

Concept Note

Nauru Solar Power Development Project under the Pacific Islands Renewable Energy Investment Program

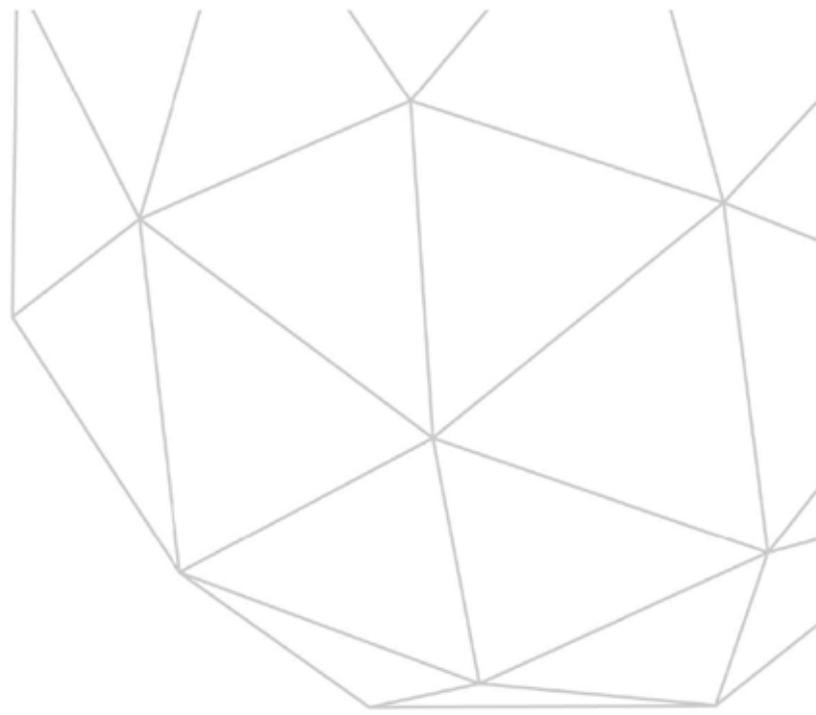
Asian Development Bank | Nauru

17 January 2018





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Concept Note

The Green Climate Fund (GCF) is seeking high-quality projects or programmes.

Accredited entities may choose to submit a concept note, in consultation with the relevant national designated authority, to present the proposed project or programme idea in order to receive early feedback and recommendation.

Project/Programme Title: Nauru Solar Power Development Project under the Pacific Islands Renewable Energy Investment Program

Country/Region: Nauru

Accredited Entity: Asian Development Bank

National Designated Authority: Mr. Michael Aori
Secretary, Department of Foreign Affairs and Trade
Government Offices, Yaren District, Nauru
E-mail: mike.ROI@gmail.com

Please submit the completed form to fundingproposal@gcfund.org

A. Project / Programme Information	
A.1. Project / programme title	Nauru Solar Power Development Project under the Pacific Islands Renewable Energy Investment Program
A.2. Project or programme	Project
A.3. Country (ies) / region	Nauru
A.4. National designated authority(ies)	Mr. Michael Aroi Secretary, Department of Foreign Affairs and Trade
A.5. Accredited entity	Asian Development Bank (ADB)
A.6. Executing entity / beneficiary	Nauru Utility Corporation
A.7. Access modality	Direct <input type="checkbox"/> International <input checked="" type="checkbox"/>
A.8. Project size category (total investment, million USD)	Micro (≤ 10) <input type="checkbox"/> Small ($10 < x \leq 50$) <input checked="" type="checkbox"/> Medium ($50 < x \leq 250$) <input type="checkbox"/> Large (> 250) <input type="checkbox"/>
A.9. Mitigation / adaptation focus	Mitigation <input checked="" type="checkbox"/> Adaptation <input type="checkbox"/> Cross-cutting <input type="checkbox"/>
A.10. Public or private	public
A.11. Results areas (mark all that apply)	<i>Which of the following targeted results areas does the proposed project/programme address?</i>
	<p>Reduced emissions from:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Energy access and power generation (E.g. on-grid, micro-grid or off-grid solar, wind, geothermal, etc.) <input type="checkbox"/> Low emission transport (E.g. high-speed rail, rapid bus system, etc.) <input type="checkbox"/> Buildings, cities, industries and appliances (E.g. new and retrofitted energy-efficient buildings, energy-efficient equipment for companies and supply chain management, etc.) <input type="checkbox"/> Forestry and land use (E.g. forest conservation and management, agroforestry, agricultural irrigation, water treatment and management, etc.)
	<p>Increased resilience of:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Most vulnerable people and communities: Diversification of power generation sources (E.g. mitigation of operational risk associated with climate change – diversification of supply sources and supply chain management, relocation of manufacturing facilities and warehouses, etc.) <input type="checkbox"/> Health and well-being, and food and water security (E.g. climate-resilient crops, efficient irrigation systems, etc.) <input checked="" type="checkbox"/> Infrastructure and built environment (E.g. sea walls, resilient road networks, etc.) <input type="checkbox"/> Ecosystems and ecosystem services (E.g. ecosystem conservation and management, ecotourism, etc.)
A.12. Project / programme life span	4 years
A.13. Estimated implementation start and end date	Start: October 2018 End: October 2022
B. Project/Programme Details	

The Fund requires the following preliminary information in order to promptly assess the eligibility of project/programme investment. These requirements may vary depending on the nature of the project/programme.

B.1. Project / programme description (including objectives)

1. **Pacific Islands Renewable Energy Program.** The Board of the Green Climate Fund (GCF) announced its support for the *Pacific Islands Renewable Energy Program (Program)* in December 2016. The Program will help Pacific island countries transition to a renewable energy future. The Program Objective is to transform the electricity production sectors across the Pacific to low carbon, climate resilient pathways, and the Program Outcome will be expanded access to clean, resilient and affordable energy.
2. This proposed Nauru Solar Power Development Project (Project) will take place within the Program, and is the third subproject to be submitted for consideration after (i) Cook Islands (approved by the GCF Board December 2016), and (ii) Tonga (to be considered by the GCF Board in early 2018). The Project will deliver an estimated lifetime reduction of 240,000 tCO_{2e}; and will significantly increase the contribution of renewables to Nauru electricity production from 5% to 50% by 2020, enabling Nauru to meet its renewable energy target under the Nauru Energy Road Map.¹
3. **Background.** Nauru has a total population of around 10,000 people and is the world's smallest island nation, with a surface area of 21km². It is the third smallest state by area in the world, behind Vatican City and Monaco. Nauru is also one of the most isolated countries in the world. Nauru is classified as being in a fragile and conflict-affected situation (FCAS).² Access to grid electricity is virtually 100%, however the cost of power generation is high due to reliance on imported diesel for generation. Current national peak demand is around 5MW, however there is significant unserved demand. Peak demand is expected to rise to around 10MW once all un-served demand is brought on-line around July 2018. Electricity generation is predominantly from diesel. Renewable energy is currently limited to about 700kW of grid connected solar PV which supplies approximately 2% of demand. Electricity is generated and distributed by the state-owned Nauru Utilities Corporation (NUC). Energy sector policy is managed by the Department of Commerce, Industry and Environment (CIE). Investments in the power sector are guided by the Nauru Energy Road Map, which establishes a renewable energy generation target of 50% by 2020. Solar power is the least cost renewable energy option for Nauru, and has a significantly lower levelized cost of energy than diesel generation.
4. **Government approach.** The Government of Nauru recognizes the challenges in achieving the proposed 50% renewable energy target, and is approaching the challenge by (i) investing in rehabilitation of core diesel generation and distribution assets to enable future integration of renewable energy, (ii) trialing small amounts of grid-connected solar to gain valuable experience in integration of intermittent renewable energy, (iii) establishing a solar park by securing land and investing in associated infrastructure, and (iv) reforming the sector.
5. **Rehabilitation of core power sector infrastructure.** NUC is currently investing in upgrading of the diesel generation plant and distribution grid to improve quality of supply, reduce electricity supply losses, and lower the cost of power generation³. This will strengthen the grid to enable increased integration of solar power generation. Construction is ongoing and is anticipated to be completed by early 2018.
6. **Grid-connected solar PV trials.** In order to gain valuable experience with integration of intermittent renewable energy, Nauru is conducting trials with small amounts of solar power, which include (i) 500kW of grid connected solar power (commissioned in 2016 and financed by the United Arab Emirates), and (ii) approximately 200kW of rooftop solar (commercial and residential). Results to date are positive and valuable capacity is being developed within the power utility. A further 1.3MW solar power is being proposed for installation by end of 2018 (with funding from New Zealand and European Union). This

¹ Nauru Department of Commerce, Industry and Environment, *Nauru Energy Road Map, 2014-2020*. January 2014, Nauru

² ADB, FCAS Resource Center, ADB Developing Member Countries Identified as Fragile and Conflict-Affected Situations, 2016, <http://fragilesituations.adb.org>

³ Electricity Supply Security and Sustainability Project funded by ADB (\$2 million grant), European Union (\$2.7 million grant), and Government of Australia (\$4.74 million grant). This project is administered by ADB.

will increase overall installed solar capacity to 2MW and increase solar penetration from 2% to 5% of demand.

7. **Solar Park.** To prepare for further upscaling of solar power integration, the Government is proposing a 10.5 hectare solar park in the south-eastern quadrant of the island. Negotiations with landowners are advanced. The site has adequate existing access roads and NUC is upgrading the transmission interconnection to the proposed solar farm site (with financing from the European Union).

8. **Sector Reform.** The Nauru Government recognizes reform of the energy sector is crucial to enable sustainable conversion of the grid to renewable energy. The NUC Strategic Plan 2015-2020 outlines the proposed sector reform activities.⁴ NUC and the Government have made good progress on several reform agenda items over the previous 3 years, however significant work remains.⁵ The proposed Project will provide additional support to the reform agenda.⁶

9. **Limited financing options.** Nauru has limited options to finance the structural shift from diesel based power to renewable energy due to (i) lack of access to sovereign concessional financing, (ii) lack of commercial financing available to NUC, and (iii) difficulties in attracting the private sector. Because of its recent history of debt distress Nauru is only eligible for Asian Development Fund (ADF) grants and does not have access to ADB concessional loan facilities.⁷ In addition, there are no options for NUC to access commercial financing. Prior to June 2015, the economy was mainly cash based with no banking facilities available. In June 2015, a single agency of Bendigo Bank opened which now provides limited banking services. However, NUC is unable to attract commercial financing and, thus currently operates with no debt. Private sector investment in Nauru (internal or external) is very limited and largely restricted to the services sector. There is no ability to raise capital for the private sector within Nauru and perceived sovereign risks for external investors is significant. While the barriers to private sector investments for utility scale solar are widely recognized, the Project will assess options for de-risking the project to encourage private sector investment.

10. The Government has requested ADB allocate \$4 million grant from the country allocation for installation of solar power generation, however this would only increase renewable energy penetration from 5% to around 7%. Availability of grant funding from bilateral and multilateral sources is unreliable, and amounts are relatively small. Without support from GCF, Nauru will continue to predominantly generate with diesel, will not be able to meet the national target of 50% by 2020, and will move slowly towards realising the benefits available from increasing renewable energy penetration.

11. **Project Outputs.** The Project will support the following outputs:

- (i) A 10MW grid connected solar power plant, consisting of (a) site preparation (land clearing, onsite access roads, sealing of adjacent public road, survey, geotechnical investigations), (b) installation of 10MW ground-mounted solar PV panels (approximately 8 hectares), (c) substation, and (d) auxiliary plant (boundary fences, security shed, water storage and reticulation for panel cleaning, integration software)⁸. The proposed power plant will increase renewable energy supply from 5% to an estimated 50%.⁹
- (ii) Battery Energy Storage System (BESS) which will allow management of intermittency of output from solar generation and storage for load shifting.

⁴ Nauru Utilities Corporation. Strategic Plan 2015 to 2020, November 2014, Nauru

⁵ Sector reform has been supported by ADB financed TA-8631 Institutional Strengthening of the Nauru Utilities Corporation, which was completed in 2016

⁶ ADB is currently discussing potential scope of work with Government to be supported under a GCF financed regional technical assistance project (\$5 million approved by the GCF Board in November 2016) to support sector reform and capacity building in the Pacific energy sector.

⁷ Total public debt (7 June 2016) is estimated at about A\$91 million, which is 65 percent of GDP.

⁸ Note that dual circuit 11kV transmission interconnection is currently being constructed.

⁹ to be confirmed during preparation of feasibility study. Plant size to be scaled accordingly to funding availability.

	<p>(iii) Capacity building, including a training program for NUC operators on operation and maintenance.</p> <p>12. Design and procurement of the subproject will benefit from the regional program through access to (i) consulting companies who are implementing similar projects across the program, (ii) potential for bundled procurement of both equipment and civil works contracts, (iii) and access to capacity development from the regional technical assistance, which will share lessons learnt between regional program countries in both management approaches and technical innovation.</p> <p>13. The proposed subproject is in-line with the <i>Republic of Nauru Energy Road Map 2014-2020</i>, and the priorities stated in ADB Country Operations Business Plan.¹⁰ The proposed subproject is fully in line with the Nauru Intended Nationally Determined Contribution (iNDC) under the United Nations Convention on Climate Change.¹¹ The iNDC states that the “<i>key mitigation intervention is to replace a substantial part of the existing diesel generation with a large scale grid connected solar photovoltaic (PV) system which would assist in reducing the emissions from fossil fuels</i>”¹².</p>
<p>B.2. Background information on project/programme sponsor</p>	<p>The ADB is a multilateral development bank that provides loans, grants and technical assistance. ADB is composed of 67 members, 48 of which are from the Asia and Pacific region. ADB’s clients are its member governments, who are also its shareholders. Moreover, ADB provides direct assistance to private enterprises of developing member countries through equity investments and loans. In 2016, loan, grant and technical assistance approvals to ADB’s developing member countries amounted to \$17.8 billion, and total co-financing mobilized, with donor support, amounted to \$13.9 billion, bringing total sovereign operations to \$31.7 billion in 2016. Non-sovereign operations for the same year amounted to \$2.5 billion.</p> <p>ADB has the largest energy portfolio amongst development partners in the Pacific, covering electricity generation, transmission and distribution. Currently, the ADB Pacific Island energy portfolio consists of 14 projects in 8 countries for a total investment of over \$350 million.</p>
<p>B.3. Market overview</p>	<p>Not applicable</p>
<p>B.4. Regulation, taxation and insurance</p>	<p>The Nauru Utilities Corporation (NUC), a 100% government owned state owned enterprise (SOE), has responsibility to produce and distribute electricity and water in Nauru. The Ministry of Commerce, Industry and Environment (CIE) is responsible for energy sector policy formulation. NUC, with oversight by CIE, has the mandate and authority to implement the activities foreseen under this project. They are experienced in executing development partner financed energy sector projects.</p> <p>NUC will be required to obtain project development permits. In doing so, they will respect all national laws and regulations, including environmental regulations, and regulations guiding the need for consultation and stakeholder consent, and all national procedures for land acquisition. ADB financed projects in Nauru are eligible for specific tax exemptions.</p>
<p>B.5. Implementation arrangements</p>	<p>Governance. A Steering Committee will be established to provide oversight over the Project. The Steering Committee will include (i) Ministry of Finance, (ii) Ministry of Foreign Affairs, and (iii) Ministry of Commerce, Industry and Environment.</p> <p>Implementation. NUC will implement all components of the Project. A Project Management Unit (PMU) will be established in NUC and will be responsible for day-to-day implementation of the Project, including design, procurement, supervision of construction and training of NUC for maintenance. Capacity of the PMU will be supplemented with design and supervision consultants, who will be mobilized through separate contractual arrangements.</p>

¹⁰ 2015, *Nauru Country Operations Business Plan, 2016-2018*, Manila

¹¹ Republic of Nauru, Intended Nationally Determined Contribution (iNDC) Nationally Determined Contribution (NDC) under the United Nations Convention on Climate Change

¹² Note that the Nauru iNDC states an investment requirement of \$42 million to cover the target solar installation.

	<p><u>Schedule.</u></p> <p>Prepare Feasibility Studies: February 2018 – June 2018</p> <p>Submit GCF Proposal: July 2018</p> <p>GCF Board Approval: September 2018</p> <p>ADB Management Approval: September 2018</p> <p>Procurement: July - December 2018</p> <p>Contract award: February 2019</p> <p>Construction: March 2019 – March 2021</p> <p>Testing/Commissioning: April 2021</p>
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C. Financing / Cost Information

<p>C.1. Description of financial elements of the project / programme</p>	<p>Investment</p> <p>The Solar Power Development Project cost is estimated at \$38 million. The indicative financing plan is presented below:</p>		
	Source	Net Amount (\$ million)	Share (%)
	Asian Development Bank (grant)	4.00	10.5
	Green Climate Fund (grant)	30.00	79.0
	Government of Nauru	4.00	10.5
	Total	38.00	100.0
<p><u>Notes</u></p> <p>All amounts to be confirmed during full project development stage. Government contribution includes exemptions from taxes and duties, land acquisition and transmission lines.</p> <p>The estimated cost breakdown is presented below¹³:</p>			
	Sub-project	Cost (\$ million)	
	1. Solar installations (10MW solar, site preparation, interconnection and auxiliary plant)	22.0	
	2. Battery Energy Storage Systems (BESS)	11.0	
	3. Consulting Services, including capacity building	1.0	
	4. Land acquisitions	1.0	
	5. Transmission line	1.0	
	6. Taxes and duties	2.0	
	Total	38.0	

<p>C.2. Project financing information</p>		Financial Instrument	Amount	Currency	Tenor	Pricing
			\$38.00 million	<u>Options</u>		
	<p>(b) Requested GCF amount</p>	<p>(i) Senior Loans</p> <p>(ii) Subordinated Loans</p> <p>(iii) Equity</p> <p>(iv) Guarantees</p> <p>(v) Reimbursable grants</p> <p>(vi) Grants*</p>	<p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>\$34.0 million</p>	<p><u>Options</u></p> <p><u>Options</u></p> <p><u>Options</u></p> <p><u>Options</u></p> <p><u>Options</u></p> <p>million USD (\$)</p>		
	<p>Justification for grant financing</p> <p>Given the narrow economic base and high growth volatility, limited revenue sources and debt servicing capacity, and fragility to domestic and external shocks, ADB classifies Nauru as a</p>					

¹³ To be confirmed during preparation of feasibility studies.

		<p>country under fragile and conflict-affected situation (FCAS).¹⁴ Per ADB's country classification system based on (i) gross national income (GNI) per capita, and (ii) creditworthiness, Nauru is classified into a group A country confirming that Nauru will be eligible only for grant funding under ADF. ADB cannot extend concessional loans to Nauru.</p> <p>The International Monetary Fund (IMF) carried out a debt sustainability analysis for Nauru in April 2017 and identified per data in June 2016 that the total public debt is estimated at about A\$91 million (65 percent of GDP). External public debt is estimated at A\$48 million (34 percent of GDP), and domestic debt is estimated at A\$43 million (31 percent of GDP).</p> <p>The GCF ITAP review of the Regional Programme noted that for Pacific Island countries with national debt ceiling issues, "It is not considered reasonable for the GCF to extend loans to these SIDS" (GCF ITAP, December 2016)¹⁵.</p> <p>Barriers to private sector. Private sector investment in Nauru is very limited. There are no major international banks present in Nauru. The only banking facilities in Nauru is one agency office of Bendigo Bank (a regional Australian bank), which provides limited commercial banking services. There is no Nauru national bank and no options of raising finance locally. There are significant barriers to attracting private sector investment to Nauru.</p> <p>SIDS status and vulnerability: Nauru is a small island development state and is highly vulnerable to external economic and climatic shocks. Nauru is classified as a fragile and conflict-affected situation (FCAS).</p>			
		<p>Total Requested (i+ii+iii+iv+v+vi)</p>	<p>\$30.0 million</p>	<p>million USD (\$)</p>	
	<p>(c) Co-financing</p>	<p>Financial Instrument</p>	<p>Amount</p>	<p>Currency</p>	<p>Name of Institution</p>
		<p><u>Grant</u></p> <p><u>Grant</u></p>	<p>\$4 million</p> <p>\$4 million</p>	<p>million USD (\$)</p> <p>million USD (\$)</p>	<p>ADB</p> <p>Gov</p>
		<p>Lead financing institution: Asian Development Bank</p>			
	<p>(d) Covenants</p>	<p>To be determined during preparation of feasibility studies.</p>			
	<p>(e) Conditions precedent to disbursement</p>	<p>The GCF grant proceeds administered by ADB will be disbursed in accordance with the procedures set out in ADB's <i>Grant Disbursement Handbook</i> (2007, as amended from time to time), and detailed arrangements agreed upon between the Government and ADB. Pursuant to ADB's <i>Safeguard Policy Statement (2009)</i> (SPS), ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the SPS. All financial institutions will ensure that their investments are in compliance with applicable national laws and regulations and will apply the prohibited investment activities list to the components financed by ADB. Additional conditions will be determined during preparation of feasibility studies.</p>			

¹⁴ ADB, FCAS Resource Center, ADB Developing Member Countries Identified as Fragile and Conflict-Affected Situations, 2016, <http://fragilesituations.adb.org>

¹⁵ GCF/B.15/13/Add.16/Rev.01n (December 2016)

D. Expected Performance against Investment Criteria	
Please explain the potential of the Project/Programme to achieve the Fund's six investment criteria as listed below.	
<p>D.1. Climate impact potential <i>[Potential to achieve the GCF's objectives and results]</i></p>	<p>Mitigation: The Project is estimated to reduce emissions by 9,500 tons of CO_{2e} on an annual basis or 240,000 tons of CO_{2e} over the lifetime of the project.</p>
<p>D.2. Paradigm shift potential <i>[Potential to catalyze impact beyond a one-off project or programme investment]</i></p>	<p>Paradigm shift</p> <p>The Project will support a paradigm shift from fossil fuel based power generation to sustainable renewable energy through the following mechanisms;</p> <p>Technical sustainability. Nauru is currently at 2% renewable integration and plans to increase this to 5%. As renewable energy levels increase, integration becomes more technically difficult and requires storage systems (batteries) and integration software. This requires a step change in operation and maintenance capacity within the utility. The Project will provide all the necessary components to transition NUC to a point they can operate and maintain high levels of solar power integration. The Project will provide the solar generation infrastructure, the auxiliary systems to allow high penetration levels (software, communication systems), as well as the training to develop capacity to operate and maintain the expanded system. The Project will provide the scale of investment to get NUC to a point where they can technically manage future increases in solar power without external support.</p> <p>Financial Sustainability. Nauru will not be able to achieve its national renewable energy targets or significantly upscale renewable energy by relying on traditional financing sources, which is limited to small, unreliable sources of grant financing from bilateral and multilateral sources. Business as usual means Nauru cannot access the significant cost savings available from conversion to solar power. To address this long-term investment barrier, the Project will establish an infrastructure sinking fund, which will partially capture the savings from lower generation costs provided by solar. The fund will then finance incremental increases in solar generation and capacity and battery storage beyond 50% integration. In this way, the savings offered by the Project will be used to ensure a sustainable paradigm shift for future investments in renewable energy.</p>
<p>D.3. Sustainable development potential <i>[Potential to provide wider development co-benefits]</i></p>	<p>Environmental: The anticipated environmental benefits include (i) reduced localized air pollution due to reduced diesel power generation, and (ii) reduced risk from diesel spills resulting in less land and water contamination.</p> <p>Economic: Increased reliability and reduced cost of electricity generation will support local business and economic development. The reduced imports of fossil fuel facilitates the reduction of Nauru's trade imbalance as well as increased energy security due to reduced exposure to international oil price volatility.</p> <p>Gender: A gender assessment will identify needs and opportunities and set out the required actions through the Gender Action Plan (GAP).</p>
<p>D.4. Needs of recipient <i>[Vulnerability to climate change and financing needs of the recipients]</i></p>	<p>While Nauru is less vulnerable to cyclones, it has significant vulnerabilities with climate change, such as rising sea levels, extreme tides, and coastal erosion, that threaten assets in the coastal zone. Rising sea temperatures may also threaten fishing revenue. Nauru has identified these challenges and incorporated them into the <i>National Sustainable Development Strategy (NSDS) 2005–25</i>, and the <i>Framework for Climate Change Adaptation and Disaster Risk Reduction, 2014</i>.</p>

<p>D.5. Country ownership <i>[Beneficiary country ownership of project or programme and capacity to implement the proposed activities]</i></p>	<p>Country Ownership. Country ownership of the proposed Project is strong, as evidenced by:</p> <ul style="list-style-type: none"> (i) The Project is included in the <i>Nauru Energy Road Map 2014-2022</i>.¹⁶ (ii) The proposed subproject is fully in line with the Nauru Intended Nationally Determined Contribution (iNDC) under the United Nations Convention on Climate Change.¹⁷ The iNDC states that the “<i>key mitigation intervention is to replace a substantial part of the existing diesel generation with a large scale grid connected solar photovoltaic (PV) system which would assist in reducing the emissions from fossil fuels</i>”¹⁸. (iii) Government has included the Project in the <i>ADB Country Operations Business Plan 2016-2018</i>, including allocation of \$4 million grant from the country allocation.¹⁹ (iv) Government and NUC are currently making investments into the proposed solar farm by establishing long term leases on the proposed land, and constructing transmission lines to the site. (v) Government has signed a No-Objection Letter for the Project. <p>Capacity to implement. NUC has reasonable capacity to implement the proposed Project, with support from external consultants. NUC are currently implementing the ADB administered Electricity Supply Security and Sustainability Project, funded by ADB (\$2 million grant), European Union (\$2.7 million grant), and Government of Australia (\$4.74 million grant). Due to relatively shallow staffing levels (typical of small utilities), NUC will require support from external consultants during the implementation phase.</p>
<p>D.6. Effectiveness and efficiency <i>[Economic and financial soundness and effectiveness of the proposed activities]</i></p>	<p>Recent financial and economic assessments for similar projects indicate that the Project would be financially and economic viable, however this will be assessed during preparation of the feasibility study.</p>

E. Brief Rationale for GCF Involvement and Exit Strategy

<p><u>Rational for GCF involvement</u></p> <p>The rationale for GCF involvement includes the following:</p> <ul style="list-style-type: none"> (i) The Project will increase renewable energy integration to an estimated 50% and significantly decarbonize the economy and lower CO_{2e} emissions. (ii) The Project will establish renewable energy as (i) technically sustainable through training and auxiliary systems to allow high penetration levels (software, communication systems etc), and (ii) financially sustainable through development of an infrastructure sinking fund. (iii) Nauru’s transition to renewable energy is currently reliant on availability of grant funding from bilateral and multilateral sources, which is unreliable, and amounts are relatively small. Without support from GCF, Nauru will continue to predominantly generate with diesel, will not be able to meet the national target of 50% by 2020, and will only move slowly towards realising benefits from increased renewable energy penetration. <p><u>Exit Strategy</u></p> <p>Once constructed, the Project will be owned and operated by the national power utility (NUC). Operation and maintenance will be financed through collection of tariffs. The Project will include capacity building of NUC to ensure technical</p>
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¹⁶ Nauru Energy Road Map, 2014-2020.

¹⁷ Republic of Nauru, Intended Nationally Determined Contribution (iNDC) Nationally Determined Contribution (NDC) under the United Nations Convention on Climate Change

¹⁸ Note that the Nauru iNDC states an investment requirement of \$42 million to cover the target solar installation.

¹⁹ 2015, *Nauru Country Operations Business Plan, 2016-2018*, Manila

sustainability. The Project will establish a infrastructure sinking fund, which will ensure financial sustainability for asset replacement and expansion. The Government recognises the need for reform and has made significant progress on sector reform and further reform has been identified. This will be outlined in the full GCF proposal.

F. Risk Analysis

Operational/financial risks

A full risk assessment is being undertaken as part of the feasibility study preparation and due diligence, however an initial risk assessment indicates the following.

Risk	Mitigation Measures or Risk Management Plan
1. Delays in land acquisition result in delays to construction.	Negotiations for lease of the proposed solar park are advanced and are expected to be concluded prior to GCF Board approval.
2. Low capacity of local contractors.	While there is a small local contracting industry in Nauru, it is anticipated that international contractors will be required for construction.
3. Low capacity within NUC	NUC has undertaken significant reform over recent years and has experience in managing development partner funded infrastructure programs. However, due to the small size of the utility, depth of capacity is limited. In order to address this issue, international consultants will be engaged to support NUC through the tendering and construction supervision phases. Training will be provided to develop capacity within NUC for the operation and maintenance phase.

Environmental and social risks

The project is being developed in accordance with ADB procedures and rules, notably ADB's *Safeguard Policy Statement (2009)*. The project is expected to be categorised as Category B for environment and for involuntary resettlement and Category C for indigenous people. A team of experts has been mobilized to confirm these categories and undertake due diligence assessment.

With regards to environment, Category B means "few, if any, potential adverse impacts that are site-specific, and, if any, are irreversible, and mitigation measures can be designed readily". To address and mitigate these risks, an Initial Environmental Evaluation (IEE) and Environmental Management Plan will be prepared. This will set out the potential adverse environmental impacts of the activities, and the measures to be taken to manage and to mitigate them.

With regards to involuntary resettlement, if Category B, a Land Acquisition and Review Framework (LARF) will be prepared. This will outline social safeguard procedures to follow. A Resettlement plan will also be prepared, which will describe the population affected by resettlement, and will describe how they are to be assisted. There is currently no one living on the proposed land for the Project and the land is not being used for productive means.

For indigenous people, Category C means the project is not expected to have impacts on indigenous peoples and no further action is required.

G. Multi-Stakeholder Engagement

Significant stakeholder engagement has taken place in development of the Project proposal, including:

- (i) Government has consulted broadly with landowners during lease negotiations.
- (ii) Broad Government consultations were undertaken prior to the Project being included in the (i) *Republic of Nauru Energy Road Map 2014-2020*, (ii) *ADB Country Operations Business Plan*²⁰, and (iii) the Nationally Determined Contribution (NDC) under the United Nations Convention on Climate Change.²¹
- (iii) Nauru GCF focal point has consulted broadly within Government regarding the Project, and
- (iv) Government and ADB have consulted with various development partners active in the Nauru energy sector.

The ongoing process to finalize the feasibility study and to undertake the due diligence will include the preparation of a stakeholder participation plan.

²⁰ 2015, *Nauru Country Operations Business Plan, 2016-2018*, Manila

²¹ Republic of Nauru, Intended Nationally Determined Contribution (iNDC) Nationally Determined Contribution (NDC) under the United Nations Convention on Climate Change

H. Status of Project/Programme

Project preparation status consists of the following:

- (i) Land has been identified for the proposed solar park and land leases signed for some portions.
 - (ii) Financing has been secured for transmission lines and contracting commenced.
 - (iii) Sector planning is complete which identifies grid-connected solar as the least cost generation option.
 - (iv) Consultants are being recruited to prepare the Project feasibility study.
 - (v) Co-financing has been identified (ADB \$4 million) and discussions are ongoing with additional potential co-financiers.
- 1) Please indicate whether a feasibility study and/or environmental and social impact assessment has been conducted for the proposed project/programme: Yes No (It's currently being conducted)
- 2) Will the proposed project/programme be developed as an extension of a previous project (e.g. subsequent phase), or based on a previous project/programme (e.g. scale up or replication)? Yes No

I. Remarks

No comment

J. Supporting Documents for Concept Note

- Map indicating the location of the project/programme (To be included in a final proposal)
- Financial Model (To be included in a final proposal after completion of the feasibility assessments)
- Pre-feasibility Study
- Feasibility Study (if applicable) (To be included in a final proposal after completion of the feasibility assessments)
- Environmental and Social Impact Assessment (if applicable) (To be included in a final proposal after completion of the feasibility assessments)
- Evaluation Report (if applicable)