

## PILOT PROGRAM FOR CLIMATE RESILIENCE

### Summary Phase 1 Grant Proposal

1. Country/ Region:	Tonga/Pacific	2. CIF Project ID #:	(Trustee will assign ID)
3. Date of First Joint Mission	Week of 15 <sup>th</sup> May 2010		
4. Funding Request	\$250,000		
5. Type of Request	Accelerated funding for phase 1: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
6. Multilateral Development Banks/focal points:	<p><i>Asian Development Bank (Lead)</i></p> <p><i>World Bank Group</i></p>	<p><i>Anne Witheford – Governance Specialist &amp; Pacific Climate Change Team, Pacific Department</i></p> <p><i>Samuel Wedderburn, East Asia Social, Environment and Rural Sustainable Development Unit (EASER), WBG</i></p>	
7. National Implementing Agency: Ministry of Environment and Climate Change (MECC) National Focal Points: Ministry of Finance and National Planning (MoFNP) and MECC			
8. Project Description:			
<p>(i) <b>Key development challenges</b> (vulnerability) related to climate change/variability:</p> <p>Tonga is an archipelago of 170 small islands, prone to tsunamis and floods. Tonga’s Initial National Communication identified that all sectors are likely to be affected by climate change, with key impacts on agricultural production, water supply and coastal resources. The flow on social and economic effects caused by climate change and natural catastrophes in Tonga are likely to be extreme. The important role infrastructure plays in promoting socio-economic development and the value of mainstreaming climate change into disaster risk management planning have been recognised at the national level in the Cabinet-endorsed National Infrastructure Investment Plan (NIIP) and the Joint National Action Plan on Climate Change Adaptation and Disaster Risk Management 2010-2015 (JNAP). These important initiatives provide a strong foundation for integrating climate change adaptation into development planning. Mainstreaming climate change considerations in development planning and budgeting is still at a very formative stage in Tonga. Consequently, it is vital that capacity to do this is developed and supported.</p>			
<p>(ii) <b>Areas of intervention</b> – Transformational change will be achieved by targeting climate change mainstreaming in infrastructure development and through broader whole-of-government institutional strengthening. This approach aims to build climate resilience into all key infrastructure investments. In addition, activities to build Tonga’s capacity to deal with climate change across all sectors and on each island group will be developed. The three thematic areas of action, which align to activities in the JNAP, include:</p> <ol style="list-style-type: none"> <li>1. Building or enhancing institutional capacity to mainstream climate change resilience into ‘whole of government’ and sectoral legislation, policies, plans, operational activities, including for ministries with responsibilities for the provision of infrastructure.</li> <li>2. Strengthening civil society, community and private sector engagement and enhance consideration of gender issues to support climate change resilience building; and</li> <li>3. Design the Strategic Program for Climate Resilience (SPCR) and undertake awareness raising and outreach on the impacts of climate change and importance of climate resilience planning responses.</li> </ol>			
<p>(iii) <b>Outcome:</b> Three outcomes: (i) enhanced consideration of climate resilience in the day-to-day planning, budgeting, design and construction; (ii) maximised stakeholder input in climate change resilience building across government agencies responsible for delivering infrastructure, including integration in civil society and private sector (including professional organisations); and (iii) design of the PPCR intervention Phase II (SPCR), based on the outcomes of the climate risk analyses, policy and institutional assessments, consultation processes and awareness raising.</p>			

**(iv) Key Results**

Outputs from Theme 1: (i) climate change resilience is integrated into priority sectoral legislation, policies and plans, including for ministries responsible for provision of infrastructure; (ii) capacity is built within Government ministries, including those responsible for the provision of infrastructure, (iii) a set of nationally consistent, reliable and justifiable scientific scenarios of key projected climate changes are developed; (iv) a National guideline and best practice manual to integrate climate change factors into infrastructure planning are developed; and (v) sensitivity, vulnerability and adaptation assessments of initial infrastructure projects that could be targeted for Phase II work are identified.

Outputs from Theme 2: (i) capacity needs assessment completed and approaches for effective involvement of civil society in the PPCR is developed; (ii) information products targeted at civil society and the private sector are developed; (iii) approaches for integrating gender concerns into climate change adaptation (through pilot projects) are developed.

Output from Theme 3: (i) design for a Strategic Program for Climate Resilience (SPCR) PPCR Phase II; and (ii) a web-based platform containing Phase I products and a synthesis of lessons learned.

**9. Budget (indicative)**

Expenditures	Amount (\$) – estimates
Theme 1	\$145,000
Theme 2:	\$20,000
Theme 3:	\$45,000
Project Management	\$25,000
Equipment	\$4,500
Contingency (5% of total)	\$10,500
	TOTAL: \$250,000

**Other Contributions (bilateral or private sector):**

**10. Timeframe (tentative) – milestones**

Submission for PPCR Sub-Committee approval:	September 2010
Phase I – Second Joint mission:	March 2010
SPCR for PPCR Sub-Committee approval:	June 2011



Government of Tonga  
**MINISTRY OF ENVIRONMENT AND CLIMATE CHANGE**  
P.O. Box 917, Nuku'alofa, Tonga

Telephone: General Office + (676) 25 050  
Direct Line + (676) 25 050

Fax: + (676) 25 051  
E-mail: [a\\_palaki@yahoo.com](mailto:a_palaki@yahoo.com)

Ms Patricia Bliss Guest  
Programme Manager  
Climate Investment Funds  
Administrative Unit, World Bank  
Washington, D.C., 20433, USA.

2 September 2010.

**RE: SUBMISSION OF PROPOSAL FOR TONGA'S PILOT PROGRAM ON CLIMATE RESILIENCE PHASE 1.**

The Ministry of Environment and Climate Change and Ministry of Finance and National Planning, on behalf of the Government of Tonga wish to officially submit the proposal for Phase 1 of Tonga's Pilot Program on Climate Resilience.

The proposal as it is annexed is the outcome of the consultation process between the stakeholders in Tonga and the Joint Team from the Asian Development Bank with partners from the World Bank, United Nations Development Programme, Australian Agency for International Development and DFID that took place from week of 15 May 2010 and from week of 16 August 2010.

The ultimate objectives of the mission were to develop a proposal for Phase 1 for the formulation of a Strategic Program for Climate Resilience and the analysis of key development plans, programmes, strategies and policies. These were carried out through wide consultation with key climate change stakeholders in Tonga. Furthermore, prior to the mission, stocktaking exercise of information and reviewing of all country level programs and activities relevant to PPCR were conducted.

With regards to the above the Government of Tonga wishes to proceed with the implementation of Phase 1 proposal.

Thank you and we are hopeful that this proposal will be given its fullest consideration.

Yours sincerely,

  
Asipeli Palaki  
Acting Director for Environment and Climate Change  
PPCR Focal Point  
TONGA.



  
Lesieli Tufui Faletau  
Acting Secretary for Finance  
PPCR Focal Point  
TONGA.



**Pilot Program for Climate Resilience**

**Proposal for Tonga Phase 1 Activities**



**Government of Tonga**

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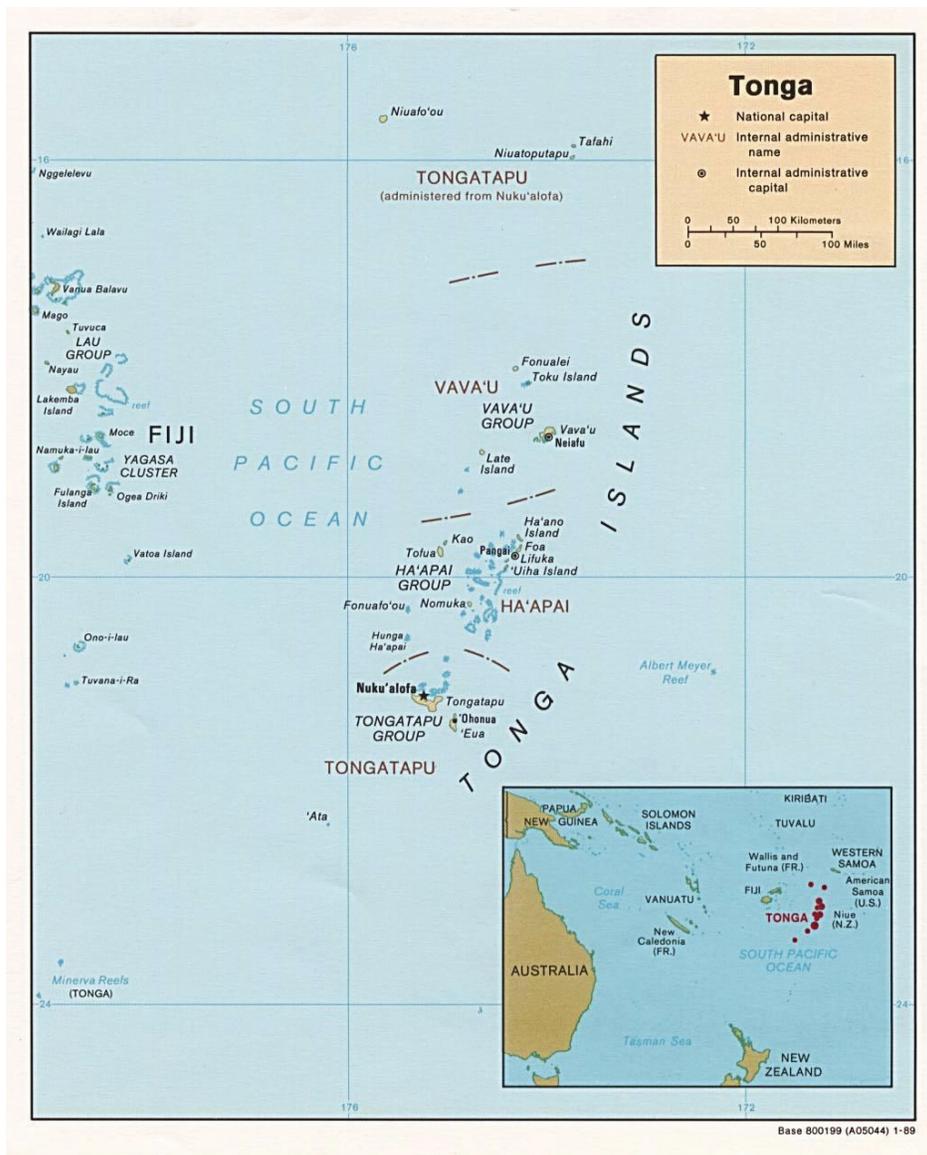
## List of Abbreviations

ADB	Asian Development Bank
CCA	Climate Change Adaptation
CCCC	Cabinet Climate Change Coordinating Committee
CER	(ADB) Country Environment Review
CROPs	Coordinating Regional Organisations of the Pacific
CSOs	Civil Society Organisations
DRR	Disaster Risk Reduction
DRM	Disaster Risk Management
EA	Executing Agency
ERC	Expenditure Review Committee
GDP	Gross Domestic Product
GEF	Global Environment Facility
HDI	Human Development Index
IFC	International Finance Corporation (World Bank Group)
IPET	Institute of Professional Engineers
ICCAI	International Climate Change Adaptation Initiative (of the Australian Government)
JICA	Japan International Cooperation Agency
JNAPCCADRM	Joint National Action Plan on Climate Change Adaptation and Disaster Risk Management 2010-2015
MAFFF	Ministry of Agriculture and Food, Forests and Fisheries
MDB	Multi-Lateral Development Bank
MECC	Ministry of Environment and Climate Change
MLSNR	Ministry of Lands, Survey and Natural Resources
MoFNP	Ministry of Finance and National Planning
MOH	Ministry of Health
NECC	National Environment Coordinating Committee
NEMO	National Emergency Management Office
NGO	Non-Governmental Organisation
MOW	Ministry of Works
NIIP	National Infrastructure Investment Plan
PRIF	Pacific Region Infrastructure Facility
NSPF	Tonga's National Strategic Planning Framework 2009-2019
SPC	Secretariat of the Pacific Community
SPCR	Strategic Program for Climate Resilience (PPCR Phase II)
SPREP	Secretariat of the Pacific Regional Environment Programme
TCCI	Tonga Chamber of Commerce and Industry
TWB	Tonga Water Board
TWG	Technical Working Group of Climate Change
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States Dollar
V&A	Vulnerability and Adaptation
WBG	World Bank Group

# I OVERVIEW

## I. Country Context-Geography and Socioeconomic Situation

1. Tonga is an archipelago of some 170 small islands, 36 of which are inhabited, spread over an ocean area of 360,000 square kilometers (km<sup>2</sup>) lying between the Coral Sea and the South Pacific Ocean. It has a total land area of 750 km<sup>2</sup> and population of just over 101,000. Tonga is located in the 'Pacific Ring of Fire', having active volcanoes, earthquakes and mudslides. Tonga's coastal areas are prone to tsunamis and floods.



1. Tonga's commercial production and exports are dominated by a few primary products (squash, fish and vanilla), making the economy vulnerable to changes in export markets and supply conditions, while consumption and investment needs are met largely by imports, which comprise more than 60% of Tonga's GDP.

2. Tonga has a number of advantages including (i) fertile land; (ii) extensive marine resources, including an exclusive economic zone of some 700,000 km<sup>2</sup>; (iii) a relatively well-educated English-speaking workforce; and (iv) political stability. Tonga also has a large emigrant population that maintains close ties with families in country, and possesses savings, market connections and entrepreneurial talent. Tonga's ranking on the Human Development Index (HDI) is 99 out of 182 countries. The ranking is the result of a high adult literacy rate (99%), a high gross enrolment rate in primary and secondary school (78%), high life expectancy (71 years), and relatively high GDP per capita (\$3,748).<sup>1</sup>

## II. Participatory process followed in preparing the proposal

3. **First Joint Mission.** Following a November 2009 scoping mission, Phase 1 preparation commenced with the First Joint Mission held in the week of 15 May 2010. The ADB and WBG/IFC, UNDP, AusAID and DFID participated. During the mission, separate consultations were held with representatives from government, development partner agencies, civil society organisations, non-government organisations (NGOs) and the private sector. The key purpose of consultations was to take stock of current climate change adaptation activities in country, assess opportunities for mainstreaming climate change adaptation in national planning/budgetary processes, and to identify the scope of activities and implementation arrangements for PPCR Phase 1. The Aide Memoire for the joint mission can be downloaded from the CIF Website.<sup>2</sup> This was followed by additional detailed technical consultations with the same stakeholders in the week of 16 August 2010.
4. **Government Processes.** In the months after the initial scoping mission and First Joint Mission, MECC and MoFNP, with the support of ADB/WBG, carried out additional consultations with representatives from government agencies through the broad mechanism of the climate change Technical Working Group (TWG). These discussion outcomes have directly contributed to the design of this proposal.
5. **Private Sector Engagement.** A selected number of Tongan private sector representative bodies were engaged with during the First Joint Mission and afterwards. The Tonga Chamber of Commerce and Industry (TCCI) was interested in exploring climate change awareness raising and training activities for its members (approximately 150 private sector organisations), through the PPCR. The TCCI is also able to work with the overall umbrella group of private sector representative organisations in Tonga, such as those representing the agricultural sector, tourism sector, fishery sector and manufacturing sector. The TCCI is currently finalising the establishment of a dedicated training business education centre, with support from the New Zealand government. This will be an industry training centre in Tonga, focused on the priority needs of industry, and is due to open in October 2010. The TCCI expressed interest for including a dedicated climate change awareness-raising program within the new centre's events calendar. In addition, the TCCI has established a public-private dialogue process that occurs four times each year. There is scope for ensuring the continued dialogue process at a high

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<sup>1</sup> 2009 United Nations Development Program Human Development Report

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[http://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/tonga\\_joint\\_mission\\_report\\_062410.pdf](http://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/tonga_joint_mission_report_062410.pdf)

level between representatives of private sector organisations and senior officials in government, to discuss climate change issues and promote the work of the PPCR.

6. The Institution of Professional Engineers Tonga (IPET) is currently being formed and is likely to be formally constituted in late 2010 or early 2011. At present, IPET is a branch of the South Pacific Association of Engineers. While there is a small number of potential members in Tonga (estimated 15 professional engineers, 25–30 diploma level and technical engineering staff, and an unknown number of potential affiliates), the IPET members consulted stressed the importance of working with the PPCR to ensure that climate change adaptation is understood by its members and good practice is promoted within the government agencies responsible for infrastructure planning and delivery. IPET confirmed that during Phase 1, it is willing to further discuss opportunities to work with the PPCR to establish training and capacity building activities. At present, there is a low level of understanding of climate change issues in Tonga and particularly with regard to the practical implications of incorporating climate change considerations into infrastructure engineering.
7. **Civil Society Consultations.** A Roundtable meeting was convened with Civil Society Organisations (CSOs) during the First Joint Mission attended by representatives from key local CSOs. Subsequent consultations with CSOs confirmed the importance of ensuring that CSOs are closely involved in Phase I, given their long history of working closely with Tongan communities. The CSOs highlighted the importance of valuing traditional Tongan culture and community roots in the design of development assistance projects. This would ensure more effective engagement with communities in sites chosen during PPCR Phase II for climate resilience building work.
8. **Development Partner Consultations.** In addition to UNDP, AusAID and DFID participation in the First Joint Mission, extensive consultation with Development Partners was undertaken through roundtable meetings held prior to and during the First Joint Mission and through subsequent discussions, including updates to the Suva-based Development Partners Climate Change Group which includes China. These included discussions with the World Bank Group, ADB, UNDP, AusAid and JICA and others. Discussions focussed on ensuring donor harmonisation on climate change adaptation work and for the PPCR to work within existing institutional structures, recognizing the importance of whole-of-government implementation, and building on current and pipeline development projects and programmes identified during Phase I.

### III. Key climate change issues in Tonga

#### Climate Diagnostics

9. **Tonga's Initial Communication to the United Nations Framework Convention on Climate Change (UNFCCC)** reported that all sectors are likely to be significantly affected by climate change, with major environmental, economic and social consequences. Particular concerns included impacts on agricultural production, water supply and coastal resources. Tonga's Second National Communication, which is scheduled for cabinet approval in late September or early October 2010 and subsequent submission to the UNFCCC, reinforces Tonga's extreme vulnerability to climate change.

10. Tonga is highly vulnerable to climate change and natural disasters, especially on the outer islands. The effects of climate change have exacerbated naturally occurring phenomenon, such as earthquakes, volcanic eruptions, tsunamis, cyclones, coastal flooding and droughts. Low-lying areas of the islands are affected by rising sea levels, with extensive tidal flooding affecting coastal villages, particularly on Nuku'alofa. Impacts of sea level rise will be significant for ground water supplies and agricultural production. In addition to sea level rise, coastal erosion is a critical issue for Tonga. The increased denudation of mangroves and coastal trees, illegal mining of beach sands and off-shore sand dredging for construction purposes, as well as live coral removal, have also had some impact on coastal infrastructure.
11. The flow-on social and economic dislocation that could be caused by a natural catastrophe in a small island nation is extreme. Tonga's vulnerability to climate change is further increased by the fact that its economy is based largely on agriculture. Over 58% of economically active Tongans are reliant on primary production for their livelihoods. Industries such as tourism, fisheries and forestry are also important contributors to GDP and would be adversely impacted by projected change in climate and sea level rise.

### **Institutional Arrangements and Strategic Coordination**

12. PPCR interventions will align with ongoing national development in climate change adaptation and disaster risk management. A well-defined programmatic approach should encourage donor coordination under the PPCR umbrella. Furthermore, the PPCR aims to harmonize with existing government and development partner adaptation/disaster risk management initiatives.
13. Cabinet officially approved a whole of government strategy for climate change adaptation and disaster risk management for Tonga on 28 July 2010. The Ministry of Environment and Climate Change (MECC) and National Emergency Management Office (NEMO) within the Ministry of Works (with input from a broad number of ministries) developed the *Joint National Action Plan on Climate Change Adaptation and Disaster Risk Management 2010-2015* (JNAPCCADRM – JNAP for short), with SPREP and SOPAC assistance<sup>3</sup>. The six strategic goals in the JNAP include the following relevant for CCA/DRM: (i) improved good governance (mainstreaming and strengthening institutional policy frameworks); (ii) enhanced technical capacity and awareness; (iii) improved analysis/assessments; (iv) enhanced community preparedness and resilience; and (v) strong partnerships across government and with NGOs/civil society. In addition to these issues, the mission consultations revealed that food security, health impacts (dengue and other vector borne diseases) and information/data gaps are also priority concerns.
14. The main institutional responsibility for climate resilience lies within the environment portfolio. In 2007, a broader high-level Cabinet Committee on Climate Change was formed, and includes the Ministers for Environment (Chair), Finance, Transport, Works, Justice and the Attorney General, with MECC as the secretariat. In 2004, Cabinet also approved the establishment of the National Environment Coordinating Committee (NECC) to coordinate all existing and future donor funded projects/programmes including climate change. It functions as the advisory body to all environmental projects.

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<sup>3</sup> Copies of the JNAP can be obtained from MECC.

NECC consists of twelve (12) members and is chaired by the MECC. Other members include Head of Government Ministries/Departments (Lands, Survey and Natural Resources, Finance, Agriculture and Food, Forestry and Fisheries, Labor, Commerce and Industries, Foreign Affairs, Health, Solicitor General), NGOs and Project Coordinators (secretariat).

At the working level, the MECC acts as a central coordinating point for climate change issues. In terms of whole of government involvement in climate change matters, there is a technical working group (TWG) that provides some input from other ministries, such as the Tonga Meteorological Services, Ministry of Lands, Survey and Natural Resources, National Emergency and Management Office, Ministry of Agriculture and Food, Forestry and Fisheries, Ministry of Health, Tonga Water Board and Climate Change Coordinator as the secretariat.

15. To date, there has been limited attention given beyond MECC with respect to climate risk concerns in national and sector policy planning and budgetary processes or in the design of individual projects. However, in recent months, efforts have been taken to incorporate climate change considerations, primarily at the national strategic level, with the preparation of the draft JNAPCCADRM as outlined above. There have been initial ad hoc ideas on mainstreaming, for example ensuring incorporation of DRM aspects in local building codes, but this has yet to receive CEO or Cabinet level endorsement, and any such efforts focussed on implementation are likely to be severely resource-constrained. On the budgetary side, MECC is planning to present the JNAP to the Cabinet Climate Change Coordinating Committee (CCCC) and also to Tonga Government's Expenditure Review Committee (ERC) for the MECC July 2011-June 2012 budget proposal. Therefore, climate risk management is still to be integrated holistically into policy, planning, and budgetary processes. There is limited budget to meet even current priority development needs let alone the cost of adaptation. Additionally, limited understanding of climate risks and a lack of technical capacity to integrate climate risk management into planning processes further make this difficult.
16. The Tonga National Infrastructure Investment Plan (NIIP) is nearing completion. The NIIP team plan to incorporate comments received on a final draft and complete the report by the end of September 2010. It will then be scheduled for Cabinet consideration in October following review by the Project Aid Coordination Committee. The NIIP outlines the Government of Tonga's priorities and plans for major infrastructure initiatives over the next 5 to 10 years and was drafted through the Pacific Region Infrastructure Facility (PRIF), a multi-partner infrastructure coordination and financing mechanism, in which Tonga is an active participant. This is the first NIIP and it is Government's intention that the Plan will be regularly updated as part of the national planning and budgeting process. The Plan covers infrastructure initiatives with national, regional or local significance, and presents a detailed plan for the period 2010 to 2015 and broad directions for infrastructure development for the period 2015 to 2020. It is the result of extensive consultation with infrastructure managers, users and funding partners. Key drivers for the NIIP are shown below.

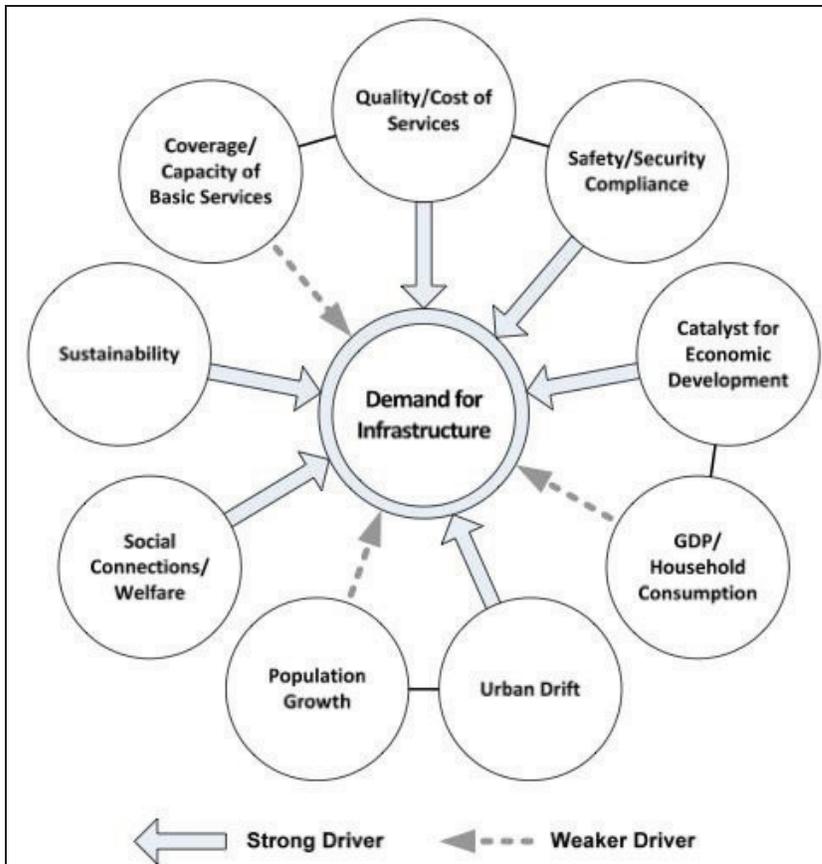


Figure 1 Key infrastructure demand drivers identified in the Government of Tonga's NIIP.

17. Importantly, a primary outcome of the NIIP is “the need to integrate environmental sustainability and climate change into all planning and delivery of programs (p.3).” Specifically, under the second component of the Multi-sector Programme (M2) climate change adaptation is a priority initiative that is currently uncoded.
18. Further, the NIIP stresses (p 23): “Overall, structural change and changing the way that people think about, plan for and use infrastructure are at the heart of sustainable infrastructure. These can be influenced by using resources more efficiently; considering alternatives during planning; life cycle costing; appropriate urban planning; **adapting for climate change**; and **educating consumers** of infrastructure services.”
2. Cooperation arrangements with other development partners
19. Proposed PPCR Phase I activities will be coordinated with development partners through the dual mechanisms of ongoing stakeholder consultations and coordination mechanisms employed for the project.
20. Currently, there are numerous of climate change activities supported by development partners in Tonga. These activities include: Australian support (through the ICCAI) for improved scientific information and understanding, strategic planning and vulnerability assessments, and implementing, financing and coordinating adaptation measures;

UNDP/GEF support of National Communications to the UNFCCC, Pacific Adaptation on Climate Change, Programme of Work on Protected Areas, Sustainable Land Management Project and associated activities; European Union and JICA support for renewable energy development; ADB support for regional climate change initiatives through its Pacific Climate Change Program; the GTZ/SPC regional climate change project that focuses on the sustainable management of land-based resources; and World Bank Group support for a number of regional and specific climate change projects with a focus on infrastructure and capacity building. Further details on development partner activities with respect to climate change, DRR and infrastructure provision are provided in the Aide Memoire of the First Joint Mission.

21. The suite of development partner activities with a specific Tongan focus, together with regional initiatives in which Tonga is involved, provides a solid platform for developing PPCR Phase I activities. Furthermore, this ensures coordination with other climate change resilience building projects in Tonga. For example, PPCR synergies with the development of enhanced regional climate change scientific capacity will provide a solid basis for the development of practical decision-focused outputs during Phase I.

## **II PPCR Linkages to National Processes**

22. The concept for the PPCR in Tonga is to weave together relevant strands from the JNAP and NIIP (and other key government strategic planning documents) into a solid platform for climate resilience-building efforts. Now is an ideal time to do this weaving with the concurrent finalization of the JNAP and NIIP (see paragraphs 15 and 16 above). The Government of Tonga can also use the PPCR design process in Phase I to weave in the current adaptation initiatives being undertaken by the government and CSOs, with support of regional organizations and through programs supported by development partners (see Aide Memoire from First Joint Mission for further information about current programs).

Table 1 Alignment of PPCR Phase 1 Activities with the JNAP

Proposed PPCR Phase I Activities	Joint National Action Plan (section numbers in parentheses) Key actions
<p>Component I: Enhance institutional capacity to mainstream climate change resilience and disaster risk management into whole of government and sectoral legislation, policies, plans, and budgetary processes, including ministries responsible for provision of infrastructure.</p>	<p>(1.8) Assess and implement institutional and policy strengthening needs of the TWB/MOH/MLSNR to improve water governance in urban areas/villages and outer islands.</p> <p>(2.4) Develop an integrated information system to manage temporal and spatial information on climate change and disaster risk. May be addressed at a regional level (e.g. SOPAC, SPREP).</p> <p>(3.1.3) Strengthen capacity in running, interpretation and application of climate change models.</p> <p>(4.5) Incorporate water, food hygiene, and sanitation management in disaster preparedness plans.</p>
<p>Component II: Strengthen civil society, community and private sector engagement and gender considerations of climate change resilience building.</p>	<p>(2.5) Provide targeted and long term community awareness programmes on CCA and DRM issues, vegetation/watershed services and functions in relation to CCA and DRM.</p> <p>(2.6) Develop and implement public awareness programme on climate change and related diseases.</p> <p>(6.2) Build partnership with civil society groups, NGOs and private sector to implement the National Emergency Management Plan.</p>
<p>Enhance capacity for identification of vulnerable areas and prioritization of adaptation measures.</p>	<p>(3.10) Assess water resource capacity in urban centres, villages and outer islands.</p> <p>(3.13) Strengthen capacity in running climate change models, interpretation of the models and application of climate change models.</p>
<p>Component III: Prepare a detailed design for Strategic Program for Climate Resilience (SPCR), awareness raising and outreach on the impacts of climate change and importance of climate resilience planning responses.</p>	<p>(3.9) Improve/develop roadside drainage systems.</p> <p>(5.2) Improved energy security.</p>

### III. Strengthening National Level Climate Resilience and Enhancing PPCR Implementation

23. The Government of Tonga, after considering the objectives of the PPCR and the priorities outlined in the JNAP, NIIP and other key national development planning documents, has chosen to focus the PPCR intervention on delivering ‘transformational’ change, through an approach of **‘interweaving climate change and infrastructure development’**. This approach builds on the **‘infrastructure plus’** developed during the First Joint Mission. This approach aims to build climate resilience of priority infrastructure investments in Tonga.
24. Infrastructure in sectors identified in the NIIP will be addressed by **‘interweaving climate change and infrastructure development’** through a well-defined prioritisation process that will build on the prioritisation process used in NIIP development (see Para 16). In addition to the climate proofing of individual infrastructure elements, it is intended that there will be a number of related activities to build Tonga’s overall capacity to deal with climate change across all sectors and on each island group. These will include the development of specific standards, building and infrastructure codes, and the government financial mechanisms to ensure transparent disbursement of climate-proofing investments. This will enable the Government of Tonga to weave climate resilience into its own investments as well as those supported by development partners, including MDB investments.
25. An initial assessment of externally funded projects that could be subject to climate-proofing activities was undertaken through the initial activities of the ADB Country Environmental Review (CER) – Tonga (see Appendix 1). This assessment was undertaken in August 2010 as part of the CER mission to Tonga and is based on the NIIP, which shows investments (underway, committed, or planned) by external agencies (excluding government or state enterprise funded investments) (2010-2020). The tables presented in Appendix 1 provide an indication of potential climate-proofing projects that could be subject to extensive analysis during Phase I. These tables do not include government infrastructure investments that will also be included in Phase I analysis for climate-proofing potential. Further details on the proposed approach for identifying potential Phase 2 projects through a transparent multi-criteria assessment process (that builds on the NIIP process under PRIF processes) will be developed early in Phase I, in consultation with regional organisations and development partners.
26. Tonga PPCR activities are part of the broader PPCR Pacific regional pilot which comprises four components, three country-specific activities in PNG, Tonga and Samoa and region-wide activities covering all 14 Pacific participating countries.<sup>4</sup> In addition to Tonga-specific PPCR activities, Tonga will also benefit from region-wide PPCR activities that include sharing of lessons learned and best practices, capacity – building to support climate resilience in national and regional planning, and other such regional initiatives. In turn, the Pacific region will benefit from lessons and experience gained from Phase I PPCR activities in Tonga.

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<sup>4</sup> Fiji Islands, Kiribati, Marshall Islands, Federated States of Micronesia, Palau, Samoa, Solomon Islands, Tonga, Vanuatu, Cook Islands, Nauru, Papua New Guinea, Timor-Leste and Tuvalu

#### **IV. Outline of Key Action Areas in preparing the Strategic Program for Climate Resilience (SPCR)**

27. There are three thematic action areas proposed for the preparation of the SPCR. The starting point for PPCR interventions will be the JNAP and NIIP through the approach of interweaving climate change and infrastructure development (see Para 15 and 16).
28. The three themes under this approach were developed through a consensus building process during the PPCR First Joint Mission to Tonga (week of 15 May 2010), which involved consultations between government, mission leaders (ADB/WBG/UNDP/AusAID/DFID), civil society and the private sector. These are described in turn below:

**Theme 1: Building or enhancing institutional capacity to mainstream climate change resilience and disaster risk management into ‘whole of government’ and sectoral legislation, policies, plans, operational activities; including selected ministries with responsibilities for the provision of infrastructure.**

29. **Immediate Outcome 1:** Enhanced consideration of climate resilience in the day-to-day planning, budgeting, design and construction activities of the Tonga Government.

30. Key Outputs under Theme 1 are:

- I. The process of integrating climate change resilience into priority sectoral legislation, policies and plans, including those responsible for provision of infrastructure is initiated.
- II. Capacity-building initiated in Government ministries, including those responsible for the provision of infrastructure; climate change resilience is integrated into budgetary systems at the central agency level, including financial allocations and reporting mechanisms. Capacity is built through short-courses, workshops and related training material.
- III. A strategic-level set of nationally consistent, reliable and justifiable scientific scenarios of key projected climate changes initiated, to ensure harmonization of climate change resilience building across all government sectors.
- IV. A national guideline and best practice manual to integrate climate change factors into infrastructure planning is developed.
- V. Sensitivity, vulnerability and adaptation assessments of initial infrastructure projects that could be targeted for PPCR Phase II work are identified. These would build on the proposed vulnerability and adaptation initiatives targeted by the Government for Australian support and regional assessment activities.

**Theme 2: Strengthening civil society, community and private sector engagement and enhancing consideration of gender issues to support climate change resilience building.**

31. **Immediate Outcome 2:** Maximised stakeholder input in climate change resilience building across government agencies responsible for delivering infrastructure, including integration of civil society and private sector (including professional organisations) and consideration of gender issues.

32. Successful mainstreaming of climate change resilience building in Tonga will require broad stakeholder support and must ensure that the needs and concerns of key stakeholder groups, including women, are addressed.

33. Key Outputs under Theme 2 are:

- I. Capacity needs assessment completed and approaches for effective involvement of civil society in the PPCR is developed.
- II. Development of information products targeted at civil society and the private sector.
- III. Development of approaches for integrating gender concerns into climate change adaptation (through pilot projects: see Output 1.5).

**Theme 3: Designing the Strategic Program for Climate Resilience (SPCR) and awareness raising and outreach on the impacts of climate change and importance of climate resilience planning responses.**

34. **Immediate Outcome 3:** Design of the PPCR intervention Phase II (SPCR), based on the outcomes of the climate risk analyses, policy and institutional assessments, consultation processes and awareness raising, as outlined in components 1 and 2 above. Phase II will focus on implementing the SPCR through actions such as: supporting policy reform; institutional strengthening; and scaling up investments in key sectors. This outcome will also include actions to improve Government (at national, provincial and local levels), civil society and the private sector capacity to address climate resilience in infrastructure planning, design, construction and maintenance to meet national development objectives.
35. Theme 3 is anticipated to involve significant outreach activities, in conjunction with the design of the SPCR. Outreach components will likely include the development of a specific web- based information hub for improved access to climate and relevant sector data. The web system will ensure rapid information sharing with regional climate change adaptation platforms, such as that currently being delivered by the Coordinating Regional Organisations of the Pacific (CROPs), led by the Secretariat of the Pacific Regional Environment Programme (SPREP). Linking to global adaptation learning platforms, such as the Asia Pacific Adaptation Network and Adaptation Learning Mechanism will also be part of the system design. Outreach will include national learning events, linked to activities undertaken under Themes 1 and 2.
36. Key Outputs under Theme 3 are:
  - I. A Strategic Program for Climate Resilience (SPCR) design for PPCR Phase II actions for SPCR in priority sectors and regions.
  - II. A web-based platform containing Phase I products (including all information products) and a synthesis of lessons learned that can also be shared on regional adaptation learning platforms.

**V. Main PPCR Implementation Risks and Mitigation strategies**

37. There are risks to PPCR implementation in Tonga. These risks, together with proposed mitigation actions, are detailed below:
  - I. Weak coordination between implementing agencies. Mitigation strategy: promote effective coordination between agencies, including through clearly specified roles and responsibilities and appropriate mechanisms.
  - II. Low willingness of key agencies to work together in full cooperation to achieve Phase I objectives. Mitigation strategy: Utilize existing coordination mechanisms established at national levels under the climate change Technical Working Group and other appropriate mechanisms, strengthened as necessary.
  - III. Potential delays in Phase I implementation due to November 2010 general elections and related requirements to brief the incoming Government on PPCR activities. Mitigation strategy: work closely with existing and post-November 2010

Government, including senior decision makers, to encourage implementation of Phase I activities in a timely and effective manner.

## **VI. Implementation Modalities for Phase 1**

38. The Ministry of Environment and Climate Change (MECC), combined with MoFNP, will be responsible for coordination of PPCR implementation across Government, and for overall PPCR program monitoring and oversight. These agencies will also act as key focal agencies. The MECC will report to the Cabinet Committee on Climate Change (CCCC) for approval and endorsement of the PPCR program. The Technical Working Group (TWG) for Climate Change (comprised of technical experts from government, NGOs and statutory boards) and the PPCR working level focal points (MoFNP and MECC) will work to ensure that inputs from other ministries at the working level are incorporated.
39. It is vital for PPCR success that political leadership on a whole of government cross sectoral climate change adaptation mainstreaming approach comes from the highest level of government through the CCCC. It is equally important that key infrastructure and other line agencies (Ministry of Transport, Ministry of Works, Ministry of Lands, Tonga Water Board) are fully engaged in PPCR, being the frontline agencies in its implementation. While PPCR efforts can support awareness-raising and outreach, the shift to consider climate change impacts and implications will be internally driven by the Government. In addition to Government arrangements, the existing government-non government partnership mechanisms (technical working committees formed on an issue by issue basis) will assist in ensuring that non-State actors, such as civil society, private sector and gender groups, fully participate in PPCR-decision making.
40. The MECC Acting CEO will delegate the role of PPCR National Programme Manager (NPM) to one of his senior existing climate change staff members for Phase I.
41. The MDBs, with ADB in the lead, will continue to coordinate and engage with the Tonga Government and stakeholders. It is proposed that the PPCR grant be managed by ADB as the Executing Agency (EA). ADB will identify programming opportunities, including climate-proofing, with key infrastructure donors, especially WBG and AusAID.

## **VII. Budget and Timetable for Phase 1 Activities**

42. The budget, assignment of responsibilities and timetable of activities for Phase I activities are shown below.<sup>5</sup>

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<sup>5</sup> Note that PPCR support will be complementary to efforts by other government and donor initiatives to achieve the outputs in each theme.

Table 2 PPCR Phase 1 budget and assignment of responsibilities

Theme/outputs	Budget (\$US)	Lead Responsibility	
		MDB Lead	Tonga Ministry
<b>Theme 1: Building or enhancing institutional capacity to mainstream climate change resilience and disaster risk management into 'whole of government' and sectoral legislation, policies, plans, operational activities; including selected ministries with responsibilities for the provision of infrastructure.</b>			MECC, MoFNP, Infrastructure Delivery Agencies
Outputs:			
1.1 The process of integrating climate change resilience into priority sectoral legislation, policies and plans, including those responsible for provision of infrastructure is initiated.	25,000	ADB, WB	
1.2 Capacity-building initiated in Government ministries, including those responsible for the provision of infrastructure; climate change resilience is integrated into budgetary systems at the central agency level, including financial allocations and reporting mechanisms. Capacity is built through short-courses, workshops and related training material.	25,000	ADB, WB	
1.3 A strategic-level set of nationally consistent, reliable and justifiable scientific scenarios of key projected climate changes initiated, to ensure harmonization of climate change	15,000	ADB, WB	
1.4 A national guideline and best practice manual to integrate climate change factors into infrastructure planning is developed.	30,000	ADB, WB	
1.5 Sensitivity, vulnerability and adaptation assessments of initial infrastructure projects that could be targeted for PPCR Phase II work are identified. These would build on the proposed vulnerability and adaptation initiatives targeted by the Government for Australian support and regional assessment activities.	50,000	ADB, WB	
	Sub-total	145,000	
<b>Theme 2: Strengthening civil society, community and private sector engagement and enhancing consideration of gender issues to support climate change resilience building.</b>			MECC, MoFNP, Infrastructure Delivery Agencies
Outputs:			
2.1 Capacity needs assessment completed and approaches for effective involvement of civil society in the PPCR are developed.	5,000	ADB, WB	
2.2 Development of information products targeted at civil society and the private sector.	10,000	ADB, WB	
2.3 Development of approaches for integrating gender concerns into climate change adaptation (through pilot projects: see Output 1.5)	5,000	ADB, WB	
	Sub-total	20,000	
<b>Theme 3: Designing the Strategic Program for Climate Resilience (SPCR) and awareness raising and outreach on the impacts of climate change and importance of climate resilience planning responses.</b>			MECC, MoFNP, Infrastructure Delivery
Outputs:			
3.1 A Strategic Program for Climate Resilience (SPCR) design for PPCR Phase II actions for SPCR in priority sectors and regions.	40,000	ADB, WB	
3.2 Web-based platform of Phase I products (including all information products) and a synthesis of lessons learned that can also be shared on regional adaptation learning	5,000	ADB, WB	
	Sub-total	45,000	
<b>Total PPCR Phase I cost</b>			
Themes 1-3	210,000		
Project Management	25,000		
Equipment	4,500		
Contingency (5% of total)	10,500		
	<b>Grand total</b>	<b>250,000</b>	

Table 3 Schedule for implementation of Phase 1 PPCR<sup>6</sup>

Theme/outputs	1	2	3	4	5	6	7	8	9
<b>Theme 1: Building or enhancing institutional capacity to mainstream climate change resilience and disaster risk management into 'whole of government' and sectoral legislation, policies, plans, operational activities; including selected ministries with responsibilities for the provision of infrastructure.</b>									
Outputs:									
1.1 The process of integrating climate change resilience into priority sectoral legislation, policies and plans, including those responsible for provision of infrastructure is initiated.									
1.2 Capacity is built within Government ministries, including those responsible for the provision of infrastructure; climate change resilience is integrated into budgetary systems at the central agency level, including financial allocations and reporting mechanisms. Capacity will be built through short-courses, workshops and related training material.									
1.3 A set of nationally consistent, reliable and justifiable scientific scenarios of key projected climate changes are developed.									
1.4 A National guideline and best practice manual to integrate climate change factors into infrastructure planning is developed.									
1.5 Sensitivity, vulnerability and adaptation assessments of initial infrastructure projects that could be targeted for Phase II work are identified. These would build on the proposed vulnerability and adaptation initiatives targeted by the Government for Australian support and regional assessment activities.									
<b>Theme 2: Strengthening civil society, community and private sector engagement and enhancing consideration of gender issues to support climate change resilience building.</b>									
Outputs:									
2.1 Capacity needs assessment completed and approaches for effective involvement of civil society in the PPCR are developed.									
2.2 Development of information products targeted at civil society and the private sector.									
2.3 Development of approaches for integrating gender concerns into climate change adaptation (through pilot projects: see Output 1.5).									
<b>Theme 3: Design of the Strategic Program for Climate Resilience (SPCR) and awareness raising and outreach on the impacts of climate change and importance of climate resilience planning responses.</b>									
Outputs:									
3.1 A Strategic Program for Climate Resilience (SPCR) design for PPCR Phase II actions for SPCR in priority sectors and regions.									
3.2 Web-based platform of Phase I products (including all information products) and a synthesis of lessons learned that can also be shared on regional adaptation learning platforms.									

<sup>6</sup> It is intended that Theme 1 and 2 activities from Phase 1 will continue into Phase 2 and will be included in the Strategic Program for Climate Resilience (SPCR).

## Appendix 1: Indicative Environmental Implications of External Assistance (Source: Draft ADB Country Environmental Review – Tonga)

Based on Infrastructure cost estimates from Tonga National Infrastructure Investment Plan 2010-2020

### Environmental Implications of Externally Funded Projects (Underway)

Project	Investment (\$ million) <sup>7</sup>	Funding Agency	Environmental Implications
Village electricity networks (pole replacement)	14.6	NZAID/EU/WBG	No major environmental consequences, except where distribution lines are through forested areas.
Outer Island off-grid power (solar)	6.5	JICA	Main issue is disposal or recycling of expended batteries.
Upgrading village water supplies	2.7	AusAID/EU/JICA	Catchment protection and water quality management. Lack of laboratories in outer islands for testing water, climate proofing.
National roads improvement project	43.2	China	Climate proofing, soil erosion control, flood proofing, access to forest areas, landslips.
Integrated urban development sector program	5.9	ADB	Climate proofing, drainage treatment, soil erosion control, water quality management.
Nuku'alofa Development Corporation (multi-sector)	10.8	China	Urban waste management and recycling, noise, air pollution, solid waste, drainage treatment, water quality management, climate proofing.
Replacement inter-island ferry	13.5	JICA	Discharge of waste (at sea an in port), oil pollution.
Additional fire tender (Fua'amotu)	0.97	WBG	Ability to treat chemical fires and/or contain spills, control of other environmental emergencies.
Expanding telecommunication services to small islands	1.6	ITU	Disposal and recycling of e-waste and batteries, location of communication towers in forested areas.

Source: Infrastructure cost estimates from Tonga National Infrastructure Investment Plan 2010-2020

### Environmental Implications of Externally Funded Projects (Committed)

Project	Investment (\$ million) <sup>4</sup>	Funding Agency	Environmental Implications
Solar generation (Tongatapu)	7.6	NZAID	Reduced greenhouse gas emissions, energy storage system (e.g. banks of batteries).

<sup>7</sup> Exchange rate of T\$1.00 = US\$0.54 was used.

Transport sector consolidation project (roads)	6.3	WBG	Soil erosion, landslips, climate proofing, drainage, access to forest areas, borrow pits, materials dumps, construction camps.
Vaipua bridge (Vava'u)	7.3	China	Soil erosion, water quality during construction, construction camp, climate proofing.
Agricultural road program	1.6	FAO	Access to forest areas, soil erosion, landslips, climate proofing.
Foa causeway (Ha'apai)	1.7	Germany	No EIA, climate proofing, hydrological and lagoon circulation, sedimentation, impact on biodiversity and fisheries.
Vuna wharf development stage 1 – cruise ship wharf	16.2	China	EIA, climate proofing, coastal erosion, dredging, waste management, oil and chemical spill contingency plan, induced development.
Upgrade 'Eua runway	1.6	NZAID	Climate proofing, oil and fuel spills, noise, impacts on birds, access to national park.

### Environmental Implications of Externally Funded Projects (Planned)

Project	Investment (\$ million)	Funding Agency	Environmental Implications
Solar generation (Tongatapu – additional 1 MW)	7.6	UAE(tbc)	Reduced greenhouse gas emissions, energy storage system (e.g. banks of batteries).
Coconut oil/waste biofuel pilot plant	1.6	IRENA(tbc)	Air quality, solid waste disposal, water quality.
Implementation of energy roadmap	tbd	Tbd	See discussion on energy roadmap below.
Fibre optic cable to Fiji	32.4	ADB/WBG	Sea bed disruption, temporary impacts on marine ecosystem, climate proofing.
Upgrade Tongatapu water supply	3.5	Tbd	Climate proofing, water quality management, temporary disruption during construction and house connections.
Vava'u semi-aerobic landfill	2.2	JICA(tbc)	Greenhouse gas emissions, leachate, odour, household collection system, recycling and material recovery.
Outer-island port upgrades	5.4	Tbd	Climate proofing, waste management, coastal erosion, ancillary development, oil spills.
Resurfacing of runways at Vava'u and Ha'apai	5.9	Tbd	Borrow pits for construction material, disposal or recycling of asphalt drums, construction camp, climate-proofing runways.

**Total Infrastructure Investment Underway, Committed and Planned – 2010-2015  
(\$'million)**

Status	Total	2010/11	2011/12	2012/13	2013/14	2014/15
Underway	116.1	52.9	27.0	20.0	8.1	8.1
Committed	60.5	29.7	20.5	5.9	2.2	2.2
Priority planned	78.8	3.2	24.3	45.9	3.2	2.2
<b>Total</b>	<b>255.4</b>	<b>85.9</b>	<b>71.8</b>	<b>71.8</b>	<b>13.5</b>	<b>12.4</b>

Source: Draft ADB Country Environmental Review – Tonga, based on NIIP