development, as well as a modern water delivery and sewerage system.

Affordable and clean energy will be increased by the increased adoption of energy efficient appliances and other practices to reduce energy consumption and demand.

Decent work and economic growth will be increased by new opportunities in eco-tourism, hospitality, agriculture and aquaculture, and servicing of fishing and shipping vessels.

Resilience of critical infrastructure will be increased by relocation away from low-lying coastal areas vulnerable to inundation to significantly higher elevation.

Sustainability of communities will be enhanced by implementing sustainable building and planning practices, including energy efficiency, water harvesting, and transportation alternatives.

Climate action will be enhanced by dramatically increasing resilience to negative climate change impacts, including sea level rise, extreme weather events, and variation in precipitation.

Terrestrial ecosystems and biodiversity will be enhanced by reducing development pressure in ecologically sensitive areas of the island.

Durable partnerships and access to adequate means of implementation will be required to fully achieve these goals.

Reducing Coastal Erosion

Almost all homes and critical infrastructure in Nauru, including schools, the hospital, and the airport, are located along the low-lying coastal perimeter of the island, typically only a few meters above sea level, leaving them highly vulnerable to coastal flooding and storm surge. Coastal erosion, which is clearly visible in many locations around the island and appears to be accelerating, exacerbates this risk.

Sea level rise in the Pacific has been occurring at three times the global average and is likely a contributing factor to observed coastal erosion. Immediate investment in both hard and nature-based protections against coastal erosion are necessary to protect existing assets and to allow for an orderly migration to Topside on a realistic time scale as part of the Higher Ground Initiative. Nauru includes the following action to address coastal erosion as part of its NDC.

Conditional Contribution

Conduct technical assessment of coastal erosion and develop plan for implementing hard and nature-based solutions

A technical assessment will inform the deployment of hard and nature-based solutions for reducing coastal erosion in Nauru. Financial support is required to fund the assessment, which will cost approximately USD 800,000. The target for completing the assessment is 2021.

Adaptation Co-Benefits

- Increased resilience of housing and critical infrastructure to climate change impacts
- Increased resilience of coastal zone ecosystems and biodiversity

SDGs Advanced by Nauru's NDC to Reducing Coastal Erosion

Water security will be increased by reducing salt water intrusion into freshwater lenses.

The resilience of coastal infrastructure will be improved by reducing the risk of storm surge and coastal flooding.

Climate action will be enhanced by significantly mitigating the near- and medium-term impact of sea level rise.

The protection of marine ecosystems as a nature-based solution will augment efforts to reduce coastal erosion.

The protection of terrestrial ecosystems as a nature-based solution will augment efforts to reduce coastal erosion.

Durable partnerships and access to adequate means of implementation will be required to fully achieve these goals.

Resilient Port Facility

Nauru depends almost entirely on its port for supplies of food, energy, and most other essential goods. The century-old design of the current port requires vessels to moor offshore, leaving them unprotected from sea and weather conditions. Changing climatic factors are making the offshore loading and unloading more hazardous and difficult. Delays and complete port shutdowns are now expected for three months a year. Some ships refuse to serve the port entirely. Climate change threatens to exacerbate interruptions to the flow of essential goods into the country, putting Nauru's food security, energy security, and human security at even greater risk.

Fortunately, Nauru has secured financing from the Green Climate Fund and the Asian Development Bank to build a new, climate change-resilient port. The new design comprises (i) a channel through which oceangoing ships can pass between the sea and the shore, (ii) a stable wharf with a turning berth, (iii) a breakwater to shelter the wharf and the berth from waves, and (iv) port buildings, container terminal, and port security provisions complying United Nation conventions. The project will also help reform port governance and build the capacity of the Nauru Port Authority to ensure financial, economic, and institutional sustainability.

In addition to increasing Nauru's resilience to climate change, the new port facility will also significantly reduce greenhouse gas emissions. Ships will spend considerably less time at sea, and the need to operate a ferry for loading and unloading will be eliminated. Over the 50 years of the port's lifetime, estimated reductions in CO_2 emissions are 535,400 tons. This will also result in large financial savings, not only from a reduction in fuel consumption, but also late penalties incurred when it is not safe to load and unload moored shipping vessels. These savings can then be repurposed toward the delivery of other essential services.

The new port also holds the potential to become a new engine of economic growth. This significant upgrade of our critical infrastructure to international standards can catalyse the development of new, value-added industries, as well as create a stronger enabling environment for new private investment.

Unconditional Contribution

Complete construction of the new port facility

Construction of the new port facility commenced on Jan 2018. Completion was expected by Feb 2020, however, the COVID-19 pandemic is expected to cause significant delays, with completion now expected by early 2023.

Adaptation Co-Benefits	Mitigation Co-Benefits
• Increased reliability of imports, including essential food and medical supplies • Increased capacity to receive heavy equipment necessary for large infrastructure improvements Mitigation	• Reduced emissions associated with off-shore mooring and loading/unloading of shipping vessels

SDGs Advanced by Nauru's NDC on the Resilient Port Facility

Food security will be increased by significantly reducing interruptions to critical food imports, as well as by reducing the cost of healthy foods.

Decent work and economic growth will be increased by new opportunities providing value-added services to shipping and other maritime industries.

Resilience of critical infrastructure will be increased by upgrading the main port of entry and exit for goods so that it can continue operating in adverse climate conditions.

Climate action will be enhanced by reducing greenhouse gas emissions by enabling the efficient loading and unloading of shipping vessels, which is a large improvement over the current offshore method.

Partnership with the Green Climate Fund and the Asian Development is essential for the implementation of the new port facility.

Improving Education

The primary education system in Nauru is facing a number of challenges, including high truancy and low graduation rates, high rates of illiteracy and innumeracy through grade twelve, poor teacher retention and a curriculum ill-suited for national needs and circumstances. Some strategies have been enacted to improve the situation, such as paying for attendance and establishing after school programs, with limited success.

A well-educated citizenry is a necessary precursor for the effective implementation of nationally appropriate climate action. Improving the education system is essential to addressing the significant human capacity constraints that Nauru faces in most relevant policy areas and economic sectors. Nauru's long-term capacity to successfully respond to climate challenges, particularly with regard to establishing a skilled and well-trained workforce that can ensure domestic ownership over planning and implementation, is dependent on our ability to properly educate our citizens. Thus, Nauru includes the following two actions to improve education as part of its NDC.

Unconditional Contribution

Conduct national assessment of public education system

The Government of Nauru is undertaking a rigorous, formal assessment of the education system in order to address the systemic challenges mentioned above. This process will also deliver a revised primary school curriculum, developed by Nauruan teachers and appropriate for Nauruan students. The assessment will integrate, as appropriate, recommendations from the regional education assessment currently being conducted by The Pacific Community (SPC). The national assessment is scheduled to conclude by the end of 2020, and implementation of its recommendations will begin in 2021.

Unconditional Contribution

Integrate climate change into primary school curriculum

As part of the Government's effort to prepare students with the knowledge and skills necessary to prosper as a small islanders in the global economy, Nauru is working with Germany's GIZ to integrate climate change into the school curriculum so that our youth understand the challenges facing their country and are prepared to implement effective climate actions. The climate change curriculum will be integrated into the revised national curriculum over the course of the next two years.

Adaptation Co-Benefits	Mitigation Co-Benefits
• Increased domestic capacity to implement effective adaptation actions	• Increased domestic capacity to implement effective GHG emissions mitigation actions

SDGs Advanced by Nauru's NDC on Improving Education

Education is improved through the development of a curriculum that incorporates climate change in a way that is nationally relevant and prepares youth and adults to better understand and assess climate change risks and effectively implement climate action.

Climate action is enhanced by building national capacity to effectively implement actions in all relevant policy areas and economic sectors to reduce greenhouse gas emissions and build resilience to the negative impacts of climate change, including sea level rise, extreme weather events, changes in precipitation patterns and disruption to food production and delivery systems.

Nauru's partnership with GIZ and The Pacific Community will enable the development of a science-informed educational curriculum that incorporates nationally relevant information about climate change, including the risks posed to Nauru, as well as strategies to address them.

Improving Public Health System

Improving Nauru's public health system is an urgent climate change adaptation priority. The COVID-19 pandemic has exposed the inadequacies of public health systems around the world. Shortages of medical equipment, hospital beds, and trained medical professionals, often stemming chronic under-investment in the health care sector, have proven deadly during the crisis. Pre-existing risk factors, such as high rates of non-communicable diseases, likely increased the morbidity of COVID-19, while disruption in global food supply chains due to a demobilized workforce limited the access of some communities to healthy foods.

While clearly different from a viral pandemic in important respects, climate change will have similarly far reaching public health consequences for the most vulnerable countries. Climate change will undermine the maintenance of good public health in Nauru through a number of channels, including:

- Changes in the incidence of vector-borne and other infectious diseases,
- Increases in heat stress and dehydration, particularly in the elderly and other vulnerable individuals with underlying health risks,
- Negative impacts on water quality and access, including through increased frequency and severity of floods and droughts,
- Decreased access to healthy foods, particularly through global price shocks and interruptions of imports, and
- Damage to critical health infrastructure, which is overwhelmingly located in low-lying coastal areas, extreme weather events and sea-level rise.

Nauru includes the following action as part of its NDC.

Conditional Contribution

Conduct assessment of national public health implications of climate change, including on resilience of public health infrastructure

Improving the Government's understanding of the public health implications of climate change in Nauru and assessing the resilience of the hospital and other public health infrastructure to climate change impacts are essential first steps towards developing an adequate response. In partnership with the World Health Organization, the national assessment and its recommendations will inform the development of a national strategy to prepare the nation for the public health implications of climate change.

Adaptation Co-Benefits

- Increased preparedness for tropical diseases, heat stress, dehydration, and other climate change-driven public health impacts
- Increased resilience of public health care infrastructure

SDGs Advanced by Nauru's NDC on Improving Public Health

Good health and well-being is enhanced by improving Nauru's preparedness to handle the public health consequences of climate change, including increased incidence of tropical disease, heat stress and barriers to maintaining a proper diet and good hydration.

Climate action is enhanced by improving the resilience of Nauru's public health infrastructure, as well as its preparedness to handle the negative impacts of climate change on public health.

Nauru is partnering with the World Health Organization under its Special Initiative: Climate Change and Health in Small Island Developing States. Nauru will also seek financial support from the GCF to fully fund the assessment and implementation of its recommendations.

Disposal of Asbestos

In 2014, the Government of Nauru launched an effort to remove asbestos from all buildings. At the time, estimates put the total area of building surfaces covered by asbestos at around 212,000 square meters. Most of the asbestos was in the form of asbestos-cement in roofing and building cladding, including the hospital, schools, and government buildings. All asbestos was old and in various stages of deterioration, with swab and ground testing revealing contamination at multiple testing sites. Since then the asbestos waste has been insecurely stored at various locations around the island, including on the ground surrounding buildings and residences from which it was removed.

Asbestos, a known carcinogen, presents an ongoing health risk for all Nauruans. Nauru does not have the facilities for proper disposal and long-term storage, and therefore, it must be collected and transported to a suitable site off-island. The negative impacts of climate change, in particular more severe precipitation events and flooding, increases the risk of human exposure to asbestos through the air and groundwater. Therefore, asbestos removal and disposal is an urgent adaptation measure to climate change.

Nauru includes the following action as part of its NDC.

Conditional Contribution

Collect, transport, and dispose of all asbestos waste at a secure site off-island

The cost for the collection, transport, and long-term storage of asbestos waste at a secure site was in 2015 estimated to be approximately USD 2.5 million. This would include sealing the asbestos waste in specialized bags, loading the bags into shipping containers and transporting the containers to a suitable site for storage. Given the international transport involved to move the waste to a secure site off-island, the facility would also need to be capable of addressing biosecurity and quarantine issues.

As there has been some good experience of safe removal, handling and storage of asbestos in the past Government hopes to demonstrate best practice of disposal of asbestos off island at a designated landfill in Australia through the PACWaste Plus Project, however this demonstration is only for 4 containers of asbestos which have been safely removed and stored.

Achievement of this contribution is contingent on the receipt of financial support, which the Government is currently seeking from development partners. Nauru is targeting 2021 for achievement of this contribution.

Adaptation Co-Benefits
• Decreased risk asbestos exposure due to flooding and other extreme weather events

SDGs Advanced by Nauru's NDC on Disposal of Asbestos

Good health and well-being is enhanced by eliminating the risk of exposure to asbestos, a known carcinogen, currently posed by the insecure storage of asbestos waste around the island.

Clean water is protected by eliminating the risk of further contamination of ground water resources currently posed by insecure storage of asbestos.

Climate action is enhanced by reducing the risks associated with extreme rainfall, flooding and coastal inundation, which can increase the risk of asbestos exposure from insecure storage.

Access to adequate means of implementation is essential to finance the collection, transport and secure disposal of insecurely stored asbestos waste.

Provide a Reliable Supply of Clean Water

Securing a safe and reliable water supply for all citizens remains an ongoing priority. Nauru is a permeable island with extremely limited surface runoff and no rivers or reservoirs. Nauru's water supply is susceptible to climate events such as prolonged droughts which severely undermine the ability to supply water for domestic needs and to which focussed climate change adaptation efforts are required.

Rainwater

Rainwater capture is an important source of water in Nauru, which is captured from the rooftops of households and businesses and is stored in on-site storage tanks. However, changing rain patterns and extended droughts due to climate change leave Nauru vulnerable to water supply challenges. There are also concerns that household rainwater collection infrastructure such as roofs, gutters, pipes and storage tanks are unfit for water collection and storage.

Groundwater

Groundwater is available in some locations, but these supplies are expected to be contaminated and not suitable for drinking. The main use of groundwater is for showering, washing (kitchen & laundry), toilet flushing and for lawn and garden irrigation. There is a risk of saltwater intrusion into groundwater supplies, and a concept note to model these impacts has been prepared.

Water Production, Storage & Delivery

Nauru's state-owned utility NUC has installed and operates five reverse-osmosis units to desalinate seawater for potable use around the island. Though NUC has increased water supply capacity, the water supply system is at risk from supply interruptions particularly during drought periods. Additionally, some of NUC's water storage tanks are in disrepair and will require refurbishment or replacement. Without a reticulating water supply system, water is distributed through a tanker delivery system that is limited by the availability of water trucks, water production and storage capacity.

Nauru includes the following actions to establish a safe and secure water supply as part of its NDC.

Unconditional Contribution

Establish NUC water office and laboratory to monitor the quality of water supplied to population

Currently Nauru's water is tested in foreign test labs. NUC will open a new water test lab that will allow it to monitor the quality of water supplied by NUC to the population on-island.

Conditional Contribution

Undertake repairs to NUC water storage tanks

There have been ongoing challenges with water storage in Nauru. The NUC storage tanks are in poor condition and are deteriorating quickly and are under need or urgent repair. Necessary repairs to the water storage tanks would cost approximately USD 315,000. Additionally, all water storage tanks require structural assessments to confirm their integrity and determine whether refurbishment is possible or whether or replacement is necessary.

Conditional Contribution

Increase NUC water storage capacity

There is a need to increase water storage capacity in Nauru in order to provide resilience to drought and other conditions that place high demand on the national water supply system. Increasing capacity to provide sufficient supply for Nauruans will require the installation of additional water storage tanks which would cost approximately USD 530,000 each to install. This project requires financial, technical and capacity support.

Conditional Contribution

Implement water supply components of the *Water and Sanitation Master Plan*

The *Water and Sanitation Master Plan* (and the corresponding May 2017 update) provides a detailed proposal to build the necessary water treatment works, water storage facilities, pump stations, reticulation system and household connections, and would cost approximately USD 27M to implement. This project would require financial, technical and capacity support.

Conditional Contribution

Modeling of impacts of sea level rise and saltwater intrusion into groundwater

Given the sea level rise implications of climate change it is imperative that Nauru prepares an assessment of the potential impacts of saltwater intrusion into its groundwater supplies.

Conditional Contribution

Assess the condition of groundwater supplies

An assessment of the current state of groundwater supplies is necessary to determine the levels of contamination from sewerage and other sources. Technical and capacity support will be required to undertake such an assessment.

Adaptation Co-Benefits	Mitigation Co-Benefits
• Improved water supply, storage and distribution would provide water security in the case of prolonged droughts and other changes in precipitation patterns • Increased resilience of domestic food supply to interruption by climate change-driven impacts	• Potential use of groundwater supplies would reduce energy use for water desalination

SDGs Advanced by Nauru's NDC to Provide a Reliable Supply of Clean Water

Food security will be increased by improving water supply for home gardens and other agricultural and aquaculture facilities.

Good health and well-being is enhanced by providing clean tested water to reduce the incidence of water borne and water contamination related illness and by eliminating sewage discharge into ground water supplies.

Water security will be increased by providing a modern and reliable water delivery and sewerage system, by eliminating the discharge of untreated household wastewater and by improving water use efficiency.

Climate action will be enhanced by strengthening resilience and adaptive capacity to climate related changes to rain patterns.

Life below water will be enhanced by treating sewage appropriately before discharge into groundwater, lagoons and the ocean.

Life on land will be improved by reducing the discharge of sewage into inland freshwater ecosystems.

Durable partnerships and access to adequate means of implementation will be required to implement these contributions.

Improve Food Security Through Increased Local Food Production

The development of domestic food production for food security is a key national development goal in Nauru's National Sustainable Development Strategy. However, food security is a persistent challenge for Nauru. Food supplies are primarily imported resulting in high costs, and are limited in supply and variety. The lack of access to fresh and healthy foods results in poor diets and associated health consequences, including a high rate of non-communicable diseases.

Climate change has the potential to significantly undermine Nauru's food security. As a highly import dependent country, Nauru is vulnerable to price fluctuations in global commodity markets. Any food shortages at the global level will likely have profound negative impacts on the ability of Nauruans to secure affordable supplies. For example, the 2007-2008 global food crisis resulted in many basic commodities like rice selling for as much as four times the global average in Nauru. In addition, the experience of COVID-19 has demonstrated how interruptions to global supply chains abroad can prevent the timely delivery of food to Nauru.

The Government has undertaken programmes in both agriculture and fisheries/aquaculture to trial methods to develop domestic food production, but require further development and support. Growing fruits and vegetables is challenging in Nauru because of low soil quality and insecure water supplies. There have been a number of successful small-scale and trial projects - vegetable farm, piggery, seedling distribution, kitchen gardens and public education initiatives - established and maintained with the support of the Republic of China (Taiwan) Technical Mission. Efforts to scale up agricultural production are limited by land constraints and are expected to be an important part of the development of Topside.

There have been successful aquaculture trials in Nauru at the subsistence level and though there is a desire to scale this up to a commercial scale to serve domestic markets, doing so will require technical expertise and financial support. Nauru therefore includes the following efforts towards establishing food security as part of its NDC.

In addition to these contributions, the Governance Section includes additional contributions related to the development of food security related national plans.

Unconditional Contribution

Maintain ongoing agricultural technical trials

The Government of Nauru intends to continue the existing agricultural technical trials to further develop potential scalable long-term food security initiatives in Nauru.

Conditional Contribution

Implement Food Security Related National Strategic and Action Plans

In order to elaborate and define the NSDS goal of "improved food security through increased local food production" the Government of Nauru has developed or is developing a number of food security related national strategic and action plans including, inter alia, *Food Security and Nutrition Strategic Plan, Agriculture Strategic Plan, Nauru Climate Smart Agriculture Plan (2021-2025)*. The Government of

Nauru will require technology transfer, capacity building and financial support in order to fully implement these food security related National Strategic and Action Plans.

Unconditional Contribution

Collect and analyze data on climate change impacts on fisheries and marine resources

The Government of Nauru intends to continue to work with SPC to collect data on the impacts of climate change on fisheries and marine resources along with other coastal fisheries and aquaculture related statistical information.

Conditional Contribution

Develop milkfish farming in support of the development and expansion of aquaculture

Nauru intends to develop a USD 3 million aquaculture pilot project that would rehabilitate the Buada Lagoon and Anabar ponds, set up milkfish aquaculture operations and establish management, marketing and retailing operations.

Adaptation Co-Benefits	Mitigation Co-Benefits
• Improve resilience by collecting data to better understanding climate impacts on agriculture, fisheries and marine resources • Improve resilience by increasing domestic food production • Improve resilience by providing a legislative framework to strengthen governance of fisheries and marine resources	• Reduced emissions related to the import of foods from great distances

SDGs Advanced by Nauru's NDC to Improve Food Security Through Increased Local Food Production

Food security is enhanced by the development of the *Strategic Plan for the Sustainable Development of Agriculture* that will provide the blueprint for increased domestic agricultural supply which once implemented will increase food supply and security. The ongoing agricultural technical trials will allow for the refinement of agricultural techniques resulting in higher yields and greater food security. Fisheries and aquaculture-related legislation and data collection will provide a scientific basis and legislative framework to ensure the success of a potential aquaculture technical trial.

Good health and well-being is enhanced by being positioned to provide Nauruan citizens will healthy, high quality, domestically produced agricultural and fish products.

Climate action is enhanced by reducing the need to import foods from long distances for consumption and by improving resiliency by providing local food supplies.

Marine ecosystem resilience will be enhanced by the collection of data to increase the understanding of climate change impacts on fisheries and marine resources and by providing a legislative framework to strengthen governance of fisheries and marine resources

Durable partnerships are enhanced by continuing to work with Republic of China (Taiwan) on existing agricultural technical trials and through continued work with SPC to monitor the impacts of climate change on fisheries and marine resources.

Establishing Energy Security

Nauru is almost completely reliant on imported fossil fuels for power generation and transport, which has created and continues to impose a significant financial burden and energy supply risks to our country. In 2018, Nauru generated 97% of its electricity from diesel fuel by a fleet of aging and refurbished generators, with the remaining 3% generated from a 500kW solar farm and a scattering of rooftop solar panels.

NUC is responsible for energy generation and distribution in Nauru, and delivered 35.8GWh to the grid in 2018. Approximately USD 6.1 million was spent in fuel expenditures for energy production in 2018 – slightly more than 9.2 million litres of diesel. In recent years, direct government fuel subsidies to NUC have decreased drastically. However, the Government still subsidizes electricity generation – albeit indirectly – through its purchase of power from NUC at some of the highest prices in the Pacific, thereby allowing the average Nauruan to be assessed some of the lowest electricity prices in the region.

Nauru has 30 kilometers of roads, 80% of which is paved. Nauru's road system consists of a single major road that spans along the circumference of the island, with a network of smaller roads that connect phosphate mines with coastal settlements in Bottomside. The Department of Transport estimates that approximately 3400 petrol vehicles, 950 diesel vehicles and 500 unregistered vehicles of a range of sizes and purposes exist in Nauru. In recent years, Nauru has experienced a large and unexpected growth in vehicle ownership with the influx of disposable income resulting from the operation of the RPC.

Nauru's strategy to establish energy security in the most sustainable and environmentally friendly way possible is encapsulated in the *Nauru Energy Road Map*. In it, Nauru sets three overarching energy objectives that also serve as Nauru's contributions under the Paris Agreement, enumerated below.

Conditional Contribution

Establishing a grid capable of providing stable and affordable power

Nauru has made great strides to improve the consistency and durability of its power generation and distribution system, which has and will create a strong foundation for Nauru's development of renewable energy sources. In addition to recent additions and refurbishments to NUC's diesel generator fleet, significant investments have been made to rehabilitate Nauru's high voltage network. Since its inception in 2011, NUC has made great strides to improve the reliability of Nauru's grid. Nauruans suffered from interruptions in the power supply that totaled 47 days over the course of 2015, with outages occurring at least once a day. But by 2017, this was drastically improved so that annual power interruptions decreased to a total of six days and power outages took place only once every four days.

Indicative Actions to Achieve Grid Stability

- **Develop *Nauru Energy Act*** to create an overarching legislative and governance framework for the energy sector in Nauru and an enabling environment for private sector investment
- **Create and finance an Energy Infrastructure Investment Fund** to establish capital reserve funds dedicated to maintaining Nauru's energy infrastructure and to anticipated future costs associated with maintaining Nauru's solar capacity
- **Undertake energy use and supply analysis** that considers the impact of recent changes in consumption behavior and the addition of larger-scale solar photovoltaic systems that can inform future energy systems planning
- **Build in-country capacity** to operate and maintain solar photovoltaic and battery storage systems, particularly with a focus to increase gender representation within NUC and generally.

Conditional Contribution

Renewable energy comprises half of Nauru's power generation

Increasing the share of renewable energy in Nauru has been slow going, but the current renewable energy share belies our true potential as a renewable energy leader. Having invested considerably in building a strong foundation that will enable renewable energy expansion, Nauru currently stands at the cusp of dramatically increasing its renewable share from 3% to 47% over the course of the next decade, if not earlier. Nauru has in recent years begun to expand our solar generation capacity through a number of projects with the support of the United Arab Emirates, New Zealand and the European Union, and is in the beginning stages of embarking on a major 6MW solar project with 5 MW/2.5MWh battery storage capacity with the ADB. This project, which is projected to reduce Nauru's greenhouse gas emissions by 11,155 tons of CO^2 equivalent annually, will place Nauru within reach of nearly achieving its renewable energy objectives. But Nauru's ability to fully reach our 50% renewable energy goal will be tied closely to the success of our efforts on energy efficiency.

Past efforts to reduce the carbon footprint of the transport sector in Nauru have been relatively unsuccessful due to several factors, including the corrosive environmental impacts on equipment, inadequate resources and difficulty in transforming the Nauruan mindset towards public shared transport. Nauru has established a limited bus system to serve the island population, but the lack of resources renders it incapable of meeting the transport needs of the people and unable to mobilize a shift away from private vehicle ownership. Past attempts to introduce electric bicycles and scooters were unsuccessful due to mechanical damage to equipment from Nauru's salty corrosive environment, steep hills and stray dogs.

Indicative Actions to Achieve 50% Renewable Energy Capacity

- **Install 6MW solar photovoltaic farm** with 5MW/2.5MW battery capacity
- **Conduct technical assessment of non-solar sources of renewable energy** such as ocean thermal energy conversion and waste-to-energy
- **Conduct technical assessment of low-carbon transport options**

Conditional Contribution

Achieving 30% Energy Savings

The ability of Nauru to realize our renewable energy aspirations will depend on placing a strong focus on energy efficiency. Though Nauru has taken some measures to reduce energy demand – such as through the Low Carbon Fund to encourage the uptake of efficient refrigerators and washing machines – much action within the energy sector to date has centered on renewable energy expansion. The coming years will see a greater focus and prioritization by Nauru on energy efficiency.

In addition to the undisciplined usage of energy by the general public and government employees, Nauru lacks energy efficiency standards for appliances and comprehensive financial incentives that promote energy efficiency. In transport, though some vehicle import restrictions and duties designed to influence the number and quality of vehicles entering Nauru are in place, the impact and efficacy of those measures has been minimal. A major impediment to more effective action on energy efficiency and on low-carbon transport has been the lack of baseline data on historical and current energy use, and this will be one of the first steps Nauru will take towards establishing greater energy efficiency.

Indicative Actions to Achieve 30% Energy Efficiency

- Promote energy efficient air conditioners and other appliances through an **expansion of the Low Carbon Fund**
- **Conduct technical assessments to identify effective energy efficiency options** for Nauru
- **Undertake energy audits** of government facilities, high-energy usage properties, residential sector to establish baseline data
- **Rewire government buildings** to maximize energy savings and encourage changes in usage behavior among government staff
- **Adopt an Appliance Labeling and Energy Standard Programme to** encourage the import and uptake of low energy usage products
- Induce behavioral change to encourage energy efficient behavior via **education campaigns for the general public and within the government**

Adaptation Co-Benefits	Mitigation Co-Benefits
• Infrastructure with increased resilience to climate change impacts and natural disasters • Increased economic resilience and diversification • Increased ability to invest in other sustainable development and climate priorities	• Increased access to cleaner and affordable energy • Reduced greenhouse gas emissions • Reduced dependency on fossil-fuel intensive technology and transport • Reduced risk to energy supply chain disruptions

SDGs Advanced by Nauru's NDC to Establish Energy Security

Increased participation of women in the energy field through targeted efforts to increase the capacity and participation of women during efforts to build domestic institutional capacity of Nauru's energy sector.

Increased access to affordable and clean energy through the uptake of energy efficient practices and greater deployment of renewable energy.

Establishing and maintaining a stable grid and deploying greater renewables ***will create job opportunities, growth for SMEs, and greater ability to invest in other government priorities***.

Achievement of Nauru's energy goals ***resulting in reliable and resilient infrastructure able to deliver stable and affordable power to increase productivity***, and free up resources to be invested in other government priorities to enhance Nauru's sustainable development and diversify the economy.

The sustainability of communities will be enhanced with infrastructure resilient to disaster and climate change impacts, and establishing sustainable transport options.

Achievement of Nauru's energy objectives will result in the ***reduced consumption of fossil fuels and in fossil-fuel intensive technologies and appliances***.

Enhanced renewable energy based power generation and the uptake of energy efficient practices will lead to reduce greenhouse gas emissions and investment in energy infrastructure resilient to climate change impacts and natural disasters.

Successful implementation of Nauru's energy objectives will ***require strong governance and institutions capable of implementing and enforcing energy policies and frameworks***.

Durable partnerships, access to adequate means of implementation, and technology transfer will be required to fully achieve these goals.

Enhancement of Waste Management Facility

The effective management of waste is a persistent challenge for Nauru. The current dumpsite, which is spread over five hectares, has been in operation for several decades. During this time, the quantity of disposable consumer goods imported into the country has grown significantly, outstripping the capacity of the dumpsite to safely process and store the waste generated.

The current waste management facility has clear negative consequences for the local environment. The most dangerous impact stems from leachate, which is produced when rainwater falls on exposed waste. With upgrades to existing facilities and equipment, along with the implementation of best waste management practices, leachate production can be significantly reduced and prevented from draining into neighboring areas and nearby groundwater reserves.

Inadequate waste management increases stress on the natural environment. Reducing this stress will significantly increase the resilience of local biodiversity to the negative impacts of climate change. Climate change is also projected to alter precipitation patterns in the North Pacific region, which could pose a significant threat to Nauru's water security. Therefore, protecting existing groundwater reserves is an urgent climate change adaptation priority. Enhancing the waste management facilities on Nauru would remove one of the largest stresses on the local water supply. The construction of a new composting facility would improve food security in the country by producing growing medium for local food production and also reduce fugitive methane emissions from the landfill site.

A Remedial Plan identifies a number of actions that can maximize the utility of the existing dump site in Nauru and significantly reduce the negative impacts on groundwater and the surrounding environment. Nauru includes the following three actions as part of its NDC.

Unconditional Contribution

Improve organization and physical structure of dumpsite cells to prevent contamination of groundwater supplies

More efficient organization of the site will reduce the volume of rainwater that comes into contact with exposed waste. A liner system, simple leachate collection and treatment, and good waste placement and compaction practices will further limit discharges to the environment. Surface and rainwater successfully diverted from open dumping areas can be treated as clean water to supplement other existing freshwater reserves and be potentially used in on-site composting of organic waste. Changes at the site will include:

- Development of Landfill Master Plan and Operations Plan,
- Improving the design of the dumping area, including staging of cell development and filling,
- Consolidating the historic waste on the site, either in constructed cells or specific areas,
- Developing cell(s) for controlled dumping of waste,
- Compacting waste placed in the new landfill cell(s),
- Maintaining stockpile of suitable material for cover and construction of bunds and cap on-site, and
- Keeping the active tipping area as small as possible to minimise the amount of rainwater falling on open waste dumping areas.

Consolidating existing waste on-site and specifying specific areas for future filling provides an opportunity to develop other parts of the site for the resource recovery activities described in the following sections. These changes will require capital investment and ongoing resourcing, including

suitable equipment (i.e. bulldozer, digger and/or loader) for operation and ongoing construction and maintenance activity. Support for these efforts is not provided for by any partners, however Nauru is seeking support from potential partners to develop the above-mentioned changes:

Phase	Cost	Timeframe
Development of Landfill Master Plan and Operations and Management Plan	USD 88 000	1-3months
Development of Cells by Clearing and Filling and Maintaining Stockpiles	USD 1.15 million	6 months

Unconditional Contribution

Build new resource recovery facility for inorganic waste

The volume of waste stored at the landfill can be significantly reduced by the construction of a new resource recovery facility for inorganic waste. Recoverable materials include surplus tyres, unwanted white goods, scrap steel, aluminum containers, and recycled plastics. Tyres have continuing value for communities for use in landscaping, and their re-use can significantly reduce the risk of fire at the landfill. Stockpiling of unwanted white goods can supply appliance repairers with spare parts. Securing equipment for disassembly, cutting and compacting would facilitate the recovery and export of scrap steel. Aluminum cans are easily collected, and attract strong prices internationally. Collection of plastic drink containers for export and recycling is also worthy of consideration, though measures to minimize the use of plastics are also being pursued.

The new facility recovery facility is being developed with the support of the Government of Japan and the Ridge2Reef Initiative, and will require financial support of approximately USD 550,000. The recovery facility is expected to be operational by 2021.

Conditional Contribution

Build new organic waste recovery and composting facility

Nauru has a climate that is well-suited for composting of organic waste materials. Greater availability of compost will significantly contribute to land rehabilitation efforts under the Higher Ground Initiative as the top layer in the backfilling of mined areas. Compost can also accelerate efforts to increase domestic food production, both as a growing media for household gardens and any future large-scale agriculture on Topside. Compost can also be used for re-establishing native vegetation once areas are rehabilitated. Although no data currently available, it can also reasonably be expected that composting would reduce fugitive methane emissions.

Under the Master Plan a composting facility will be constructed at the current Nauru dump site, which would include provision for pre-processing of materials (shredding, blending), space for several windrows of composting material and stockpile of mature compost. Funding of approximately USD 60,000 for construction will be provided by India South South Cooperation. The target for completing this contribution is 2021.

Adaptation Co-Benefits	Mitigation Co-Benefits
• Increase resilience of natural ecosystems	• Reduce methane emissions

• Enhance water security by reducing leachate intrusion into groundwater • Increase food security through production of compost for agriculture Mitigation	

SDGs Advanced by Nauru's NDC on Enhancement of Waste Management Facility

Good health and well-being will be enhanced by reducing local pollution and risk of fire.

Clean water and sanitation will be improved by significantly reducing leachate, which contaminates groundwater supplies.

Enhanced waste management infrastructure will augment sustainability efforts and create economic opportunities from resource recovery and composting.

Sustainability of communities will be enhanced by reducing the impacts of pollution and risk of fire, and by encouraging recycling and composting.

Sustainable consumption will be encouraged through the adoption of complementary waste management policies in order to reduce the total volume of waste that must be processed.

Climate action will be enhanced by reducing the risk to water security and vulnerable marine ecosystems

Marine ecosystem resilience will be enhanced by reducing runoff into coastal ecosystems.

Partnerships with the Pacific Community and the Government of India are already assisting with implementation and additional finance will be required to fully implement the composting facility.

Ecosystem Restoration and Sustainable Land Management to improve livelihoods and protect biodiversity

Before mining began, Nauru was thickly covered with tropical rainforest dominated in parts by the Pacific mahogany (Ijo or Tomano) tree and pandanus. The land was managed by an agroforestry system, whereby productive tree species were planted, tended, and cultivated within an environment that was otherwise largely unmodified.

Decades of phosphate mining have had a significant impact on the natural environment. In addition, the increasing environmental pressures associated with economic development, such as greater consumption of consumer goods and production of waste, are an ongoing challenge for a country with limited land area. Many of the native species have been extirpated or are on the verge of extirpation from the island.

Although non recorded plant species are endemic to Nauru, some are rare, and their conservation is of global relevance. As highlighted in the *Rapid Biodiversity Assessment of Nauru*, there remain valuable pockets of natural flora and fauna that are worth protecting and restoring. And although greatly outnumbered by introduced species, the indigenous plant species still constitute the most culturally-useful and ecologically-important species. Due to the unique adaptability of indigenous Pacific island plants to the harsh conditions of coastal and small-island environments, and their cultural and ecological utility, their protection and enhancement are crucial as a basis for sustainable development on Nauru. Restoration of key sites will also aid in recovery of declining bird and other animal species and in maintaining future food security.

Climate change impacts, particularly drought, will increase stress on the natural environment, which makes reducing other stressors an urgent priority. Supported in part by the Global Environment Facility, Nauru will build the foundation for a transition from mining to sustainable development in Nauru by designing and testing integrated strategies for natural resource management and outlining the financial benefits of improved land use planning and options for increasing productivity. The expected outcomes of the project will create an enabling environment for scaling-up and mainstreaming biodiversity, sustainable land management, and land degradation neutrality into priority sectors. The project has four components:

1) Strengthening policy and institutional capacity for sustainable land management and biodiversity conservation,
2) Rehabilitation and restoration of degraded land to protect and reinstate ecosystem services in Nauru,
3) Conservation and sustainable use of Nauru's remaining forests, and
4) Capacity building and knowledge sharing to enable scaling up towards land degradation neutrality and biodiversity conservation.

The project will help restore agricultural productivity in a highly degraded agro-forestry system by improving soil management and increasing soil organic matter content, increasing the vegetation and tree coverage. The project will also mainstream biodiversity conservation into priority sectors (agriculture, tourism, mining and infrastructure development) through land-use planning to ensure that land and resource use maximize production without undermining biodiversity. Lastly, the project will address direct drivers of terrestrial biodiversity loss in Nauru by creating a protected area (Anibare Bay) and implementing sustainable forest management practices in priority areas of important biodiversity and cultural value.

Unconditional Contribution

Develop Land Use & Restoration Plan and begin implementation

The Land Use and Restoration Plan developed, in consultation with the communities and land owners, to guide decision-making, land use management and facilitate mainstreaming of biodiversity into priority sectors to ensure that land and resource use maximize production without undermining biodiversity.

Unconditional Contribution

Pilot soil restoration methods and SLM techniques

Soil restoration methods and sustainable land management techniques tested at pilot sites after secondary mining for phosphate has been completed to lower erosion, increase organic matter content in soil and improve soil fertility. A restoration cost analysis for different methodologies will enable subsequent scaling up on new plots.

Unconditional Contribution

Establish terrestrial protected area in Anibare Bay

A line of wooded cliffs overlooking Anibare Bay comprises the richest remaining native vegetation on the island. In 2008, Bird Life International identified the Anibare Bay escarpment as an "Important Bird and Biodiversity Area" (IBA). The Government will take steps to protect the Anibare Bay area, including the coastal area and escarpment, with a view to conserving and managing biodiversity as a means to protect the last undisturbed landscape in Nauru and important bird habitat and refuge for rare and endangered species of plants

Adaptation Co-Benefits

- Increased resilience of sensitive ecosystems to climate change impacts
- Increased resilience of local water supply to climate change-induced drought by through improved hydrological cycle and ground water recharge
- Increased resilience to climate change-induced interruption of affordable food imports through expansion of agro-forestry practices to increase local food production

SDGs Advanced by Nauru's NDC to Restore Ecosystems and Protect Biodiversity

Food security is enhanced by increasing local production through expansion of agro-forestry methods.

Water security is enhanced by the restoration of natural ecosystems to increase ground water recharge.

Resilience to climate change is enhanced by building the resilience of sensitive ecosystems to negative climate change impacts through the reduction of other local, anthropogenic stresses and the mainstreaming of sustainable land use planning and land degradation neutrality, with additional climate change adaptation co-benefits in the areas of food and water security.

Local biodiversity is enhanced by establishing a protected area in Anibare Bay, identified as Nauru's most important and diverse terrestrial ecosystem, as well as through the wider use of sustainable land management to curb unsustainable development around the island.

Durable partnerships and access to adequate means of implementation will be critical to the implementation of this contribution, which will include funding provided by the national government and the Global Environment Facility, as well as technical support from the Taiwan Technical Mission.

Establish Effective Sewage Treatment

Sewerage is an ongoing challenge in Nauru where the system consists of primary treatment in the form of septic tanks or cesspits provided to treat waste at all households but there are no pollution safeguards, building codes, or other controls for them. The cesspits discharge raw sewage directly into the adjacent ground through the open bottom and perforated sides of the units. It is expected that a number of septic tanks and cesspits are damaged and discharging to the adjacent soil, thereby contaminating groundwater supplies. There is a need for an assessment of the condition of household cesspits, but this will require both funding and technical assistance.

The current sewage treatment plant at Nauru Primary School is ineffective, overburdened and poses a potential health risk to children at the school and cannot serve as a long-term reliable sewerage solution to treat and effectively dispose of human waste remains a priority. Thus the following actions to improve the sewerage situation in Nauru are a part of its NDC.

Conditional Contribution

Implementation of the sewerage components of the *Water and Sanitation Master Plan*

The *Water and Sanitation Master Plan* (and the corresponding May 2017 update) provides a detailed proposal and the costs to address short-term repairs to the current sewage treatment plant, construct a new sewage treatment plant and build the necessary sewer reticulation, septic tanks, pump stations and other necessary infrastructure. Full implementation of the sewerage components of the plan would provide Nauru with a modern sewerage treatment system and would cost approximately USD 27 million. This project would require financial, technical and capacity support.

Conditional Contribution

Addressing household cesspits

An assessment of the current state of household cesspits is necessary to determine which cesspits are in need of repairs or replacement to ensure that they are not leaking waste into Nauru's already limited groundwater supplies. Additionally, building codes or other safeguards for sewerage discharge and cesspits need to be developed and effectively implemented.

Adaptation Co-Benefits	Mitigation Co-Benefits
• Improved resilience by better protection of groundwater supplies	• Reduced emissions from need to pump and truck sewage • Increased use of groundwater will reduce demand for water from electricity intensive RO plants

SDGs Advanced by Nauru's NDC to Establish Effective Sewage Treatment

Good health and well-being is enhanced by providing clean, tested water to reduce the incidence of water borne and water contamination related illness and by eliminating sewage discharge into ground water supplies.

Water security will be increased by providing a modern and reliable water delivery and sewerage system, by eliminating the discharge of untreated household waste water and by improving water use efficiency.

Climate action will be enhanced by strengthening resilience and adaptive capacity to climate related changes to rain patterns.

Life below water will be enhanced by treating sewage appropriately before discharge into groundwater, lagoons and the ocean.

Life on land will be improved by reducing the discharge of sewage into inland freshwater ecosystems.

Durable partnerships and access to adequate means of implementation will be required to implement these contributions.

Institutional and Governance Arrangements to Support Implementation of Climate Priorities

Responding and adapting to climate change and its impacts requires a whole of Government approach and necessitates the involvement of all ministries and departments. An effective response to climate change will require strong leadership and coordination within the Government supported by effective legal and policy frameworks. Nauru has recently taken steps to put in place the necessary institutional and governance structures to more effectively address climate change.

In 2020 Nauru adopted the *Environmental Management and Climate Change Act* which centralizes and codifies authority with the Minister and Department responsible for environment and climate change matters to manage and protect the environment of the Republic of Nauru, promote sustainable development and facilitate compliance with Nauru's international and regional environment related obligations.

Notably the *Environmental Management and Climate Change Act* includes the establishment of the *Climate Change and Environmental Protection Fund* for: (a) the protection and conservation of the reef and foreshore; (b) the preservation and protection of flora and fauna; (c) the prevention of coastal erosion and maintenance of high-water mark; (d) food security; (e) health; (f) soil conservation; (g) critical environmental restoration activities; (h) the management of sensitive and fragile ecosystems; (i) the protection from pollution of and removal of pollution from land, water and air; and (j) other purposes consistent with the provisions of this Act and as prescribed by regulations.

The *Climate Change and Environmental Protection Fund* will consist of (a) any compensation, expenses or costs awarded by the Court in relation to any offence under this Act which shall be paid into the Fund; (b) grants, donations or contributions from international organisations; (c) any amount appropriated for the Fund from the Treasury Fund; and (d) any environment related levies or taxes imposed by any written law and will play a crucial in supporting the implementation of Nauru's climate objectives and projects, many of which are enumerated in this updated NDC.

Nauru will also begin developing its National Adaptation Plan (NAP) in early 2021. The NAP process will enable Nauru to undertake mid and long-term climate adaptation planning. The NAP process will support the integration of climate change adaptation considerations into development planning and will help to identify areas where further climate change related adaptation projects and programmes may need to be undertaken.

Unconditional Contribution

Adopt *Nauru Climate Change Policy*

The *Nauru Climate Change Policy* will integrate Nauru's existing climate related policies into an overarching climate policy. It will set out the national climate objectives and strategy into a single government document, and the implementation plans to achieve them. In addition to establishing the processes to develop future climate priorities, the *Nauru Climate Change Policy* will formally establish the Department of Climate Change and National Resilience as the government authority responsible for overseeing the implementation and priority setting of Nauru's response to climate change.

Prepare and approve the *Strategic Plan for the Sustainable Development of Agriculture*

The Government of Nauru intends to prepare and endorse the *Strategic Plan for the Sustainable Development of Agriculture,* which will detail a plan to further develop Nauru's agricultural capacity. Implementation of this plan will be closely linked to the Higher Ground Initiative.

Unconditional Contribution

Prepare and approve the *National Coastal Fisheries Management Plan*

The Government of Nauru intends to prepare a National Coastal Fisheries Management Plan in accordance with the Coastal Fisheries and Aquaculture Act 2020.

Unconditional Contribution

Prepare and approve the *National Aquaculture Plan*

The Government of Nauru intends to prepare a National Aquaculture Plan in accordance with the Coastal Fisheries and Aquaculture Act 2020.

Adaptation Co-Benefits	Mitigation Co-Benefits
• Improved coordination of Government Ministries in adaptation actions • Increased effectiveness of implementation efforts	• Improved coordination of Government Ministries in mitigation actions • Increased effectiveness of implementation efforts

SDGs Advanced by Nauru's NDC to Establish Stronger Institutional and Governance Arrangements

Strong and transparent governance and institutions will ensure women's full and effective participation and equal opportunities in the consultation and decision-making process, which will also translate into greater educational and economic opportunities for women as a part of Nauru's sustainable and low-carbon future.

Strong governance and institutions for climate change and sustainable development are important for the successful implementation of Nauru's climate objectives, as well as to build domestic and international confidence in Nauru's institutions.

Strong and transparent governance and institutions will support Nauru's efforts to build durable partnerships, increase access to adequate means of implementation and encourage technology transfer and capacity support to Nauru.

Improved governance and institutions could encourage increased official development assistance and foreign direct investment to Nauru, a country with great need of support from partners to successfully implement its national plans and programming.

Successful adoption and implementation of Nauru's Climate Change Bill and Policy would ensure accountability and transparency, as well as to ensure inclusive and representative consultation and decision-making processes. Stronger governance will establish institutions capable of implementing and enforcing climate policies and frameworks.

National Long-Term Risk Assessment

The collective failure of the world to reduce their greenhouse gas emissions to a level consistent with a rise in average global temperatures of less than 1.5°C has increased the risk Nauru will experience significant loss and damage from the adverse effects of climate change. Like other SIDS and particularly vulnerable developing countries, Nauru will require an international response to help it cope with climate change impacts that cannot be avoided and result in loss and damage, including loss of economic opportunities, regression in development indicators, loss of natural ecosystems and ecosystem services, and loss of secure, habitable land.

The framework for addressing loss and damage under the UNFCCC process must be able to assist particularly vulnerable developing countries to assess risks that result in loss and damage, quantify the extent of the loss and damage, and assist with damage reduction and risk mitigation measures, and with recovery. The kinds of impacts that this loss and damage framework must address are set out in decision 3/CP.18, namely impacts from extreme weather events and slow onset events, and should also include non-economic losses and damages, migration, displacement and human mobility.

Conditional Contribution

Conduct a national long-term risk assessment on climate change loss and damage

Nauru intends to conduct a long-term risk assessment (LTRA). The LTRA should be conducted through processes consistent with those agreed and established at the UNFCCC under the Warsaw International Mechanism to address Loss and Damage, The LTRA should include the following:

- Quantification of the specific risks of loss and damage under different temperature scenarios;
- Timing at which these risks are likely to be experienced;
- Economic and social costs of the impacts associated with these risks, including preparation and maintenance of inventories of national assets at risk;
- Non-economic losses and damages; and
- Options available and under development to manage, transfer, and share risks, as well as for recovery.

SDGs Advanced by Nauru's NDC to Conduct a National Long-Term Risk Assessment

Climate action will be enhanced by fostering a more detailed and comprehensive understanding of the risks associated with climate change, as well as the options available for mitigating those risks.

Durable partnerships and access to adequate means of implementation, particularly through cooperation under the Warsaw International Mechanism, will be required for implementation.