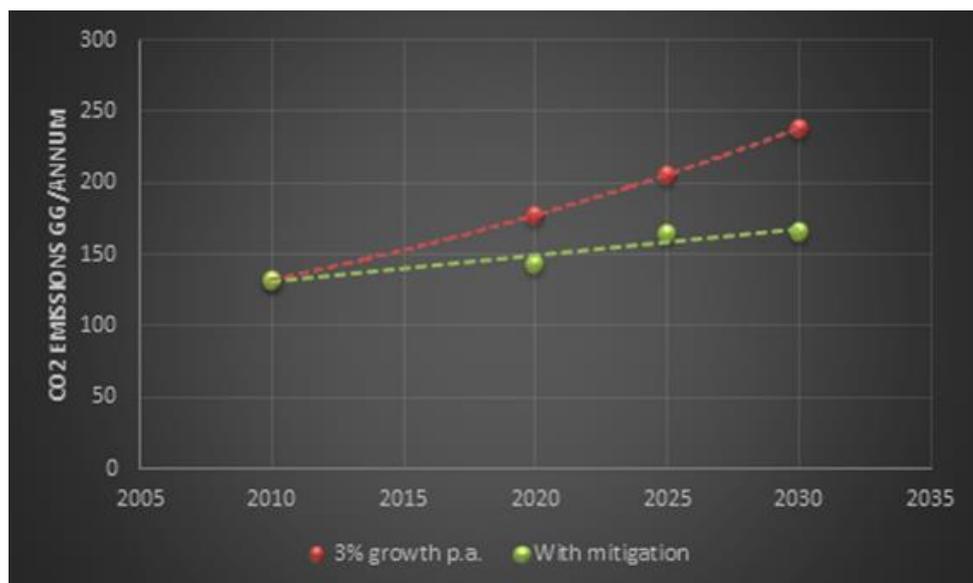




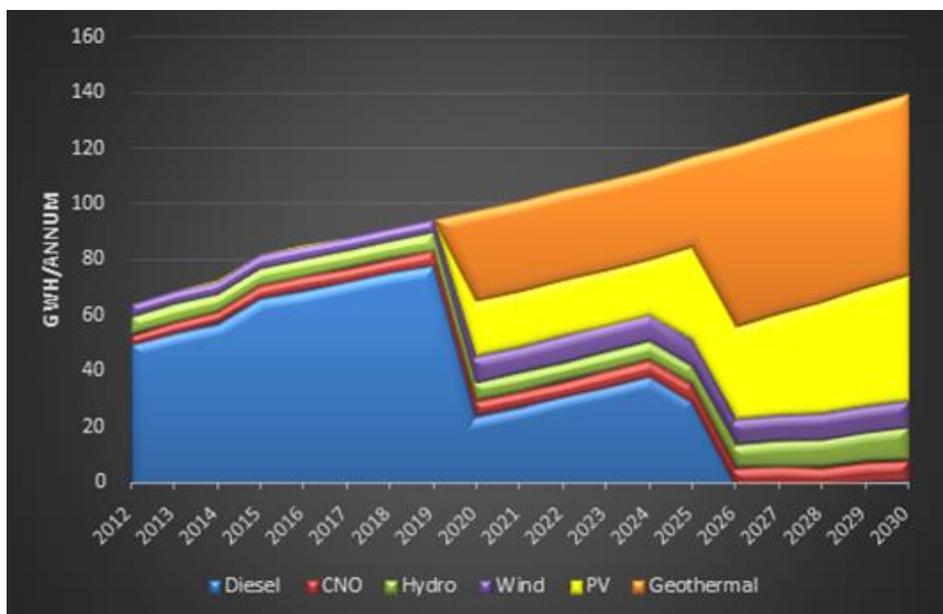
## REPUBLIC OF VANUATU

### INTENDED NATIONALLY DETERMINED CONTRIBUTION (INDC)

The main mitigation contribution is to achieve the outcomes and targets under the National Energy Road Map (NERM) and Second National Communication (SNC) extended to 2030. The mitigation contribution for the Vanuatu INDC submission is a sector specific target of transitioning to close to 100% renewable energy in the electricity sector by 2030. This target would replace nearly all fossil fuel requirements for electricity generation in the country and be consistent with the National Energy Road Map (NERM) target of 65% renewable energy by 2020. This contribution would reduce emissions in the energy sector by 72Gg by 2030. Emissions in this sector were around 130 Gg in 2010 but are expected to rise to 240 Gg by 2030 (3% per annum).



The mitigation would thus reduce BAU emissions in the electricity sub-sector by 100% and in the energy sector as a whole by 30%. The target would be conditional, depending on funding commensurate with putting the transition in place being made available from external sources. In addition, Vanuatu will pursue the other mitigation measures in the Vanuatu National Energy Roadmap (2013- 2020), the Scaling Up Renewable Energy in Low Income Countries (SREP) report and Vanuatu’s Renewables Readiness Assessment (RRA) report undertaken by IRENA. These measures would include a vigorous program of energy efficiency to reduce emissions in all sectors except agriculture and forestry by 15%. The transition to renewable energy based electricity could be accelerated through review and revision of agricultural (coconut oil sector) national policy. Opportunities for reducing the high emissions levels in agriculture will simultaneously be pursued with cooperative programs with nations having similarly high emissions in this sector. The forestry sector mitigation will be attended to as part of the existing REDD+ program. The Government is also aware that waste management is an other area that need attention.



The adaptation component of the INDC does not seek to set adaptation targets for Vanuatu however it provides an opportunity to reiterate the adaptation priorities as identified and prioritised in key national documents such as the National Adaptation Programme of Action (NAPA) and the National Climate Change and Disaster Risk Reduction Policy.

The NAPA process identified and prioritised adaptation priority needs that were urgent and immediate - those needs for which further delay could increase vulnerability or lead to increased costs at a later stage. The five NAPA priorities include: Agriculture and food security; Sustainable tourism development; Community based marine resource management; Sustainable forest management and Integrated water resource management. The National Climate Change and Disaster Risk Reduction Policy identifies five key adaptation strategic priorities and associated actions to further enhance the national adaptation efforts and build resilience across sectors which include the need for: Climate Change vulnerability and multi sector impact assessments; Integrated climate change and disaster risk reduction; Community based adaptation; Loss and damage and Ecosystem based approaches.

## National Circumstances

The Republic of Vanuatu is an island nation located in the Western Pacific Ocean. The country is an archipelago of over 80 islands stretching 1,300 kilometres from North to South. Vanuatu's terrain is mostly mountainous, with narrow coastal plains where larger islands are characterised by rugged volcanic peaks and tropical rainforests. Vanuatu is located in a seismically and volcanically active region and has high exposure to geologic hazards, including volcanic eruptions, earthquakes, tsunamis and landslides.

Vanuatu's national vision as per the Government's Priority and Action Agenda (PAA) 2006-2015 is "An Educated, Healthy and Wealthy Vanuatu". The goal of the Government of Vanuatu (GoV) is to raise the welfare of its people, and main agendas for action include growing the productive sector, especially agriculture and tourism, maintaining macroeconomic balance, raising public service performance, cutting costs associated with transport and utilities, and improving access to basic services such as health and education. Government of Vanuatu is also committed to achieving MDG goals and targets and significant progress has been made towards achieving the MDG Goals.

Climate change and changing weather patterns are already having a negative impact on all the priority sectors in Vanuatu and most evidence points to the fact that they will be exacerbated by climate change related events in the future. Climate related disasters are one of the main hindrances to economic development in Vanuatu and this will certainly continue.

Vanuatu is one of the countries most vulnerable to climate change among the other Pacific island nations. The effects of climate change on agriculture production, fisheries, human health, tourism and well-being will have the consequences of decreasing national income while increasing key social and infrastructure costs. Climate change may affect all areas of life for Ni-Vanuatu people and impact women, men and young people in different ways.

Vanuatu has positioned itself as a regional leader in the fields of Climate Change (CC) and Disaster Risk Reduction (DRR) and has been widely applauded for its initiative to establish a National Advisory Board for Climate Change and Disaster Risk Reduction (NAB) as a means of improving coordination and governance around the two issues. Vanuatu's implementation of the UNFCCC has progressed exponentially in recent years as government sector agencies become more organized and civil society, academic, the private sector, development partners and regional agencies have stepped up their activities in Vanuatu.

Vanuatu is committed to formulating strategies, national policies and best practices for addressing GHG emissions and making a practical contribution to the global mitigation efforts. While at the same time the country is also pursuing its national and regional development priorities and sustainable development objectives. The development objectives are planned to be achieved by integrating GHG abatement efforts with other social, environmental and economic priorities.

<b>Mitigation Contribution</b>	
Time Frame	2020 - 2030
Type of Contribution	Sectoral commitment focussed on a transition to renewable energy in the electricity generation sub-sector under energy generation.
Target Level	To approach 100% renewable energy in the electricity sub-sector contingent upon appropriate financial and technical support made available
GHG Reductions	100% below BAU emissions for electricity sub-sector and 30% for energy sector as a whole.
Sectors	<p>Mainly electricity generation sub-sector but with ancillary mitigation possible in forestry, agriculture, transport and energy efficiency sector wide.</p> <p>The key planned mitigation interventions include:</p> <ul style="list-style-type: none"> <li>• Doubling of the wind installed capacity to 5.5 MW by 2025</li> <li>• Installing 10 MW grid connected solar PV by 2025</li> <li>• Commissioning the proposed first stage 4 MW Geothermal plant by 2025</li> <li>• Adding 10 MW grid connected solar PV by 2030</li> <li>• Commissioning the second stage 4 MW Geothermal plant by 2030</li> <li>• Substituting and/or replacement of fossil fuels with coconut oil based electricity generation</li> </ul> <p>The proposed interventions would need substantial external funding of around US\$180 million to proceed at the time frame needed. In addition, substantial technology transfer would be required including institutional support and training.</p> <p>Additional planned mitigation interventions include:</p> <ul style="list-style-type: none"> <li>• National Energy Road Map (US\$ 210.5 million indicative - with some overlap)</li> <li>• Rural Electrification Nationally Appropriate Mitigation Action (NAMA) (US\$ 5 million indicative)</li> <li>• Off grid renewable energy projects under Scaling Up Renewable Energy in Low Income Countries Program (US \$34.2 million)</li> <li>• Energy efficiency measures to be pursued across the board to enable 15% savings in the energy sector.</li> <li>• Forestry sector measures to reduce deforestation and promote good land care to accepted mitigation practices according to REDD+</li> <li>• Planned cooperation with New Zealand and other nations interested in mitigating methane (CH<sub>4</sub>) and associated emissions for ruminant and pasture management</li> </ul>

Gases	Carbon Dioxide (CO <sub>2</sub> )
Methodology	<p>The electricity sector emissions were analysed using data from the utilities, customs department and relevant assessments, studies and reports from development partners and civil society organizations. The data for electricity generation were entered into the GHG emission estimation model and converted to CO<sub>2</sub> emissions using standard conversion factors. The extrapolated data from the above sources suggests the kWh consumption in the electricity sector will rise at 3.6% per annum until 2020 after which a slightly lower growth rate is used to give an average increase of 3% until 2030.</p> <p>Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories and UNFCCC software “Non Annex 1 National Greenhouse Gas Inventory Software, Version 1.3.3 was used for the GHG inventory. Sectoral data for GHG estimation compiled from various sources primarily using national data collected from annual reports, statistical reports, studies and brochures of related department/institutions. The projections of emissions data to 2010 was reported in the SNC from similar data sources as the 2000 data and has a similar uncertainty analysis.</p>
Planning Process	<p>Vanuatu’s INDCs is well aligned with the Government’s Priority Action Agenda Policy Objective 4.5 which is most relevant to Climate Change and states, “to ensure the protection and conservation of Vanuatu’s natural resources and biodiversity, taking climate change issues in consideration.” The contribution is also based on the research undertaken for a number of national initiatives including the Vanuatu National Energy Roadmap (2013- 2020), the Scaling Up Renewable Energy in Low Income Countries (SREP) report, Rural electrification NAMA design document by UNDP MDG Carbon and Vanuatu’s Renewables Readiness Assessment (RRA) report undertaken by IRENA . In addition, relevant data and information has been used from the Government of Vanuatu and various private and civil society organizations. Extensive consultations with all relevant stakeholders were held during the preparation of Vanuatu’s INDC.</p>
<b>Adaptation Priorities and Goals</b>	
Priorities	<p>For Vanuatu, as an LDC, the National Adaptation Programme of Action (NAPA) process identified and prioritised adaptation priority needs that were urgent and immediate - those needs for which further delay could increase vulnerability or lead to increased costs at a later stage.</p> <p>The Vanuatu NAPA identified 11 top adaptation priorities through a national consultation process. These adaptation priorities were further refined to include 5 top priorities for support and implementation. The 5 NAPA priorities include:</p> <ol style="list-style-type: none"> <li>1. Agriculture and food security</li> <li>2. Sustainable tourism development</li> <li>3. Community based marine resource management</li> <li>4. Sustainable forest management</li> </ol>

	<p>5. Integrated water resource management</p> <p>Out of the 5 top priorities, Least Developed Countries Fund (LDCF) financing has been sourced to further elaborate and implement priorities 1 and 5 while a concepts for 2 is being developed. Health, which is among the 6 priorities was not selected for concept development however given interest from key implementing agencies, financing from the LDCF has been secured for concept development and implementation.</p> <p>The NAPA further recognised that the following core issues were relevant to all priorities and should be an integral part of any proposed activities;</p> <ol style="list-style-type: none"> <li>a. Awareness raising at all levels</li> <li>b. Capacity building including institutional capacity</li> <li>c. Research and development</li> <li>d. Promotion of appropriate traditional knowledge and practices</li> <li>e. Technology Transfer</li> <li>f. Education and training</li> <li>g. Mainstreaming of climate change and disaster risk reduction</li> <li>h. Consideration of marine and terrestrial Biodiversity issues</li> </ol> <p>The National Climate Change and Disaster Risk Reduction Policy identifies 5 key adaptation strategic priorities and associated actions to further enhance the national adaptation efforts and build resilience across sectors. These strategic priorities from 2015 to 2020 include the need for:</p> <ol style="list-style-type: none"> <li>1. Climate Change vulnerability and multi sector impact assessments</li> <li>2. Integrated climate change and disaster risk reduction</li> <li>3. Community based adaptation</li> <li>4. Loss and damage</li> <li>5. Ecosystem based approaches</li> </ol> <p>Please see annex for detailed information.</p>
Support Needed	<p><u>Financial</u></p> <p>The Climate Public Expenditure and Institutional Review (CPEIR) report for Vanuatu states that Vanuatu has been receiving a lower share of adaptation funding than most other Pacific island countries. To adequately adapt to the impacts of climate change, starting now, the annual cost is estimated to be 1.5% of a country's GDP. For Vanuatu, this equates to an investment of US\$9.5million per year. This is substantially higher than the amount of development funding currently being spent on projects that have Adaptation as their principal objective.</p> <p>In coming years, greater levels of donor funding are likely to be available for climate change adaptation as the economies and budgets of Developed Countries recover from the Global Financial Crisis. As well, as a Least Developed Country, Vanuatu is likely to benefit from the United Nations goal of promoting at least half of these countries to 'Developing Country' status by 2019.</p>

	<p>To be in a better position to take advantage of CC/DRR funding that will become available, Vanuatu is establishing strong, efficient and sustainable governance arrangements, and demonstrating a track record in maintaining these arrangements. Ministry of Climate Change is also targeting National Implementing Entity (NIE) accreditation, which will also give it direct access to funding from the Adaptation Fund and potentially other sources of funding for climate change such as the Green Climate Fund.</p> <p><u>Technical</u></p> <p>A Technology Needs Assessment (TNA) for Vanuatu is needed as a matter of priority to look at implementing a country driven process for identifying and analysing the priority technology needs for mitigating and adapting to climate change. Carrying out the TNA could provide an opportunity to realize the need for new techniques, equipment, knowledge and skills for mitigating greenhouse gas (GHGs) emissions and reducing vulnerability to climate change.</p> <p><u>Capacity</u></p> <p>At the policy and legislative levels a number of legislative changes are required to reflect the current climate and disaster governance arrangements and clarify the full range of climate and disaster risk responsibilities. Among these are the National Disaster Management Act and the Vanuatu Meteorology Act. At the corporate level the Ministry of Climate Change needs to develop a long term cooperate plan to guide the implementation of its responsibility and also to further guide the agencies under its remit. Agency level cooperate plans are already in existence but lack strong links between the various departments. At the institutional level the need to streamline and strengthen the NAB and its Secretariat is a priority. At the human resource level, no systematic assessment has been carried out to understand the required skills set, existing skills set and the gaps for implementing CC/DRR initiatives. No human resource development plan has been developed. Most training is ad hoc in nature and not linked to a formal professional development strategy. At the information and knowledge management level, systems exist but are not fully utilised. This makes information sharing and learning of lessons difficult.</p> <p>Further, Vanuatu continues to face several barriers as it strives to meet its UNFCCC and the Kyoto Protocol obligations. The various obstacles include insufficient institutional and financial resources; lack of research data; information management problems and; inadequate human resources and infrastructure. More must be done to build awareness both within the Government and the community about Vanuatu's vulnerability to climate change. There is also an apparent need to feed information, knowledge and technologies to enable improved decision-making and environmental management.</p>
Monitoring and Evaluation	The monitoring and reporting on the adaptation activities of the INDC will be conducted at the Ministry level by the CCDRR PMU in close collaboration with the M&E unit of the Prime Minister's Office, as is

	<p>the current practice with projects being implemented under the oversight of the NAB. This will ensure that achievements in the implementation of the INDC priorities are appropriately captured and reported on in the Government's Annual Development Report prepared by the Prime Minister's Office.</p>
<p><b>Fairness, Equity and Ambition</b></p>	
<p>Fairness, Equity and Ambition</p>	<p>Small Island Developing States (SIDS) has been recognised by the United Nations Framework Convention on Climate Change (UNFCCC) and Intergovernmental Panel on Climate Change (IPCC) as the most vulnerable countries to face the effects of climate change. Vanuatu being a part of SIDS share similar challenges.</p> <p>Vanuatu anticipates many impacts from climate change on its society, economy, environment and human health and Vanuatu through the Ministry of Climate Change is actively cooperating with United Nations agencies and international partners to assess these effects and develop appropriate plans through climate change adaptation and mitigation.</p> <p>Vanuatu's adaptation plans and programmes intends to support progress towards the country's national development priorities and the goal of environmental sustainability, by ensuring that a focus on reducing vulnerabilities and risks is incorporated into planning and activities across all sectors of the economy and society.</p> <p>Vanuatu is also keen to reduce its reliance on fossil fuels for the energy needs. The National Energy Road Map, which sets out a clear strategy and action plan for the development and use of alternative and sustainable energy sources, has an ambitious goal of reducing the country's high reliance on imported fossil fuel by meeting 65% of its electricity needs from renewable energy sources.</p> <p>Vanuatu's past emissions have been miniscule and have only become locally significant in the past decade or two. In general development issues dominate rather than climate change mitigation.</p> <p>Vanuatu is a small developing nation with absolute levels of CO<sub>2</sub> eq emissions very small at under 0.0016% of world emissions. The country is also one of the most vulnerable to the effects of climate change and has much to lose should the worst predictions from increased temperature levels eventuate. As such the country will do its best to mitigate but would require financial, technical and capacity building support to do so.</p>

## Annex

<b>National Adaptation Programme of Action - Priorities</b>
<ul style="list-style-type: none"> <li>• Agriculture and food security</li> <li>• Development of resilient crop species including traditional varieties</li> <li>• Land use planning and management</li> <li>• Water resource management</li> <li>• Sustainable forest management</li> <li>• Marine resource management and aqua culture</li> <li>• Climate change and infrastructure</li> <li>• Sustainable livestock farming and management</li> <li>• Integrated coastal zone management</li> <li>• Sustainable tourism development</li> <li>• Vector and water borne disease management</li> </ul>

<b>Strategic Priority – Climate Change Adaptation and Disaster Risk Reduction</b>	
<b>Strategy</b>	<b>Actions</b>
Climate Vulnerability and Multi- Sector Impact Assessment	<p>Enhance efficiency and effectiveness of adaptation action and design action to address explicit climate impacts in specific sites through:</p> <ul style="list-style-type: none"> <li>• Vulnerability assessments and risk mapping using multi-hazard approaches as the basis of all adaptation action, conducted prior to implementation with communities and in a participatory, free and informed way</li> <li>• Adaptation, appropriate to local communities, being a research priority for all actors, including scientific research, farmer-based trials, traditional indicators and observation systems and demonstration sites</li> <li>• Selecting and prioritizing actions based on criteria including effectiveness, efficiency, efficacy, and cost effectiveness using internationally recognized tools (e.g. environmental impact assessment, cost benefit analysis) and locally utilized processes</li> <li>• Adaptation decisions being based on relevant data and information using already available data, statistics and processes</li> <li>• Data and information on adaptation being shared with and incorporated into centralized systems (eg NAB portal)</li> </ul> <p>Adopt multi-sectoral approaches and address complex impacts through:</p> <ul style="list-style-type: none"> <li>• Considering adaptation information from multiple sectors and knowledge systems to avoid maladaptation that may result from a narrow, single sector adaptation focus</li> <li>• Considering urban and rural adaptation issues equally and fairly in national adaptation planning and action based on vulnerability criteria</li> </ul>

<p>Integrated Climate Change Adaptation and Disaster Risk Reduction</p>	<p>Relevant initiatives and programs must include an integrated climate change adaptation and disaster risk reduction approach through:</p> <ul style="list-style-type: none"> <li>• Strategic documents at all levels including both climate change and disaster risk elements in an integrated and compatible way (e.g. government policies, provincial plans, community strategies, municipal plans, donor project designs, budget frameworks)</li> <li>• Government agencies, CSOs, private sector and academia taking responsibility for identifying their adaptation priorities and incorporating these into their policy, strategic documents, and budgets to implement adaptation and disaster risk reduction action</li> <li>• Initiatives endorsed by NAB adhering to an integrated approach</li> <li>• Formal and non-formal education programs and curriculums incorporating an integrated approach</li> </ul>
<p>Community Based Adaptation</p>	<p>Adaptation action in communities addresses real, current and priority vulnerabilities through:</p> <ul style="list-style-type: none"> <li>• Community vulnerability assessments and comprehensive profiles being undertaken prior to project implementation</li> <li>• The community being fully engaged in, participate in and lead vulnerability assessment process in an appropriate language (e.g. colloquial languages, Bislama)</li> </ul> <p>Build on and strengthen traditional and customary systems by:</p> <ul style="list-style-type: none"> <li>• Building on and working within traditional knowledge and values so that these systems become more robust, with linkages and synergies with scientific knowledge, thereby avoiding maladaptation</li> </ul> <p>Adaptation is owned and driven by communities through:</p> <ul style="list-style-type: none"> <li>• Adaptation implementation plans and actions being developed and driven by the community itself, following its own planning processes that are context specific</li> <li>• Existing community engagement, governance and implementation structures and traditional systems being adhered to and strengthened through adaptation initiatives</li> </ul>
<p>Ecosystem Based Approaches</p>	<p>Support ecosystem function and services through action and planning by:</p> <ul style="list-style-type: none"> <li>• Embedding action and planning within an ecosystem, strengthening all interrelated parts and components (social, biological, economic)</li> <li>• Prioritizing action incorporating threats and solutions from the ridge to the reef of island communities (e.g. waste management)</li> <li>• Adaptation action building on and incorporating taboos, conservation areas and locally managed</li> </ul>

	<p>areas and protects vulnerable habitats and ecosystems and carbon sinks will be prioritized</p> <ul style="list-style-type: none"><li>• Quantifying and building into adaptation planning and budgeting the value and benefit of ecosystem services</li><li>• Identifying and minimizing negative impacts on the environment from adaptation activities under Vanuatu's legislation and international practices</li><li>• Developing advocacy and educational programs for all stakeholders at all levels around the value of ecosystem based adaptation</li><li>• Implementing sound land use planning approaches and policy documents (eg Land Use Planning Policy, Foreshore Development Act, Physical Planning Act)</li></ul>
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