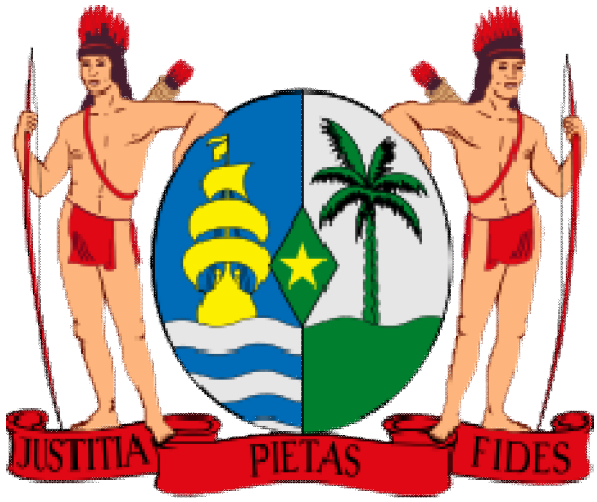
Republic of Suriname



Intended Nationally Determined Contribution Under UNFCCC

30 September 2015

1. INTRODUCTION

The Republic of Suriname is committed to addressing the issues associated with climate change both nationally and globally. As such, and in accordance with the Conference of the Parties (COP) Decisions 1/CP19 (Warsaw) and 1/CP20 (Lima), Suriname hereby submits its Intended Nationally Determined Contributions (INDCs) prior to COP21 scheduled for Paris, to be organized in December 2015.

2. NATIONAL CONTEXT

The Republic of Suriname is committed to playing its part in the global fight against climate change. As a developing country with a total population of 541,638 and abundant natural resources, Suriname has remained carbon negative. Surinameôs contribution to the global fight against climate change commenced long before countries of the world came together in 1972 at the United National Conference on the Human Environment in Stockholm to agree on a common outlook for environmental protection and poverty alleviation and where climate change was given recognition for the first time.

Historically, the Republic of Suriname has been maintaining and protecting its pristine forests and ecosystems. Consequently, approximately 15 million hectares or about 94% of Surinameôs territory remains forested resulting in 12.9 hectares per capita or net carbon capture per capita of 3.3 tons. The tropical rainforest of Suriname stores about 11 gigatons and absorbs more than 8.8 million tons of forest carbon annually. This represents approximately over 350 million tons of carbon absorbed since 1972. As a result of its forest carbon sequestration and avoided deforestation, Suriname has been providing a key ecosystem benefit to the world long before the issue of climate change was widely recognized and accepted. A service for which Suriname has not been paid.

Despite this significant mitigation function, as a country with a low lying coast where over 80% of the population resides, and where the major economic activities and infrastructure are concentrated, Suriname is highly vulnerable to the effects of climate change. Suriname has already suffered extensive losses and damages from the effects of climate change. Current projections for sea level rise will result in severe damage to coastal ecosystems, in particular, the mangrove forests and large expanse of arable

lands. Impacts are projected to affect over 40% of the countryôs GDP and the well-being of more than 80% of the population and Surinameôs capital, Paramaribo, a UNESCO Heritage City. Amongst the most vulnerable and who stand to be significantly impacted include those living in the coastal zone, along the coastal rivers as well as Indigenous and forest-dependent people living along the rivers and shores.

Based on current trends, climate departure for Suriname will take place in 2028 at which point the country will experience, inevitably, huge losses and irreversible damage. This will impact the very way of life of the Surinamese people.

Thus far, Suriname has had to deal with the losses and damages, undertake adaptation interventions and build climate resilience mainly from its small national budget. Moreover, recognizing the vulnerability of the coast and ever increasing impacts on a significant percentage of the population, Surinameôs dilemma is whether to continue to invest heavily in adaptation or relocate and rebuild its entire economy away from the threat of the rising sea. This would mean shifting inland, a massive costly venture which would also have the effect of placing pressure on the countryôs forest resources and which could jeopardizing Surinameôs contribution of maintaining 15 million ha forest as both a huge carbon sink and the lungs of the earth for the global community.

Notwithstanding these challenges, Suriname has over the years taken steps with limited resources to prevent, reduce and cope with the effects of climate change. Suriname continues to advance its efforts towards climate resilient and compatible development through a number of green policies and initiatives and in particular, actions to protect and sustainably use its forests. Moreover, Suriname has been implementing adaptation measures to guard against sea level rise and reduce the impact associated with extreme weather events. In addition, Suriname has one of the lowest reliance upon fossil fuels for the generation of electricity. Furthermore, the most significant source of energy is from hydropower which supplies the majority of the countryôs electricity generation requirements.

While Suriname reaffirms its commitment to addressing climate change and in particular, maintaining its forest and freshwater resources, it recognizes the need for the

international community to work collectively, responsibly and with urgency to address this issue. In this regard, there are four critical elements necessary for international collaboration:

(i) Direct access to climate finance;
(ii) Compensation for loss and damage;
(iii) Technology transfer to engender large scale adaptation and mitigation; and
(iv) Compensation for the forest climate services that forest countries have been and continue to provide.

Suriname remains committed to playing its part in the fight against climate change and recognizes the significant role its forests can play. In this regard, Suriname is keen to pursue a green economy through a climate compatible development approach and with REDD+ as a key mechanism. In addition, Suriname strongly supports the UN sustainable development priorities regarding ñRenewable Energyô Suriname is therefore prepared to deploy its forests, as part of a global mitigation contribution as well as continue promoting and introducing the use of renewable energy, specifically in remote areas, provided adequate financing is made available to support these transitions.

3. PROPOSED CONTRIBUTIONS

TYPE OF COMMITMENT	At the onset, the Republic of Suriname recognized the importance of preparing its INDC and secured high level political endorsement. Through the INDC preparation process Suriname has demonstrated its political commitment to the global fight against climate change through its contributions to the UNFCCC. Although Surinameôs contribution to the global Green House Gas (GHG) emission is negligible, the government is intended to continue contributing to the global reduction of these gases under the Convention. Suriname has taken the initiative to move away from business as usual and to chart a course towards climate compatible development through an enabling framework which has included the preparation and approval of a National Climate Change Policy, Strategy and Action Plan (NCCPSAP). The Republic of Suriname intends to implement the NCCPSAP

	and will be seeking adequate resources to support this. In this regard, Surinameôs commitment is one that is unconditional as well as conditional through proposed measures of policies, strategies and actions.
PREPARATION OUTLINE	The following is an outline of the steps taken in the preparation of the INDC. 1. **Planning process:** key stakeholders were engaged on September 10th 2015. A National Team was the driver. This team consisted of representatives of the Office of the President of the Republic of Suriname, the National Institute for Environment and Development in Suriname (NIMOS), Anton de Kom University of Suriname, the Foundation for Forest Management and Forest Control in Suriname, and the ministry of Foreign Affairs. The forum sought to sensitize participants on the background, nature and need for an INDC, the preparation and information required, and key issues to consider. The forum also elicited stakeholdersôperspectives on issues and priorities for inclusion. 2. **Stocktaking:** the National Team undertook a stocktaking exercise to collect required information to prepare the INDC. This exercise identified and assembled relevant national information, data and analysis, including official information from the Government sources. 3. **Desktop Review:** an analysis was made of documents such as the Development Plan 2012-2016 of the Republic of Suriname, the National Plan for Forest Cover Monitoring, Surinameôs Readiness Preparation Proposal, the NCCPSAP as well as Surinameôs National Reports to the UNFCCC. In addition, use was made of the reports from the Intergovernmental Panel on Climate change (IPCC), Surinameôs Energy Policy Plan 2013-2033, data from the ministry of Natural Resources, reports from the Suriname Statistics Bureau, and the guide by WRI and UNDP on ôHow to write an INDCô

	4. **Drafting phase:** consistent with guidance provided by the UNFCCC through its literature and the outputs of the desktop review, a draft INDC was prepared. The methodology and metrics used are consistent with IPCC guidance under the UNFCCC, particularly, the estimation of GHGs emissions. 5. **Stakeholders review:** the draft INDC was reviewed by the National Team, provided to key stakeholders for review and feedback, and updated accordingly. 6. **Review and Approval by the Office of the President's National Environmental Policy Coordination department**: the updated draft of the INDC was submitted to the Office of the President for consideration, approval and submission to the UNFCCC.
TIME FRAME	The period covered by Surinameôs INDC, as proposed, is up to 2025.
COVERAGE	Surinameôs INDC is based on national-scale coverage.
SCOPE OF GASES	The GHGs to be accounted for in this INDC are carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O).
METHODOLOGY	The methodology and metrics are generally consistent with the guidance provided by the IPCC.
USE OF MARKETS	As part of this INDC Suriname has not given consideration to the use of markets though such markets could become a feature for the future.
MITIGATION **A. FORESTS**	The sectors covered in this INDC are ôForestsôand ôRenewable Energyô Approximately 94% of the Republic of Suriname consists of forests covering approximately 15 million ha of the land surface. Suriname has one of the worldôs lowest rate of deforestation which is estimated at 0.02% annually.
Unconditional	Suriname has taken a comprehensive approach to the

Contributions	management of its forests through the Forest Management Act (1992), National Forest Policy (2003) and Interim Strategic Action Plan for the Forest Sector (2008) and has been able to maintain its high forest cover and low deforestation rate through stringent management of forests by adopting and implementing sustainable forest management practices. Enhanced efforts at forest monitoring to address illegal logging as well as the adoption of tools such as Reduced Impact logging (RIL) in the logging sector has helped to maintain a low environmental and carbon footprint. However, much more detailed information on forest resources is needed and in this regard Suriname is currently piloting a national forest inventory. Suriname intends to increase efforts at sustainable forest and ecosystem management and stabilizing and minimizing deforestation and forest degradation unconditionally. Additionally, to support its efforts at maintaining the integrity of forest ecosystems and keeping with its obligations regarding the United Nations Convention on Biological Diversity, Suriname has established 13% of its total land area under a national protection system and will continue to pursue the expansion of this system by increasing the percentage of forests and wetlands under preservation.
Conditional Contribution	Suriname intends to continue to practice sustainable forestry management in an effort to promote multiple use of its forest resources while at the same time exploring options for the payment of forest climate services that its forest provide. Through this approach, and with adequate financial incentives and support, Suriname intends to maintain its high forest cover and low deforestation rate. As part of this approach, Suriname is keen to strengthen forest governance institutions and collaboration with the private sector and other stakeholders and to expand its program of awareness, monitoring and enforcement while also promoting research and a

	comprehensive forest inventory to provide detailed information on forests. Suriname is currently undertaking a process of REDD+ Readiness at the national level and initial steps are being taken to assess the drivers of deforestation and to develop strategy, approaches, and options among the key sectors including agriculture, logging, and mining. Also, estimation of national carbon stocks and the development of a Monitoring, Reporting and Verification (MRV) System are underway. A draft law for the protection of the mangrove forest along the North Atlantic coast of Suriname was prepared by the government. In addition, coastline stabilization by means of ówave breakersô to reduce wave force, promote sedimentation and subsequent mangrove regeneration, will increase mangrove forest stock and carbon sequestration. Considering that the tropical rainforests of the Republic of Suriname stores approximately 11 gigatons of carbon and absorbs more than 8.8 million tons of forest carbon annually, Suriname is keen to maintain its high forest cover and low deforestation rate if adequate incentives are provided over the long term. In this regard, applying carbon pricing and proxies from avoided deforestation models for similar ecosystems in rainforest countries, Suriname has estimated its mitigation contribution from carbon sequestration and avoided deforestation for the period up to 2025 at US$630 Million.
B. <u>RENEWABLE ENERGY</u>	According to the statistics 85% of Surinameôs population has access to energy. The energy demand of Surinameôs population is between 150MW and 250MW and is met from diesel generation (51.6MW), hydropower (115MW), and small diesel generators with capacity in the range of 10-60kW servicing rural

	villages. The projected energy demand by 2022 is estimated to be 500MW.
Unconditional Contribution	Suriname has drafted a *National Energy Plan 2013-2033* outlining a long-term vision and strategy to establish a modern, efficient, affordable energy sector that offers long-term energy security and at the same time advances international competitiveness. An Electricity Bill has been prepared which outlines the formulation of an energy sector plan and the establishment of an energy authority. Several initiatives are already in an advanced stage such as solar energy for communities in the hinterland, a study on waste-to-energy at the national landfill, and micro-hydro power projects in the Interior. Other forms of renewable energy to be explored are wind energy as well as biomass-to-energy. A nation-wide energy efficiency program has commenced aimed at consumer awareness and usage of energy-saving light bulbs as well as promoting energy efficient designs for buildings. In addition, there has been the removal of tariffs on renewable energy products.
Conditional Contribution	Several renewable energy resources are technically feasible. Further studies are required to also explore the potentials of biofuels with rice husk, various grass species, and micro algae as the biological source. In consideration are a hydropower project with a potential output of 168MW; a biofuel project that could realize the introduction of ethanol in gasoline with 60% of vehicles utilizing the blend and at the same time produce 25MW of power; and 62MW from thermal energy. While Suriname has not yet been able to attribute costs to these major renewable energy initiatives, utilizing costs estimations from the International Renewable Energy Agency (IRENA), a 168MW hydropower project could cost between US$189Million and US$1.377Million. In addition, to aggressively pursue renewable energy, Suriname has already considered measures over short, medium and long-term, to upgrade efficiency. This would require

	financing estimated at approximately US$485 Million. Implementation of these conditional contributions to energy, is conservatively estimated at up to US$1.862Million (considering only hydropower and energy efficiency infrastructure). Through existing efforts and with funding for implementation, Suriname is keen to continue to transition its energy sector to ensure it stays above 25% renewable by 2025.
ADAPTATION	The Republic of Suriname is most vulnerable to the effects of climate change due to its low-lying coastal nature and threats of increased sea level rise and the frequency of extreme weather events. Adaptation therefore occupies prominence in Surinameôs approach to climate change. Suriname has outlined climate resilience measures as part of the 2012-2016 National Development Plan and is currently undertaking projects and actions as a direct response to climate change.
Unconditional contribution	At the strategic level, Suriname has outlined in the 2012-2016 National Development Plan, several critical mitigation measures to be implemented which include the rehabilitation and enhancement of infrastructure such as dikes to protect the coastal zone; drainage for urban and non-urban areas; improvements to water resources management; protection of freshwater resources in ground aquifers and rivers; promotion of sustainable land management; applying innovative technologies in the use of land; and instituting measures towards increasing ecosystem resilience to ensure these naturally adapt to the changing climate. Within the limitations of its own domestic financial resources, work has already commenced in integrating climate resilience in infrastructure programs as well as in the social and productive sectors such as in agriculture, coastal zone, education, health, and tourism. Furthermore, adaptation measures to building climate resilience

	include improving natural and mechanical infrastructure such as dikes and river defenses; mangrove protection, restoration and expansion, and water management. These efforts have been guided by preliminary vulnerability assessments for key sectors including agriculture, the coastal zone, health, socio-economy and tourism. These assessments also supported the identification of critical adaptation measures of which some are under implementation such as the drafted law for protecting the unprotected parts of the mangrove forests along the coast. The reasons for this measure are to increase natural protection of the vulnerable coastline; protect the mangrove ecosystems on the coast; sequester carbon and reduce GHG emissions caused by uprooting of plants during coastal erosion; to promote natural mangrove regeneration leading to increased fish production and reduced poverty levels.
Conditional Contribution	Further research and vulnerability assessments, infrastructure programs, and mainstreaming climate change in the social and productive sectors are critical actions to be taken in increasing resilience to climate change in the coastal zone as well as in the Interior. In addition, the introduction and implementation of various types of renewable energy requires, for instance, the installation of solar panel parks as well as micro-hydro power units in river systems; application of biomass-to-energy technology; installation of wind mills; and implementation of waste-to-energy technology. These, in turn, require human and institutional capacity building and financing. Financing is a key requirement to support these actions and determining in a comprehensive way the future costs of adaptation. Building climate resiliency is viewed as an immediate priority. Notwithstanding this, to be able to make minimum level adaptation interventions the Republic of Suriname requires an estimated US$1 Billion to support its climate resilience program of activities in the period up to 2025.
ASSUMPTIONS AND	A key assumption made in this INDC is that support from the

RISKS	international community, and in particular the ANNEX 1 countries, will be forthcoming in a timely manner in areas such as finance, technology transfer, renewable energy and training, and capacity building. It is also assumed that financial mechanisms under the UNFCCC including the Green Climate Fund will become fully operational and easily accessible for SIDS and low lying coastal countries. Also, that a special financing mechanism will be established to support action on forests which could evolve into a mechanism for payment of forest climate services. Considering these assumptions, the risk therefore is that implementation of actions outlined in the INDC could be affected by sloth, insufficient and limited financial resources.
FAIRNESS, EQUITY AND AMBITION	The Republic of Suriname is a carbon negative society, absorbing much more carbon than it generates. GHG emissions are negligible at approximately 7 million tons of carbon. And, with approximately 94% of land area under tropical rainforests, Suriname performs a key function as a global carbon sink absorbing more than 8.8Mt CO_2 annually. As such, Suriname's proposed contributions are ambitious, fair and equitable and represent a commitment towards climate compatible development and global climate change mitigation.
MEANS OF IMPLEMENTATION AND TOTAL COSTS	The implementation of the INDC of the Republic of Suriname will require financial support. Several actions have been identified in the energy and forestry sectors that would contribute to mitigation. An estimate of these costs is US$2.492 Billion. For critical adaptation needs, however, Suriname requires an estimated US$ 1Billion to support its climate resilience program of activities. The total costs for the implementation of the INDC of the Republic of Suriname are therefore estimated at US$3.492 Billion.