Zimbabwe Climate Policy

April 2016
Zimbabwe lies in a semi-arid belt of Southern Africa with 80 percent of farming relying on rain-fed agriculture. This increases the vulnerability status of the country as agricultural productivity trends and other economic indicators such as gross domestic product has been observed to follow annual rainfall variability patterns. It is clear that urgent action is needed from Government as climate change is increasing this variability and subsequent impacts such as poverty, declining water quality and quantity, damaging of infrastructure and degradation of the natural resources which people’s livelihoods and the national economy depend on.

The Government of Zimbabwe and its people are committed to fighting climate change in the pursuit of sustainable development. Zimbabwe views climate change as a direct threat to its socio-economic development with the potential of reversing the hard earned developmental gains we have achieved over the past decades. With this Climate Policy, we seek to create a pathway towards a climate resilient and low carbon development economy in which the people have enough adaptive capacity and continue to develop in harmony with the environment. To achieve this, the Climate Policy is supported by the National Climate Change Response Strategy, National Adaptation Plan, the Low Carbon Development Strategy, National Environmental Policy and Strategic Document as well as other policies aimed at achieving sustainable development.

Through this Climate Policy, the people of Zimbabwe are expressing willingness to join the international community in addressing causes and impacts of climate change at the same time expressing the wish to see the upholding of the principle of common but differentiated responsibilities in line with national capabilities as enshrined in United Nations Convention on Climate Change. In this regard, this policy reflects Government’s thrust towards climate change adaptation and mitigation to some extent as Zimbabwe has contributed very limited amounts of greenhouse gases to the atmosphere. Hence Zimbabwe will endeavour to reduce by 33% below business as usual the energy emissions per capita by 2030 based on the availability of financial resources and technology transfer from bilateral and multilateral funding mechanisms in addition to domestic financing.

The actions envisioned in this Policy will safeguard our environment, sustain our society, and support our economy for the years ahead. Adequate financing, cross sectoral coordination, climate change science, research and systematic observations will form the backbone of actions towards a climate resilient Zimbabwe. This comprehensive Climate Policy will assist in the management of the serious social, economic and environmental risks from climate change impacts and direct investment towards tools and information needed by communities, industry and government for effective adaptation planning and disaster risk management.

H.E. Robert Gabriel Mugabe, President of the Republic of Zimbabwe
The human induced climate change and variability is one of the recent and evolving catastrophes facing humankind. More specifically the impacts in Zimbabwe have been observed in the climate sensitive sectors of the economy including agriculture which is mostly rain-fed, thereby making the smallholder farmers’ constituency of the population, especially women and children highly vulnerable, threatening their food security, creating new dimensions of poverty and slowing the socio-economic development of the country as a whole.

Upon realisation of the challenges posed by climate change, the Government of Zimbabwe through the Ministry of Environment, Water and Climate embarked on the development of policy and strategy documents to address climate related challenges. In 2013 the government launched a cluster based economic blueprint, the Zimbabwe Agenda for Sustainable Socio-Economic Transformation (ZimASSET), which provides a clear and coherent plan to achieve sustainable development and tackle climate change in its Food and Nutrition Security as well as Infrastructure and Utilities clusters. Furthermore, the Government has developed this National Climate Policy to drive the country towards climate resilience and a carbon neutral Zimbabwe.

The development process followed a wide all-inclusive stakeholder consultation process around the four thematic areas of the policy; Weather and Climate, Vulnerability and Adaptation, Low Carbon Development and Cross Cutting Issues. In order to produce a robust national climate policy, its development process was based on the following principles:
1. Support the national developmental vision and national programmes.
2. Robust, wholly owned by Zimbabweans, integrated and participatory.
3. Sound data based, modelling and rigorous analysis but also based on integrated and participatory approach.
4. Aligning robust scientific findings and opportunities with national developmental aspirations.
5. Addressing implications of the past, current and future climate.
6. Ability to outline the climate change issues across the different sectors and their guiding principles.
7. Based on results that guide investors and donors on Zimbabwe’s priority areas in climate change adaptation and mitigation programmes.
8. Aligned to the guiding principles of the National Climate Change Response Strategy and Action Plans.
9. Contribute to the global call of reducing greenhouse gas global emissions to limit the temperature rise below 2°C.

This climate policy will achieve its vision through research, education and awareness, implementation of adaptation and mitigation actions, resource mobilisation, enhanced collaborations and strengthened governance.

The policy is expected to mainstream climate issues in all sectors of the economy including; energy, agriculture, industrial processes, waste, land use land cover and forestry. The Policy will guide the implementation of the National Climate Change Response Strategy (2014) and other subsequent strategies, action plans that will be developed. Implementation of this policy is expected to contribute towards the country’s commitments and global greenhouse gas emission reductions targets.
In conclusion, I wish to acknowledge the technical and financial support received from our Cooperating Partners, the World Bank and GIZ (through the preparation of background notes on agriculture, water, infrastructure and forests), UNDP, UNICEF, COMESA, and Environment Africa. I also wish to thank the University of Zimbabwe’s Department of Geography and Environmental Science for their coordination and the Government and People of Zimbabwe who made the formulation of the Zimbabwe National Climate Policy possible.

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Hon Oppah C. Z. Muchinguri-Kashiri, Minister of Environment, Water and Climate
FOREWORD

The global nature of climate and climate change issues require the widest cooperation and participation in an effective and appropriate international response comprising a robust systematic observation system, mitigation and adaptation measures. As part of our commitment to this global cause, Zimbabwe ratified the United Nations Framework Convention on Climate Change (UNFCCC) and committed to deal with climate change based on the principles of the Convention which include protecting the climate system for the benefit of present and future generations on the basis of equity and common but differentiated responsibilities and respective capabilities in light of national circumstances.

Zimbabwe has a highly variable climate and has a significant area that is semi-arid. As such, it is recognized as one of the countries that are most vulnerable to climate change impacts. Climate change is a threat to the country’s development and there is urgent need to protect our economy and communities from extreme weather and climate events, and associated droughts, flooding, livelihood loss, ecosystem damage as well as water scarcity.

On the other hand, climate change offers the country an opportunity to leapfrog into sustainable, low carbon and green economy based future. Zimbabwe has taken initial steps towards addressing the climate change challenge. A National Climate Change Response Strategy has been developed which identified risks, impacts, challenges and opportunities in the context of adaptation and mitigation in a range of key sectors. The National Climate Policy will galvanize action towards specific targets, timelines, mandates, and allocation of resources and responsibility amongst relevant Ministries and sectors for concrete and implementable steps, guiding the National Climate Response Strategy among other plans developed.

The National Climate Policy formulation was based on and guided by robust science, stakeholder consultations, review of the current plans, strategies and policies, legal and regulatory analysis. The Policy addresses four thematic areas which are clustered as follows: (1) Weather, Climate Modelling and Change, (2) Vulnerability and Adaptation, (3) Mitigation and Low Carbon Development and (4) Enablers/Cross Cutting Issues

The priority issues enclosed in the Policy include data collection and management, information sharing, climate research, inter-agency coordination, domestic incorporation of international, regional and multilateral climate change instruments, vulnerability assessments and adaptation interventions, innovations and technologies for mitigation, climate finance, technology transfer. Enablers and cross-cutting issues are integrated in all the different sectors within the policy and these include capacity building, training, and public awareness, gender, disaster risk management, and climate governance.

Coordination is a prerequisite for any effective national policy, and thus the National Climate Policy provides a framework that calls for inter-agency cooperation, governance systems and a means to integrate and mainstream climate change into different socio-economic sectors. Based on this National Climate Policy, strategies shall be formulated and their effectiveness monitored with regards to achieving a climate resilient nation that pursues a low carbon development pathway.

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P. Mupazviriho, Secretary for Environment, Water and Climate
INTRODUCTORY STATEMENT

Climate change is the most serious global challenge of our time. The impacts of climate change on Zimbabwe are already being felt throughout all socio-economic sectors. The last three decades in Zimbabwe have seen increased variability in the seasonal distribution of rainfall, an increase in day-time and night-time average temperatures, increased incidences of intense rainfall interspaced by long dry spells, and late onset and early cessation of rains. These variations in rainfall and temperature are having profound impacts on Zimbabwe’s agricultural industry, food security, hydro-energy generation and downstream economic sectors.

Through the United Nations Framework Convention on Climate Change (UNFCCC) process and in order to attain the Sustainable Development Goals, the Government of Zimbabwe is committed to protect the climate system for the benefit of present and future generations. This policy draws lessons from three decades of UNFCCC implementation and the Kyoto Protocol and reflects on expected country commitments emanating from the Paris Agreement of 2015. It also aims to support the fulfilment of some aspects of the Sustainable Development Goals, particularly SDG 13 on urgent need to combat climate change; as well as the Sendai Framework for Disaster Risk Reduction priority 3 on investing in disaster risk reduction for resilience.

The Government considers climate change as a threat to its people and that it has the potential to undermine positive developments made in meeting various developmental goals. The 2014 National Climate Change Response Strategy (NCCRS) recognised the importance of climate change impacts for Zimbabwe’s development. This National Climate Policy seeks to provide an overarching framework to give the country basic principles and guidance under which the NCCRS and other climate related strategies will be implemented. This policy is expected to assist the country to meet its nationally determined contributions to the UNFCCC, create resilient communities and drive the country towards an economy that is largely decoupled from climatic variations.

Achieving long-term sustainable economic development in the face of climate change is a primary concern. According to the Inter-Governmental Panel on Climate Change (IPCC) Fifth Assessment Report (2014), climate change impacts are likely to continue to affect the world beyond 2100 particularly developing countries such as Zimbabwe; exacerbating their vulnerability to external shocks. This means a framework to guide short, medium and long term action is needed. This policy calls for the climate proofing of other policies and socio-economic infrastructure; strengthening of climate change governance; increased education and awareness; improved early warning and climate services; research to inform planning and future policy orientation; as well as a robust sustainable climate finance framework.

The policy is the culmination of a highly participatory process buttressed by the results of science. Its implementation is expected to be based upon the same principles. The policy lays the basis for increased coordination and participation of all stakeholders in response to the climate challenge.
BACKGROUND

Climate is the provider of development opportunities and constraints on Earth. In fact, the Earth’s climate alone is the one which makes it possible for life on Earth to exist as we know it today. However, human activities, particularly the industrial revolution of the 18th to the 21st centuries have mainly been driving climate change, threatening the very existence of life on Earth as we know it. Thus, to date climate change poses a serious additional constraint to sustainable socioeconomic development for most countries in the World, particularly in Africa including Zimbabwe.

It acknowledged that Zimbabwe is particularly vulnerable due to its heavy dependence on rainfed agriculture and climate sensitive resources. There is ample evidence that climate is a major driving factor for most of Zimbabwe’s socio-economic activities such as that Zimbabwe’s Gross Domestic Product (GDP) is tightly linked with rainfall patterns (Zimbabwe National Water Policy). The increasing frequency and severity of droughts and floods, the shift in onset and cessation of the rainfall and increasing intensity of mid-season dry spells in the last 50 years have been identified in the Zimbabwe Initial National Communications (1996) as a major consequence of climate change. Livelihoods of the poor, particularly women who are highly dependent on climate sensitive sectors like agriculture, are likely to be impacted by climate change in various ways. Climate change impacts are also expected to disproportionately affect the poor, young, elderly, sick, and otherwise marginalized populations.

According to the Intergovernmental Panel on Climate Change (IPCC) in 2007, there is scientific consensus with regard to future climate change that the proportion of dryland areas affected by climate related hazards such as droughts is likely to increase. The projected drying trend will also affect the agricultural sector as cropping is mostly rainfed resulting in reduced crop yields, low livestock productivity, poor pastures which ultimately affects food security and livelihood options. In Zimbabwe observations based on data from the Zimbabwe Meteorological Services Department shows that temperatures over Zimbabwe have been steadily increasing from the 1970s to the 2000s putting stress on a sensitive agricultural and water sectors- keys to economic growth.

Recognising the challenges posed by climate variability and change in Zimbabwe, it is important to institute robust measures that if possible can translate the challenges into business opportunities that could positively transform Zimbabwe’s socio-economic fabric. Such measures must necessarily include the integration of climate information into all relevant Government policies and also be in accordance with global efforts to address climate change such as the United Nations Framework Convention on Climate Change, in which Zimbabwe is a signatory.
To this end, this National Climate Policy provides a framework for addressing climate related challenges that Zimbabwe faces now and in future due to the changing climate. It forms the basis of developing Action Plans for national efforts on adaptation and mitigation, providing a platform to unpack and implement Zimbabwe’s Nationally Determined Contributions to contribute to the global goal of limiting temperature rise to below 1.5°C.

This National Climate Policy fits well into other initiatives such as the African Union Agenda 2063, SADC Industrialisation Strategy, Paris Agreement in line with the Nationally Determined Contributions, and the Post-2015 Global Development Agenda where climate change remains a key issue for sustainable development and to reduce the temperature rise below 2°C. Specifically, Sustainable Development Goal (SDG) 13 calls for the need to “take urgent action to combat climate change and its impacts.” According to the UNFCCC Conference of Parties 21, this requires the widest possible cooperation by all countries, and their participation in an effective and appropriate international response, to reduce global greenhouse gas emissions. Thus, when taking action to address climate change, COP 21 agreement urges the need to “respect, promote and consider obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity”. This is also a key element of this policy and it is also informed by constitutional provisions covering health and human rights issues. The Constitution of Zimbabwe (2013) affords every citizen environmental rights, which include the right to:

a) an environment that is not harmful to their health and well-being; and

b) have the environment protected for the benefit of present and future generations, through reasonable legislative and other measures that –

i. prevent pollution and ecological degradation;

ii. promote conservation; and

iii. Secure ecologically sustainable development and use of natural resources while promoting economic and social development.
Principles underpinning the National Climate Policy

The National Climate Policy of Zimbabwe is underpinned by the following principles:

1. Base climate related decisions or actions on sound data based, modelling, robust scientific findings including Indigenous Knowledge System and rigorous analysis but also on integrated, participatory approach;

2. Ensure Zimbabwe’s resilience to climate related challenges by cross-sectional engagement inclusive of public-private sector involvement in the implementation;

3. Adopt of low carbon development pathway that incorporate national developmental aspirations, vision and national programmes;

4. Build resilience to climate challenges through adaptation programmes shall is pursued concurrently with climate change mitigation programmes;

5. Ensure that the climate policy be wholly owned by all Zimbabweans and be gender sensitive;

6. Address implications of the past, current and future climate.

7. Guide climate adaptation and climate change mitigation investment programmes in Zimbabwe’s priority areas.


These principles are also in line with Article 7 of the UNFCCC twenty first Conference of Parties which acknowledges that action on addressing climate change particularly adaptation should be “country-driven, gender-responsive, participatory and fully transparent approach, taking into consideration vulnerable groups, communities and ecosystems, and should be based on and guided by the best available science and, as appropriate, traditional knowledge, knowledge of indigenous peoples and local knowledge systems, with a view to integrating adaptation into relevant socioeconomic and environmental policies and actions, where appropriate.”
STRUCTURE OF THE CLIMATE POLICY

Vision: A climate resilient and low carbon Zimbabwe

The vision has been adopted in order to climate-proof all the socio-economic development sectors of Zimbabwe to address the national challenge of reducing Zimbabwe’s vulnerability to climate and climate related disasters, while developing in a low carbon pathway. The motivation for this policy is to reduce the socioeconomic impacts of climate variability and change in Zimbabwe and contribute to global emissions reduction.

Purpose of the Policy

The objective of this Policy is to guide climate change management in the country, enhance the national adaptive captive, scale up mitigation actions, facilitate domestication of global policies and ensure compliance to the global mechanisms.

Primary Goals

1. Develop and strengthen capacity in Weather, Climate Research and Modelling.
2. Promote technology transfer, capacity building and information sharing.
3. Reduce vulnerability to climate variability and climate related disasters by strengthening adaptive capacity.
4. Accelerating mitigation measures by adopting and developing low carbon development pathways.
5. Strengthen education and awareness to climate variability and change.
6. Search for solutions to financial resource allocation, mobilisation and management.
7. Foster collaboration among national and international institutions in climate related issues.
8. Strengthen governance structures for the climate policy to increase Zimbabwe’s resilience to climate change and climate variability.

Policy Implementation

Each of the policy statements cited under the goals of this policy is elaborated in order to show how it is implemented, while citing key role players and monitoring methods. The policy implementation strategy should be provided in the National Climate Change Response Strategy (NCCRS) document, the Nationally Determined Contributions (NDCs), the Meteorological Services Act and any other climate related documents.
1. DEVELOP AND STRENGTHEN CAPACITY IN WEATHER, CLIMATE RESEARCH AND MODELLING

Analysis of weather and climate data enables the scientific understanding of climate processes and this knowledge can be applied to normal day to day weather forecasting as well as forecasting impending extreme weather events and issue warnings. Meteorological data also forms the basis of weather and climate research which provides supporting evidence of climate change through analysing trends of weather elements. Analysing this data also assists in vulnerability assessments and reveals impacts of climate change and variability and thus assists in informing adaptation and mitigation strategies. Data is also used as input into global and regional climate models which when run provide future climate projections of elements such as temperature and precipitation. The capacity of a country to conduct meaningful research and modelling work in weather and climate and to apply the results to relevant development decisions depends on the levels of availability of human resources that are appropriately educated and skilled, as well as the provision and availability of robust research and modelling infrastructure. Specific policies to develop and strengthen capacity in weather, climate research and modelling are needed.

Education and Training

The Government of Zimbabwe shall:

1.1. Strengthen and mainstream weather and climate in all education curricula.

1.2. Provide relevant training on weather and climate research and modelling to educators.

1.3. Establish mechanisms for training officials, including legislators and judiciary on climate science.

Skills development

1.4. Enhance the teaching and learning of weather and climate at all levels of education.

1.5. Provide relevant training on weather and climate research and modelling to practitioners working with communities.

1.6. Develop capacity to strengthen modelling and impact studies among technical staff, including in the planning and design of development plans, programs and projects.
Institutions and Infrastructure Development

Institutions and weather and climate research infrastructure need to be developed and/or strengthened. The government shall strengthen the climate service system to ensure access to climate products and services which meet user requirements.

To this end Government shall:

1.7. Strengthen the infrastructural capacity of the National Meteorological and Hydrological Services to carry out research on climate change through improved data collection and management, and climate modelling.

1.8. Promote collaborations between universities and research institutions (domestically and internationally) as well as National Meteorological and Hydrological Services and Climate Change Management Department.

1.9. Create a portal for quality controlled meteorological and hydrological data for ease of access by users.

1.10. Provide meteorological and hydrological data free of charge for research, non-commercial and national uses.
2. PROMOTE AND STRENGTHEN TECHNOLOGY TRANSFER AND INFORMATION SHARING

This Climate Policy seeks to promote technologies for adaptation and mitigation in the country to reduce vulnerability to the diverse and complex impacts of climate change, while developing in a low carbon pathway in the country. In order to facilitate these interventions, climate research and technological development are useful for building knowledge on climate change and supporting appropriate responses as informed by the UNFCCC Technology Mechanism, the Climate Technology Centre and Network (CTCN).

Technology Transfer

The challenge of climate change requires Zimbabwe to access and develop technologies relevant for implementing appropriate mitigation and adaptation projects and actions. Across the global landscape, countries are increasingly drawing from low emissions development (LED) technologies particularly in the energy sector. LED pathways, for example in the energy sector, have given several opportunities including energy security, energy access, employment generation, cost-savings, resource efficiency and health benefits to countries adopting such technologies. As such, there are numerous benefits in developing or upscaling LED programmes in Zimbabwe. Furthermore, the country needs to enhance national and international linkages in the development of technologies for climate forecasting and development of climate models. In this regard, linkages among or exchange programmes with local, regional and international research institutions, industries and universities would both promote transfer of technologies and its uptake in Zimbabwe’s development sectors. To this end, Government shall:

2.1. Identify the country’s technology needs and priorities and promote its development, uptake and diffusion.

2.2. Promote removal of barriers of technology transfer.

2.3. Promote technology transfer in support of Zimbabwe’s Nationally Determined Contributions (NDCs) and other climate related policies and actions.

2.4. Collaborate with the private sector, CSO, universities and research institutions and the development partners in developing or sharing appropriate technology and technical support for climate-related infrastructure development, preparedness and resilience.

2.5. Promote national and international linkages in the development of technologies for climate forecasting and development of climate models.
Information Sharing

Zimbabwe’s vulnerability to climate risks is increasing, chiefly owing to paucity in climate information or inadequacy of climate services. Climate information is key to managing current climate risks and adapting to a future climate. Essentially, effective climate responses are underpinned by the development of a robust policy specifying a strategy or system to share climate information and knowledge, including ensuring access to it. The country needs to enhance its climate information services, a system involving the production and communication of climate information to the decision maker or user. The IPCC notes that indigenous forms of knowledge, including the specialised knowledge of any stakeholder are becoming increasingly relevant for climate services. This observation is also true in Zimbabwe where some locals continue to rely on indigenous knowledge systems (IKS) in climate-related decisions. Furthermore, it is also necessary to recognise the climate information environment, which consists of numerous interacting and interdependent social, cultural, economic and political subsystems that shape the creation, flow and use of climate information. To this end, Government shall:

2.6. Capacitate the Department of Climate Change Management to be a climate change information hub and clearinghouse to generate, coordinate, collect, collate, store, retrieve and disseminate reliable, high quality and up-to-date data and information, and develop guidelines and tools for the use of climate data in development decisions.

2.7. Capacitate the Department of Meteorological Services to be a meteorological information hub with reliable and high quality data.

2.8. Set up climate information hubs in every province to collect primary information, and act as dissemination points for refined climate knowledge.

2.9. Promote the use of traditional and modern technologies (ICT) for generation and exchange of climate information, products and services in appropriate languages.

2.10. Promote collaborative work between research institutions, Department of Climate Change Management and Department of Meteorological Services to generate information and up-scale provision of specific climate information products.

2.11. Provide incentives for economic entities engaging in low carbon development.
3. REDUCE VULNERABILITY TO CLIMATE VARIABILITY AND CLIMATE RELATED DISASTERS BY STRENGTHENING ADAPTIVE CAPACITY

Climate variability and change will have profound effects on key sectors of Zimbabwe’s economy. The vulnerability of Zimbabwe’s systems to climate variability and change can best be understood by the close relationship between the performance of Zimbabwe’s economic sectors and the hydrological (water) cycle. It is expected that the projected changes in climate will impact on the performance of the following sectors, among others: Water, Agriculture, Energy, Industry, Health, Infrastructure and Forestry and Biodiversity. In this regard, specific policies to develop and strengthen adaptive capacity in all these key sectors within the context of climate change are needed.

Water Sector

Climate variability and change is mainly evident by its effects on water resources availability patterns. For adaptation to be effective, it is important to understand the sectoral vulnerabilities as a result of climate change impacts on Zimbabwe’s water resources in order to ensure climate-resilient water sector policies and investments. In this regard, the Government shall:

3.1. Undertake comprehensive hydrological analyses to understand vulnerability levels and identify potential adaptation actions for Zimbabwe.

3.2. Periodically review existing national and water-related sectoral policies (such as agriculture, energy, environment) to ensure that they adequately address climate-related challenges.

3.3. Develop a National Water Resources Management Master Plan, which explicitly integrates climate change.

3.4. Strengthen conjunctive groundwater and surface water assessment, monitoring and regulation.

3.5. Periodically review expected yields for each catchment taking into account temperature and precipitation changes expected under climate change.

3.6. Ensure climate change is incorporated in water resources infrastructure design including the development of relevant guidelines.

3.7. Ensure water sources for domestic consumption are within national standards radius of household reach.

3.8. Ensure improved water supply for livestock, wildlife and environment in line with the changing climate.

3.9. Promote water harvesting for domestic, animal, agriculture and industrial use.
3.10. Maintain and promote the conservation of wetlands as part of a water/river source protection strategy in line with a changing climate.

3.11. Establish a Centre of Excellence in Water and Climate Change to undertake essential research on the impacts of climate change on water resources.

3.12. Increase support to transboundary water management.

3.13. Strengthen the use of Geoinformation Science (GIS) and Earth Observation Technologies in water resources assessment.

**Agriculture Sector**

Agriculture is one of Zimbabwe’s most climate sensitive sectors given the close relationship between levels of agricultural production and rainfall. Approximately 80% of the rural population livelihoods are dependent on rainfed agriculture making them highly vulnerable to climate change induced weather extremes, variability and climate change impacts. For adaptation to be effective, it is important to understand the vulnerability of the agricultural sector to climate change and variability. In this regard, the Government shall:

3.14. Periodically review and update the agro-ecological map of Zimbabwe in line with changing climate.

3.15. Conduct assessments on possible climate-related shifts in the viability of farming systems, including positive effects such as carbon fertilization.

3.16. Undertake comprehensive analyses to understand barriers to adaptation to climate change, including human, institutional and financial barriers.

3.17. Ensure that the Irrigation Development and Management Master Plan integrate climate change.

3.18. Promote irrigation and water use efficiency in agriculture including adequate assessment of irrigation potential and irrigation demand under climate change.

3.19. Encourage use of efficient irrigation technologies, including precision irrigation, and setting of appropriate water prices.

3.20. Promote sustainable land-use systems in line with principles of climate smart agriculture.

3.21. Strengthen capacity to generate new forms of knowledge, technologies and agricultural support services that meet emerging development challenges arising from increased climate change and variability.
3.22. Strengthen Geoinformation Science (GIS) and Earth Observation early warning systems on cropping season quality, rangeland condition, droughts, floods, disease/pest outbreaks and wildlife movement in order to enhance farmer preparedness.

3.23. Strengthen the implementation of the drought management framework for livestock sector.

3.24. Promote and regulate crop and livestock weather indexed insurance.

3.25. Strengthen the capacity to identify and promote adoption of improved livestock breeds that are tolerant to climate related stresses.

3.26. Strengthen the capacity to identify and promote adoption of improved seed and crop varieties that are tolerant to climate related stresses.

3.27. Undertake comprehensive analyses to understand barriers to adaptation to climate change, including human, institutional and financial barriers.

3.28. Ensure that mitigation and adaptation measures enhance agriculture-based livelihoods, by promoting food security and poverty alleviation.

Health Sector

Good health is a pillar of Zimbabwe’s development. For adaptation to be effective, it is important to understand the vulnerability of the health sector to climate change and variability. In this regard, the Government shall:

3.29. Strengthen surveillance programmes for monitoring human health under a changing climate, particularly operational knowledge on climate-disease relationships.

3.30. Understand the impacts of climate change on women, children, youth and people living with disabilities in Zimbabwe and create an enabling environment that prevents harm to these vulnerable groups emanating from pressures of these impacts.

3.31. Enhance provision of Geographic Information Science and Earth Observation based early warning systems on droughts, floods and disease outbreaks to vulnerable groups and ensure coordinated approaches in providing emergency services.

Forestry and Biodiversity Sector

Zimbabwe’s forestry sector contributes 4.1% of the national GDP and over 4million people depend on forestry resources for their livelihoods. The forestry sector also provides options for adaptation through non carbon benefits. Whilst tourism in Zimbabwe is one of the economy pillars it leverages on the
forestry and biodiversity sectors. Thus, climate change and climate variability could have a profound effect on the tourism sector through impacts on forestry and biodiversity. Therefore, the Government shall:

3.32. Conserve and enhance forestry resources which act as both sinks and reservoirs of greenhouse gases.

3.33. Strengthen afforestation programmes that promote drought and heat tolerant tree species.

3.34. Strengthen research capacity in forest ecosystem resilience to facilitate adaptation efforts to climate change.

3.35. Establish permanent forest ecosystem monitoring plots to monitor possible signs of forest die-back as a way to effectively plan afforestation programmes based on appropriate species.

3.36. Promote research to reduce the existing gaps in knowledge on forest ecosystems and climate change, as well as on forest threats such as fires.

3.37. Promote improved understanding of the role played by forests in supporting livelihoods through timber and non-timber products; and of the effects that climate change could have on those livelihoods.

3.38. Strengthen framework for Reducing Emission from Deforestation and Forest Degradation (REDD+) and other financing mechanisms.

3.39. Strengthen enforcement and other measures to reduce deforestation and forest degradation.

3.40. Support research to enhance understanding of climate change impacts on wildlife and adaptive management planning for key wildlife species.

3.41. Monitor and reduce the prevalence of invasive plant species.

3.42. Strengthen the use of Geoinformation Science (GIS) and Earth Observation Technologies in forest and biodiversity assessment.

**Infrastructural Sector**

Zimbabwe’s infrastructure has been developed using the past and current climate knowledge. However, climate change and climate variability could have a profound effect on Zimbabwe’s infrastructure making it imperative for infrastructural designs to take into consideration climate change and climate variability. Therefore, the Government shall:
3.43. Develop a climate resilient hydro-energy infrastructure that incorporates anticipated reductions in river runoff, higher evaporation, and increases in climatic variability.

3.44. Develop guidelines for the planning and design of climate resilient infrastructure, including guidance to carry out climate impact assessments of proposed projects.

3.45. Develop climate proofed and environmentally sustainable transport infrastructure.

3.46. Promote research in the climate-energy-economic nexus, including assessment of the impacts of climate variability and change on the production of energy from climate-sensitive sources (such as hydro-power and solar).

3.47. Develop capacity among technical staff to adapt infrastructure plans to climate change.

**Human Settlement**

In Zimbabwe, urban and rural areas are both vulnerable to climate variability and change. Climate change mostly affects rural areas because of their overdependence on natural resources, which are also highly climate-sensitive, whilst increased migration to urban areas puts pressure on the available resources in the urban areas. In order to facilitate successful adaptations and resilient human settlements, it is necessary to consider differences in vulnerability of various groups in urban and rural settlements. Therefore, the Government shall:

3.48. Integrate adaptation into human development programmes for resilient building, with particular focus on the poor and vulnerable groups through upgrading informal settlements and improved living conditions for all.

3.49. Develop the capacity of local authorities (urban and rural) to manage demographic challenges associated with migration as an adaptation practice.

3.50. Strengthen the social protection measures particularly for smallholder and subsistence farmers, women and other vulnerable groups against climate volatility.

3.51. Strengthen community based disaster risk management (CBDRM) for communities at risk of extreme climatic events.

3.52. Ensure that local authorities adopt climate proofed settlement designs.
4. ACCELERATING MITIGATION MEASURES BY ADOPTING AND DEVELOPING LOW CARBON DEVELOPMENT PATHWAYS

According to Zimbabwe’s Second National Communication to the United Nations Framework Convention on Climate Change, the country is an emitter of greenhouse gases with the major contributors being fuel combustion or energy (68.5%), agriculture (22.35%), waste handling (3.93%) and industrial processes (5.21%) in CO2 equivalent.

The primary energy sector is dominated by conventional fuels: coal, with total reserves of 10.6 billion tonnes of which half a billion are proven, petroleum of which about 1.5 billion litres of finished distillates are imported every year, and hydroelectric power with a total potential of 4,200 MW mainly on the Zambezi River, which is a shared basin. The liquid petroleum and gaseous fuels, which are all imported, are augmented by locally produced ethanol blended at a ratio 15:85. Electricity generation is about 49% hydro and 51% coal whilst the contribution of other abundant renewable energy resources such as solar and waste energy is negligible.

Zimbabwe is characterised by low energy consumption per capita, low energy access, especially in rural areas and high-energy intensity. Access to electricity is approximately 44% at national level and much lower in rural areas where firewood is the primary fuel source for thermal needs and kerosene for lighting. Energy use in Zimbabwe’s industries, farms, buildings and cities is highly inefficient. Local industry still uses antiquated equipment and processes.

As Zimbabwe makes strides towards socio-economic upliftment, energy consumption is set to rise, putting pressure on already depleting wood resources as well as increasing fossil fuel consumption. There is, however, an opportunity for Zimbabwe to follow a low carbon development pathway by taking advantage of innovations, technological developments and sustainable business models that will help it efficiently utilise its natural resource potential.

This Climate Policy sets to accelerate mitigation measures by adopting and developing low carbon development pathways in the Industrial, Energy, Waste, Agriculture, Land Use, Land Use Change and Forestry sectors among others. This is line with meeting the global goal set at the COP 21 of limiting global temperature increase well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels. Thus in order to reduce the risks and
impacts of climate change there is need for fostering of pathways towards low greenhouse gas emissions and climate resilient development. Low carbon development can create opportunities for the Zimbabwe such as using renewable energy potentials to improve energy access through low-cost and low polluting technologies as well as diversification of the energy mix to reduce dependence on fossil fuels. Such opportunities are critical for meeting the Nationally Determined Contributions (NDCs). To this end, the Government shall:

4.1. Establish and regularly update a national inventory of anthropogenic emissions by sources and removal by sinks of Greenhouse Gases (GHGs).
4.2. Prepare, communicate and maintain set emission targets for each sector that are in line with the Nationally Determined Contributions (NDC) in a transparent manner and to update every 5 years.
4.3. Formulate and implement programmes containing measures to mitigate climate change.
4.4. Mainstream climate change in the energy, industrial processes, waste, agriculture and Land-use, land-use-change and forestry sectors.
4.5. Cooperate in, the development, application and diffusion of climate friendly technologies.
4.6. Promote the adoption and utilisation of market-based instruments to mitigate climate change.
4.7. Establish a monitoring, reporting and verification (MRV) framework for monitoring GHG inventories towards compliance with NDCs requirements a year before global reporting.
4.8. Develop national capacity to design projects for environment facilities and climate financing.

**Energy sector**

Zimbabwe’s Second National Communication to the United Nations Framework Convention on Climate Change (UNFCCC), shows that the energy sector is the largest contributor to greenhouse gas (GHG) emissions, contributing 60.7% of the total GHG emissions.

Energy sector emissions emanate from the combustion of carbon related fuels and fugitive emissions from coal mining and handling. Fuel combustion from use of fossils comprising coal, diesel, gas, petrol and paraffin contribute more than 99% of the energy related emissions. Zimbabwe therefore needs to enhance or promote energy efficiency and alternative energy sources that contribute less to GHG emissions. To this end, Government shall:

4.9. Promote renewable energy and adoption of energy efficient technologies and practices across all socio economic sectors of the economy and the built environment.
4.10. Improve road and rail infrastructure for efficient transportation of goods and people.
4.11. Promote research, development, adoption and deployment of robust, gender-sensitive, sustainable green technologies.

4.12. Promote cleaner fossil fuel technologies and access to clean and affordable energy.

4.13. Enhance monitoring reporting and verification systems based on appropriate methodologies to account for GHG emissions in the energy sector.

**Industrial processes**

Zimbabwe’s economy has been historically anchored on four pillars namely agriculture, mining, manufacturing and tourism. The industrial pillar adds value to the products from agriculture and mining sector hence contributes significantly to GHG emissions. With the envisaged growth in capacity utilisation, there is need to address machinery and equipment needs of industry to ensure that production is done in a more efficient way with very low emissions to the atmosphere thus reducing their contribution to climate change. To this end, the Government shall:


4.15. Create an enabling environment for research and development into cleaner technologies and practices.

4.16. Provide financial and economic incentives for use of cleaner technologies and practices.

4.17. Promote adoption of resource efficient and cleaner production practices.

4.18. Promote innovation and technology transfer in industry.

4.19. Develop and implement a National Green Growth strategy.

4.20. Enhance monitoring systems based on appropriate methodologies to account for GHG emissions in the industrial sector.

**Waste**

The waste sector in Zimbabwe is a significant contributor to greenhouse gas (GHG) emissions. The largest sources of GHG emissions from the sector are methane (CH₄) generation from anaerobic digestion of organic waste in landfills and wastewater treatment while small quantities emanate from open burning and incineration of medical waste. The current waste management system in Zimbabwe is traditional and primarily focuses on the disposal of solid waste without controlling its generation and promoting waste reduction, re-use and recycling. In this regard, the Government shall:
4.21. Promote waste reduction, reuse and recycling as a top priority across all sectors, to reduce overall resource use and increase resource efficiency.

4.22. Promote collection, archiving and maintenance of accessible database on quality, quantity and characterisation of waste for mandatory reporting at national level.

4.23. Promote fuel or energy generation from waste.

4.24. Improve the management of existing waste disposal facilities to control GHG emissions.

4.25. Improve monitoring systems based on appropriate methodologies to account for GHG emissions in the waste sector.

**Agriculture sector**

In agriculture, various activities give rise to emission of GHG into the atmosphere. Enteric fermentation is rated the highest contributor of GHG emissions (CO$_2$-eq) from the Agriculture Sector in Zimbabwe. This was observed in the Initial National Communication (INC) as well as in the Second National Communication (SNC). Methane emissions from enteric fermentation in domestic livestock and nitrous oxide emission from agricultural soils were key source categories in the SNC. To this end, the Government shall:

4.26. Establish monitoring systems for GHG emissions in agricultural systems and support mechanisms for their reduction in line with the Nationally Determined Contributions (NDCs).

4.27. Promote good grazing management and feeding practices

4.28. Promote training and extension support to allow adoption of good management practices of grasslands including prescribed burning, and on-farm by products.

4.29. Reduce uncontrolled burning of savannas for agricultural purpose.

4.30. Promote the growing of cover crops in order to prevent losses of residual soil nitrogen and reduce N$_2$O emissions.

4.31. Promote renewable energy technologies in agriculture that encompass bio-energy crops.

4.32. Promote less energy intensive agricultural practices

4.33. Promote the use of sustainable energy options in the agriculture sector for crop curing and drying.

4.34. Enhance enforcement of legislation on establishment of woodlots in order to improve carbon sinks.
Land-use, land-use-change and forestry sector

Land and forestry resources are key issues when considering the energy and economic requirements of the majority of Zimbabweans. The rural communities, use 90% of their total energy requirements from wood fuel and 15% of this comes from forestry depletion. Zimbabwe’s forestry resources cover approximately 66% of the total land area (257,783 km²). The extensive woodland cover gives Zimbabwe potential to become a carbon sink. The forest stocks generate a wide range of both timber and non-timber products such as fuel wood, sawn timber, fodder, fruits, charcoal, medicines and building materials among others. Forests also provide services such as watershed management, carbon fixation, microclimate stabilization and windbreaks. Currently there is pressure on forests by different land uses such as agriculture, urban and peri-urban expansion, and wood for various purposes, including fuel wood for domestic use and curing tobacco. There is therefore need for approaches that promote reduction of emissions from deforestation and forest degradation, and that strengthen the role of conservation and sustainable management of forests. In this regard, the Government shall:

4.35. Maintain and monitor forest carbon stocks.
4.36. Reduce greenhouse gases emission from forestry burning and land use changes.
4.37. Strengthen national capacity to control veld fires and illegal logging that can lead to GHG emission, deforestation and land degradation.
4.38. Promote the establishment of woodlots and plantations in order to mitigate and improve carbon sinks.
4.39. Provide incentives for activities relating to emission reduction from deforestation, land use changes and forest degradation.
4.40. Increase capacity development in forestry research and technology development and encourage the conservation and restoration of forests threatened by climate change.
4.41. Develop national capacity to design carbon projects for accessing different carbon financing mechanisms and to implement and support the projects.
5. STRENGTHEN EDUCATION, TRAINING AND AWARENESS TO CLIMATE VARIABILITY AND CHANGE

Article 6 of the UNFCCC provides for implementing programmes for education, awareness and training on climate change, including the development and exchange of educational and public awareness materials on climate change and its effects. In Zimbabwe, several mechanisms and initiatives are already in place for promoting climate education and awareness. This Policy emphasises on response, which is knowledge and evidence based, and that incorporates indigenous knowledge systems (IKS), culture and science.

Climate Education and Training

Climate change education is necessary to empower the country’s citizens. It is also a vehicle for promoting climate-sensitive development by the country’s broad socio-economic sectors. Education and training packages for climate change also need to be sensitive to gender, youth, children and other vulnerable members of society. The country’s education sector is increasingly developing and revising curricula to comprehensively cover the knowledge of climate change. In this regard, Government shall:

5.1. Develop curricula that mainstream climate change knowledge in context of specific learning content or disciplines for primary, secondary and tertiary level education.

5.2. Incorporate climate knowledge in the development of climate-resilient infrastructure and formulation of climate-sensitive development policies and legislation.

5.3. Provide training to development practitioners in every local authority responsible for climate-sensitive planning, budgeting, public awareness and development.

5.4. Establish mechanisms for training of its officials, including legislators and judiciary on climate science.

5.5. Promote online climate change education and training.

Public Awareness and Communication

Increasing public awareness on climate change and its effects can empower the people to take appropriate climate-sensitive decisions and actions. A climate conscious society is necessary to increase participation in climate interventions, which would promote the successful policy adoption and implementation of climate mitigation and adaptation projects in the country. In this regard, the Government shall:
5.6. Upscale provision of climate extension services particularly to farming and rural communities largely relying on climate-sensitive livelihoods.

5.7. Support the development and dissemination of simplified meteorological and agro-meteorological information for the benefit of farmers, women and people living with disabilities.

5.8. Support formal and informal learning institutions and activities that are designed to raise awareness and teach new values, knowledge and skills, in order to encourage more climate responsible behaviour.

5.9. Put mechanisms for ensuring that media practitioners are educated and trained to enhance their knowledge and skills in communicating climate information to the public.

5.10. Design and strengthen community-based climate information management systems.

**Use of Indigenous Knowledge Systems**

Zimbabwe recognises the utility of IKS in complementing mainstream climate knowledge and practice. The utilisation of indigenous climate knowledge ranges from its application in climate change impact identification; as a decision support tool in agricultural planning and cropping choices; development of local early warning systems against climatic vagaries; coping with extreme weather events, drought and dry spells; to flood mitigation strategies by indigenous communities practising them. To this end Government will:

5.11. Strengthen the documentation of IKS to complement scientific knowledge for climate change forecasting and early warning systems through research institutions.
6. FINANCIAL RESOURCE ALLOCATION, MOBILISATION AND MANAGEMENT

Climate funding is crucial to the successful implementation of this Policy. Zimbabwe remains a highly climate-sensitive country owing to both observed and anticipated multifaceted impacts of climate change in the key sectors of the economy, that is, agriculture, the industrial sector, biodiversity, rangelands, water resources, health and human settlements and tourism. As such, several sector-specific adaptation options identified have been constrained by paucity in adaptation funding. For instance, efforts to promote irrigation development through dam construction and adoption of rainwater harvesting technologies to cope with drought and water scarcity have been severely hampered by lack of funds. Similarly, although the country has prioritised sustainable energy development under mitigation interventions, funding and technical capacity to support the transition into low-carbon energy generation and supply, and to implement energy-efficient options, is still lacking. Consequently, communities at risk of climatic events like drought and floods still lack access to any adaptation funding. On the other hand, opportunities associated with LED and scaling-up renewable energy programmes have not been fully harnessed due to capital and technological gaps.

Given a background where climate interventions have largely remained uncoordinated and differentiated across sectoral interests, mobilisation of adaptation funds has also become uncoordinated. The current international climate regime offers many opportunities for the country to tap into adaptation and mitigation funding. Such opportunities include: United Nations programme on Reducing Emissions from Deforestation and Forest Degradation (UN-REDD+), a carbon-based compensation mechanism for projects that reduce carbon emissions or enhance carbon sinks in developing countries; identifying projects eligible for the Clean Development Mechanism (CDM); and access to the Green Climate Fund. To this end, Government shall:

6.1. Establish a National Climate Fund that is supported by a 10% budgetary allocation from the national budget which will finance the climate strategies and the implementation of this Policy.

6.2. Channel funds to support projects in climate change mitigation, adaptation, disaster risk reduction and gender- and children-sensitive grassroots projects in every district of the country.

6.3. Develop, review and implement policies to enhance the country’s capacity to engage in carbon market activities, strengthen the viability of domestic carbon asset production and increase access to international carbon markets.

6.4. Build capacity to access international climate funds through upscaling REDD+, CDM, GCF and GEF-financed projects, etc under mitigation and adaptation programmes.
6.5. Ensure the accreditation of national institutions as national implementing entities for direct access to GCF and adaptation fund.

6.6. Provide an analysis of the annual budget expenditure on climate-related interventions to determine its impacts on the vulnerable groups.

6.7. Establish 0.005% levy of net profit for industries towards National Green growth.
7. FOSTER COLLABORATION AMONG NATIONAL AND INTERNATIONAL INSTITUTIONS IN CLIMATE RELATED ISSUES

Climate change is an issue that occurs and has impacts at global, regional, national and local levels. Tackling problems of the vulnerability of Zimbabwe’s systems to climate variability and change can best be undertaken through tight collaborations among national (local) institutions, as well as between Zimbabwe and international institutions. In this regard, specific policies to develop and foster collaboration among local and international institutions in climate related issues are an imperative.

Collaboration among National institutions

Collaboration among local institutions is important if Zimbabwe has to increase its adaptive capacity to a changing climate. In this regard, the Government shall:

7.1 Promote institutional collaborations that mainstream climate change into urban and rural planning, infrastructure, investments and service delivery.

7.2. Institutionalise climate change response into strategies, actions and budgets of climate sensitive sectors such as agriculture, wildlife, forestry, water, environmental management, fisheries, settlements, infrastructure and health.

7.3. Continuously research and work together with community based organisations and academia to develop adaptation and mitigation strategies that respond directly to the needs and vulnerabilities of children, youth, women and men, as well as people living with disabilities.

Collaboration with International institutions

Collaboration between Zimbabwe and International institutions is important if Zimbabwe has to increase its adaptive and mitigative capacity to a changing climate. Zimbabwe is a signatory to the UNFCCC, as well as a strong supporter of multilateralism. In this regard, the Government shall:

7.4. Strengthen already existing international collaborative frameworks and mechanisms such as the UNFCCC.

7.5. Facilitate the authorisation and approval of local organisations to participate in climate funding projects such as CDM and REDD+ projects and GCF, NAMAs, CTCN.

7.6. Promote the utilisation of opportunities for Zimbabwe to mobilise financial resources from international institutions for sustainable forest management and conservation of its tree and forest resources.
8. STRENGTHEN CLIMATE GOVERNANCE TO INCREASE ZIMBABWE’S RESILIENCE AND CONTRIBUTE TO GLOBAL EMISSIONS REDUCTION

Tackling problems of the vulnerability of Zimbabwe’s systems to climate variability and change can best be undertaken through clear governance structures for the climate policy implementation. Climate change adaptation and mitigation must be integrated into planning and budgeting frameworks of central and decentralised governance structures and capacities built across vertical and horizontal levels of governance. Coordination and climate change management needs to be ensures across various stakeholders at all levels. To this end, the Government of Zimbabwe shall:

8.1. Operationalize the climate policy through strategies and plans that will be reviewed after every 5 years

8.2. Strengthen the Department of Climate Change Management to coordinate the mainstreaming of climate change across different sectors of the economy.

8.3. Promote a bottom-up approach lead by local authorities and communities in decision making, monitoring and evaluation of adaptation and mitigation measures.

8.4. Develop a legislative framework to enable the operationalization of national strategies and plan.

8.5. Promote CSO and private sector participation.

8.6. Establish and maintain an inter-sectoral climate change think tank.

Gender and Climate Change

The Gender and Climate Forum of the World Climate Conference -3 (WCC-3) concluded that the drivers and consequences of climate change are not gender neutral. Women and men are distinct carriers, providers and users of climate information. They are affected differently by climate impacts, and therefore benefit from more contextualized climate services and interventions for resilience. Hence it is important that process and systems that guide the formulation of plans, strategies and budgeting are gender sensitive and gender responsive to address the climate change related gender inequalities. To this end, the Government of Zimbabwe shall:

8.7. Promote gender responsive climate programming and implementation of climate change policies, strategies and actions.

8.8. Recognises the gender disaggregated impacts of climate change.
8.9. Promote gender responsive mechanisms that continually enhance climate change mitigation and adaptation measures at community level through research, multi-stakeholder participation, political commitment and accessible information.

8.10. Provide new and innovative energy financing mechanisms that are user friendly, accessible and affordable to women, especially rural women and vulnerable or disadvantaged groups.

8.11. Promote research, documentation and dissemination of the emerging gender dimensions due to climate change.

9. CONCLUSION

The National Climate Policy provides a framework that calls for inter-agency cooperation, governance systems and a means to integrate and mainstream climate change into different socio-economic sectors. Based on this National Climate Policy, climate change response strategies shall be formulated and their effectiveness monitored in order to achieve a climate resilient nation that pursues a low carbon development pathway. To ensure the effectiveness of the National Climate Policy, the development and deployment of an appropriate Monitoring and Evaluation Framework for the relevant strategies is imperative.