Summary of the Sectoral NDC Result Framework (NDCP Implementation Plan)_Ethiopia

1. Ministry of Agriculture

Components of the Plan	Number
Outcomes	**9**
Outputs	**27**
KPIs	**26**
Adaptation	10
Mitigation	3
Cross-cutting	11

Outcomes/Output	Activities
1.1. Enhanced Food security by improving agricultural Productivity in Climate-Smart manner	
1.1.1 Climate Smart crop production packages for major rained crops (teff, wheat, barley and maize) developed and promoted	i) Developing and piloting of climate smart crop production extension packages to address climate risks identified in major crop farming systems through enhanced engagement of Research-Extension-Farmers linkages for technology screening (conducting on-station and on-farm participatory research trials) and developing climate smart crop production packages, ii) Awareness raising on Climate Smart technologies, iii) Training extension/agronomy Experts, Development Agents and smallholder farmers on Climate Smart Crop production packages developed, v) Supporting supply chain development to enable farmers access and adopt climate smart technologies and inputs recommended
1.1.2 Improved Crop varieties with climate resilient characteristics identified and disseminated	Review existing systems, capacities and performance of in crop breeding/research, Develop roadmap indicating the crop breeding and research strategies to develop climate smart crop varieties and related seed industry development in consultation with Agriculture Research and Academic Organizations (options could include experience sharing/partnership with peer countries such as China and Kenya in genetic engineering/gene editing technologies, tissue culture, etc), Identify institutional capacities (skills, technologies, hardware facilities and systems) required to establish the selected crop breeding and varietal screening systems/research technologies, Establish and support Research-Extension-private sector linkages to facilitate on-station and on-farm research to screen climate smart crop varieties, seed multiplication of recommended crop varieties, Develop extension package for recommended climate smart crop varieties, Conduct awareness/field demonstrations and training farmers on climate smart packages of improved crop varieties, Support/facilitate value chains development to enable farmers access recommended improved seed/planting materials (including support for seed/planting materials multiplication through Contract farming, support Cooperatives/Unions to identify and aggregate demand, access finance and distribute and manage supply and sales (support to adopt a digital system/mobile based

	techs to manage the whole supply chain),
1.1.3 Small holder farmers supported to increase use of irrigation for crop production (on corn/maize), wheat, tomatoes and onions)	Develop bankable irrigation investment projects (Conduct feasibility studies and detail design), Capacity building in screening and design of climate smart or climate resilient irrigation and water management technologies, scheme construction management and supervision, irrigation scheduling and water distribution/allocation technologies and practices, on-farm drainage and water application control/monitoring practices, Establish and strengthen Irrigation Water users association/cooperatives, identifying and promote on-farm irrigation water application and management technologies Climate-proofing irrigation infrastructure development projects since the areas targeted for irrigation development are located in drought prone dry lowland areas. The vulnerability of a project activity to the impacts of climate change may be direct (e.g. irrigation facilities are affected by changes in runoff/floods as well as changes in demand for irrigation water due to drought) or indirect if the area in which a project is established undergoes significant socio-economic modifications such as migration as a result of climate change. Second, projects may increase or decrease the vulnerability of natural and human systems to climate change and could therefore lead to maladaptation. Climate risk assessment and integrating these risks in the design and construction of the infrastructure and irrigation water management is important to raise the resilience of structures as well as the adaptation of user communities to climate change impacts. Therefore, supports to improve institutional capacity to analyze and integrate climate risks in the design and construction of irrigation scheme and water management is crucial to building resilience of the infrastructures and saving investments and adaptation capacity of the user communities
1.1.4 Smallholder farmers supported to adopt improved on-farm irrigation and crop management practices (maize), wheat, tomatoes and onions)	Conduct training need assessment on on-farm irrigation agronomic practices, training farmers on efficient on-farm irrigation water and soils management (on-farm irrigation agronomy practices), Support and facilitate development and implementing of value chains for irrigated crop production, including support for supply chains to improve access to agricultural inputs (seeds, crop protection chemicals, irrigation machinery and equipment, inorganic/organic fertilizers)
1.1.5 Integrated Soil Fertility Management (ISFM) practices Promoted	i) Assessment of area under ISFM practices, ii) Assessment of Soil Health Index and Soil Biodiversity, iii) Analysis of Soil Organic Carbon(SOC) on ISFM managed areas, iv) Assessment on the drainage condition of command area v) Promotion of climate Smart ISFM practices (soil amendment, salt tolerant varieties and other technologies….) - Awareness creation on proper lime utilization and Roadbed Mold, support value chains and market development for lime and Roadbed Mold, supply, improved credit access for Lime and broad bed users

1.1.6 Climate Smart Agriculture production technologies /practices promoted and adopted	Develop action plan to select and disseminate low emitting technologies in partnership with research and academic institutions (indicating clearly what will be done and achieved until end of 2025), Assessment and selection of Climate Smart Agricultural practices based on agro-ecology (Zonation-including Livestock) and climate risks identified, Develop extension training materials (manuals/brochure/videos) for the technologies identified, Organize ToT on climate smart and low emitting technologies recommended for FTC and Extension Agents, Create awareness on Climate Smart Agricultural practices, Support and monitor the promotion of climate smart agriculture low emitting technologies by regions, Training on Climate Smart Agricultural practices, Promote Climate Smart Agricultural Technologies
1.1.7 Strengthened Farmers Training Center (FTC) (relevant sectors) to promote climate smart agriculture	Assess the capacities of existing FTC/PTC/ to promote climate smart agriculture, Develop FTC/PTC capacity development plan (software and hardware capacities) and KPI to deliver CSA purposes/outcomes, Support FTC/PTC/ with infrastructure and tools, Integrate CSA topic into the existing FTC/PTC/ guideline and/or Develop CSA guidline, Strengthen modular training (support adult learning extension materials), Faciliate/support linkage of FTC/PTC with Universities and Research Institutes
1.2. Crop loss due to climate related crop pest and disease/incidence reduced	
1.2.1 Strengthened crop disease and pest surveillance and early warning system	Review existing institutional systems and performance in pest and disease surveillance, Develop institutional roadmap to improve pest and disease surveillance capacity, Undertake crop pest and diseases prevalence surveys. Identify and implement effective response mechanism, improved access to inputs and equipment and strengthen Early warning system and facilities
1.2.2 Strengthened dissemination of crop disease and pest early warning information	Enhance institutional systems/procedures for pest and disease monitoring and evaluation, Modernize data collection, analysis and interpretation and dissemination method/s, promote effective communication system, Capacity building in data collection, analysis and interpretation methods, Identify and map vulnerable pest/disease hotspot areas
1.3. Diversified livestock and animal mix (including promotion of poultry and small ruminants)	
1.3.1. Improved Production and Productivity of poultry	Conduct poultry sub-sector and value chain studies and develop intervention measures/initiatives to improve poultry value chains and market performance; Promote access to and linkage with market across the value chains, Provide technical and legal support to enhance private sectors engagement in poultry business, Conduct training need assessment and prepare and deliver training on improved poultry production technologies and extension and business development services relevant to the poultry value chains identified, Support access to improved poultry breed, feed supply, modern poultry husbandry or production technologies, Strengthen existing poultry multiplication centers, Support establishment of new poultry multiplication centers, Support establishment of new poultry breeder farm /parent stock farm, Train federal and regional senior poultry professionals/experts to specialize in poultry science in Ethiopia and abroad.(M.Sc. and PhD),

1.3.2. Improved production and Productivity of small ruminants (shoats)	Conduct small ruminants markets and value chain studies, Develop and implement initiatives to support and/or strengthen small ruminants markets and value chains performance including - Strengthen Community based breed improvement programs, Establish new Community based breed improvement programs, Support Establishment of nucleus breeding center, Provide technical support to enhance private sectors engagement, identify, promote and scale up small ruminant improved husbandry practices,
1.3.3 Support provided to introduce and adopt Improved livestock breeds by farmers	Training on improved dairy production across the value chain, Establishing new improved heifer multiplication centers, strengthen existing improved heifer multiplication centers and ranches, strengthen research centers for improved heifer production, strengthen national nucleus herd center , provide boisterous synchronization hormone, Procuring and distribution of sexed semen, provide technical support for climate smart dairy production, Promote healthy market linkage across the value chain, provide technical Support to enhance private sector engagement in dairy production
1.4. Farmers adopted mechanized farming practices	
1.4.1. Increased investments and support provided for farmers to shift from draught power to mechanization	Develop/update mechanization roadmap/strategy to guide transitions to mechanization, Develop mechanization standards and extension package (Standardization of draught power versus mechanization). Support identification and access to mechanization technologies, study the supply chains and develop interventions to improve the whole market chains to access technologies, Support SMEs and businesses/service providers to provide operation and maintenance services at local level,
1.4.2. Reduced pre and post-harvest crop loss through promoting appropriate technologies	Training and awareness on pre and post-harvest technologies, Study and support value chains to improve access to pre and post-harvest technologies, Pilot and Promote pre and post-harvest technologies, Support FTC and Farmers cooperatives to promote improved pre and post harvest technologies
1.5. Enhanced climate resilience in livestock	
1.5.1 Improved efficiency and coverage of animal health/veterinary services in drought prone areas	Provide training on animal health diseases prevention and control, support access to animal health facilities and equipment. Strengthen animal diseases prevention and control services. Support supply and provision of livestock vaccination, Establish temporary animal health quarantine around feedlot areas.
1.5.2. Reduced climate-driven vector-borne animal disease cases	Conduct training on climate driven vector borne animal diseases, Strengthen climate driven vector born animal disease prevention and control, Support national and regional diagnostic laboratories
1.6. Improved rangeland and pasture-land management diversification, including selection of drought-resistant animal forage Varieties	

1.6.1. Improved productivity and management of rangelands/grazing lands	Assessed Rangeland and Pasture land resources in drought prone areas; Conduct Control of invasive Species, Develop community based rangeland management, Strengthen Rehabilitation of range and pasture land, Establish and/or Strengthen fodder banks; Conduct Training on range and pasture land management, Promotion of improved animal feed variety, Improve pre and post-harvest animal feed handling
1.6.2 Improved access to diverse animal feed sources	Awareness creation on improved animal feeding system, Support access to improved feed, strengthen the implementation of animal feed quality standards, Provide technical support to enhance private sectors engagement; Support market linkage for improved animal feed and forage seed, Support access to improved forage seed, Support and strengthen animal feed processing plants
1.7. Farmers access to crop and livestock's drought risk insurance improved	
1.7.1 Farmers access to crop drought insurance improved	Identify and promote the appropriate insurance scheme i) initial idea; ii) analysis of the concept; iii) pre-feasibility assessment; iv) pilot implementation; v) analysis of the pilot; and vi) scaling of the project. Create awareness on climate induced crop insurance mechanism for stakeholders, Undertake climate risk and vulnerability assessment in selected areas repeatedly affected by drought, Support private sector, Cooperatives/Unions and finance institutions to develop affordable crop and livestock insurance packages for vulnerable areas/communities selected, Support to improve and/or establish legal framework (enabling environment for crop and livestock insurance services), Support to establish linkages with Insurance companies and other Stakeholders, Work with Meteorology Agency to improve Agro-met advisory service and early warning information
1.7.2 Farmers access to livestock drought insurance improved	Create awareness on climate induced crop insurance mechanism for stakeholders, Undertake climate risk and vulnerability assessment in selected areas repeatedly affected by drought, Support private sector to develop affordable crop and livestock insurance packages for vulnerable areas/communities selected, Support to improve and/or establish legal framework (enabling environment for crop and livestock insurance services), Support to establish linkages with Insurance companies and other Stakeholders, work with Meteorology Agency to improve Agro-met advisory service and early warning information
1.8. Participatory Watershed management interventions Promoted	
1.8.1 Support provided for community organizations (associations/cooperatives) to legally register and entitled to manage protected areas *	Strengthen Supportive legal framework for Watershed users association/cooperatives, Conduct Training and awareness creation on legal framework for stakeholders, Strengthen monitoring and evaluation system of implementation of legal framework
1.8.2 Farmers supported to adopt improved Sustainable Land Management/ Watershed Management Practices	Conduct assessment on farmers adopted improved NRM technologies/practices with the help of GIS and remote sensing, Establish Payment system for ecosystem service, Scale up Climate Smart best practices of project, program and development partners and other green initiatives (RLLP/SLMP/, CALM P4R, PSNP-PWs, CSM-PSNP, CRGE projects, SCALA...etc), Strengthen/establish/ Watershed User associations/cooperatives

1.8.3 Farmers supported to promote integrated Watershed Management/Sustainable Land Management interventions/practices to rehabilitate degraded areas and farmlands	Review and customize the revised Community Based Participatory Watershed and Rangeland Development guideline; Conduct assessment on area of land covered with improved NRM technologies/practices with the help of GIS and remote sensing, Scale-up best practices on improved NRM
1.8.4 Farmers Supported to promote improved Agroforestry practices	Conduct assessment and identify Agroforestry potential areas with the help of GIS and remote sensing, Conduct awareness creation, experience sharing and scale up of Agro-Forestry practices, Strengthen Training and awareness creation on agro-forestry practices for all stakeholders, Promote multipurpose tree species (agro-forestry fit trees) integration with crop and livestock system, Promote agroforestry system with improved farming and household nutrition practices (e.g. Food diversification)
1.9. Integrated MRV/M&E system established and institutionalized	
1.9.1. Climate vulnerability and risk assessment conducted and updated adaptation plan developed for major agroecologies/farming systems	i) Develop ToRs and secure resources, Climate Risk and vulnerability assessment methods developed, research team/staff organized and trained and assessment conducted, iii) Community and other stakeholders consultation workshops organized iv) Adaptation strategy/plan revised and updated and budget developed iv) Risk and vulnerability assessment report and adaptation plan published and disseminated
1.9.2. MRV system developed and operationalized	Review needs and develop MRV tools/software, procedures and guideline, adopt and link the MRV to EPA server, provide software/hardware for MRV, Organize and deliver MRV training for staff, conduct GHG Inventory, collect, upload, analyses MRV data and submit MRV report to EPA

2. Ethiopian Forest Development

Components of the Plan	Number
Outcomes	**5**
Outputs	**15**
KPIs	**20**
Adaptation	6
Mitigation	12
Cross-cutting	2

Outcomes and Outputs	Activities (optional)
2.1 Increased national forest coverage	
2.1.1. Area of land afforested/reforested	Afforestation/reforestation by the year 2026
2.1.2. Survival rate of planted seedlings increased	Survival count
2.1.3. Area of degraded land restored/rehabilitated	Restoration/rehabilitation of degraded land by the year 2026
2.1.4. Forest resources assessment and monitoring undertaken	Undertaking national forest inventory (NFI) to estimate EF
	Undertaking forest area change detection to generate Activity Data (AD)
	Forest Ecosystem Services valuation
	FREL/FRL document preparation
2.1.5. Estimated forest cover	Undertaking forest area change detection to generate Activity Data (AD)
2.1.6. Removed/sequestered CO2 due to afforestation/reforestation and forest restoration	
2.2. Enhanced sustainable forest management	
2.2.1. Conservation and management of natural forests achieved	Organizing PFM
	Conservation of natural forests
	Conservation of natural forests
2.3. Improved sustainable utilization of forest resources and economic and ecosystem contributions	
2.3.1. Number of green jobs created	Employment generation
2.3.2. Total income generated from forest and forest products	
2.3.3. Foreign exchange earned from export of forest products and non-timber forest products	Exporting wood products and NTFPs
2.3.4 Share of the forest sector contribution in GDP	Exporting wood products and NTFPs
2.4. Increased capacities to implement and scale up forestry practices	
2.4.1. Technical Capacity Enhancement to implement and scale up forestry in Ethiopia	Delivering trainings/workshops
2.4.2. Effective and institutionalized forest related MRV and forest information system (FIS) in place	

2.5. Enhanced forest protection and health in forest ecosystems	
2.5.1. Area of forest protected from diseases and pests	
2.5.2. Area of forest protected from fire	

3. Ministry of Water and Energy

MoWER Components of the Plan	Number
Outcomes	**6**
Outputs	**32**
KPIs	**38**
Adaptation	27
Mitigation	7
Cross-cutting	2

Outcomes/Output	Activities (optional)
3.1. Generating electricity from Renewable sources(grid and off-grid) to reduce GHG emission 4 Mt Co2 equ.	
3.1.1. Increased grid power generation from renewable resources (hydropower, geothermal, solar and wind)	Support the institutional capacity to identify and design and manage renewable energy schemes, Developing bankable energy projects and investment plan to mobilize the finance from diverse sources, Support to promote tailored policy and regulatory environment and institutional capacity in strategic management of resilient energy sector development, Utilities capacity to design, manage and operate energy projects, Sequencing of generation and transmission development, expanding energy generating sources
3.1.2 Increased/extended power distribution grid networks and connections	Support to secure finance to develop transmission network infrastructure to deliver the power required to reach the planned users target, support to review and update existing policy and regulatory environment, improve institutional and financial capacity of the Utilities to roll out large-scale grid connection schemes planned, develop appropriate cost recovery strategy and mechanisms to ensure return on investment, address affordability for lower-income segments and weakness in the supply chain networks.
	Establishment of a GIS-based planning infrastructure integrated with the ERP and SCADA systems; Cost of connection and conduct users willingness/ability to pay study; Support to develop financing and delivery strategy; Strengthening technical, operational, commercial and business management institutional capacity of Utilities and MoWER; Support to explore and develop low-cost technical standards options (includes for construction works)

3.1.3. Increased alternative energy generation through off-grid and mini-grid renewable energy development (hydro, solar and wind sources)	i) Support an enabling and regulatory environment to attract and encourage investment in the mini-grids/off-grid energy development schemes (including review of existing relevant strategies, guidelines and proclamations to identify performance barriers, formulating/upgrading licensing rules and procedures, developing appropriate incentive packages for developers (including removal of custom taxes on imports), setting standards and quality assurance procedures; ii) Support to develop feasible business models and bankable investment proposals for off-grid/mini-grid development; iii) Conduct Willingness to Pay/ Ability to pay studies and tariff setting for different mini-grid/off-grid energy schemes; iv) Developing Resource Mobilization and partnership strategy to secure finance for developing off-grid and mini-grid energy development, working with the MoFED and International development partners and global and regional Finance institutions supporting climate change to secure finance (grants and concessional loans) and technical support for off-grid/mini-grid energy development; Working with the Ethiopian Investment Commission (EIC) to attract Foreign Development Investment; v) Facilitate and support private sector developers and users to access finance/business loans from government and private banks and micro-finance institutions; vi) Support local markets and SME led value chains to improve distribution and retail markets for off-grid technologies; vii) Improved Government capacity to identify, design, manage and regulate off-grid/mini-grid energy schemes and provide business and market development support service for energy developers and operations; viii) Provide technical and management support for established mini-grid and off-grid schemes in operation and maintenance and business management; ix) Support REBs development to improve local markets for supply and distribution of off-grid technologies and services,
3.1.4. Promoted Energy efficiency and conservation technologies (appliances, smart meters, etc), services and regulations	i) Assess or identify Users segments/industries where deployment of energy efficient technologies is most needed, review regulatory, technological, market financial gaps related to inefficiencies identified and develop action plan/roadmap to promote energy efficiency and conservation (ii) Identify and test the technology options/appliances, and develop recommendations, standards and regulatory actions required. (Iii) Support the markets and value chains for the supply and adoption of the recommended technologies/appliances identified, (iv) Facilitate and work with banks and micro finance institutions to improve access to finance for the local manufactures, importers and consumers of the technologies recommended, (v) Support to develop public institutions capacity to design, promote and regulate energy efficiency and conservation technologies and regulatory services, providing appropriate technical and business development services, monitor markets for factors that could cause price distortion and supply of poor quality products and services through adopting standardized measurement and verification protocols, (vi) Support energy efficiency awareness raising interventions among users and campaign/advocate to address low priority given to energy efficiency and conservation, Vii) Develop, institutionalize and implement MRV procedures to track performance in energy saving and reduction of GHG emissions that resulted from promoting the energy efficiency and conservation initiatives supported/implemented
3.2. Increased demand to shift from residential biomass energy demand to electricity and improved cook stoves	
3.2.1. Improved Access to clean and efficient cooking solutions (liquid petroleum gas (LPG), electric stoves and biofuels (ethanol) stoves	Develop/improve regulations and standards/brands/labels for cook stoves; promote and encourage use of liquefied petroleum gasoline (LPG) stoves, Support to increase awareness among the consumers; Improve capacity of local manufacturers to deliver products that respond to user needs and are affordable; Support to improve market and distribution networks of cooking stoves and manufacturers/suppliers, and enforcement of regulations related to quality standards;

	Facilitate and support private service providers and users to access finance/business loans from government and private banks and micro-finance institutions
3.2.2. Increased access to and adoption of biogas plants and cook stoves	Develop/improve regulations and standards/brands/labels for biomass plants and cook stoves; Support to increase awareness among the consumers; Improve capacity of local manufacturers to deliver products that respond to user needs and are affordable; Support to improve market and distribution networks of cooking stoves and Biogas Contractors and enforcement of regulations related to quality standards; Facilitate and support private service providers and users to access finance/business loans from government and private banks and micro-finance institutions
3.3 Reducing emissions from wastewater management	
3.3.1. Reduced liquid wastes generated in urban areas	Create awareness and develop system which reduce wastewater from sources, Investment proposals developed and finance secured to develop and upgrade sewer infrastructures and systems
3.3.2. Change methane to energy through anaerobic liquid waste management and enhanced trapping emission from wastewater	i) Optimizing logistics, such as in the design of fecal sludge management systems that include fleets of trucks, transfer stations, and treatment facilities, ii) Utilizing fecal sludge for composting and biogas production in agriculture and energy production, such as fecal sludge briquettes for fuel and biogas plants. Iii) establishing waste water treatment plant and methane trapping technologies
3.4. Enhanced and ensured Integrated water resources management/IWRM/ towards climate change adaptation solutions.	
3.4.1. Rehabilitated and Restored watersheds	i) Undertaking feasibility study integrated watershed management ii) Capacity building/(human resource, technology transfer, financing, training) iii) Undertake study on problem identification, hotspot identification and site selection, of degraded waterbodies iv) conducting stakeholders engagement , v) identifying necessary materials and inputs, vi) Implementing IWRM including physical and biological conservation measures; Gully treatment/management and rehabilitation, area closures, constructing water harvesting structures establishing and running nursery site, vii) undertaking regular M&E and forming platforms, viii) Review and updating water resource management policy ix)engaging women's and disadvantaged groups, x) Access and install necessary tools/material for watershed and water resource monitoring and field testing, xi) undertaking soil and water laboratory test,

3.4.2. Established new Eco-Hydrology Demonstration Sites in all basins	i) Capacity building/(human resource, technology transfer, financing, training/ ii) Collection of baseline data iii) Prepare and ratify water body buffer zone proclamation, iv) Develop and implement roadmap/plan for Restoration of wetlands v) undertaking feasibility study, vi) Rehabilitation of wetlands vii) Water body buffer zone development, restoration and rehabilitation, viii) Problem identification and hotspots area selection ix) Water quality and quantity, sediment and biological monitoring x) Construction of sediment trap structures xi) Implementation of phytoremediation xii Conduct detail study and design xiii) Develop and provide awareness raising training to various stakeholders in the basin that can reduce the impact of pollution management and disposal. xiv) Develop and approved water quality control standard
3.4.3. Improved water resource management, information and utilization	i) Review existing WRM information systems and institutional capacities ii) Develop and implement measures to address systemic gaps and institutional capacities identified (undertaking feasibility study, establish integrated WRM data base system, data collection, analysis and dissemination)
	i) conducting study on problem identification, ii) purchasing the necessary material for testing,iii) establish flow measurement instruments, iv)establish data base v) Measuring/monitoring the Productivity of water quality and quantity in the rehabilitated watershed area managed
	i) conducting study on problem identification, ii) improved access to tools and equipment required for testing, iii) Monitor sediment loads (undertaking sediment and water laboratory test),
	i) Conducting study on problem identification, ii) Establish flow measurement instruments, iii) Implementing water utilization permits and tariffs.
	i) conducting study on problem identification, ii) purchasing the necessary material for testing, iii) establish flow measurement instruments, iv) Measuring/monitoring the Productivity of water quality and quantity in the rehabilitated watershed area managed v) develop and establish representative monitoring sites
	i) conducting study on problem identification, ii) Capacity building/(human resource, technology transfer, financing, training, iii) site selection, undertaking detailed study, iv) undertaking feasibility study,
3.5. Increased access to safe and adequate water supply for rural and urban households through promoting climate-resilient schemes	
3.5.1. Increased access to improved water supply and sanitation services	a) undertake climate risk and vulnerability assessment of WASH systems and water resources, review and update current climate resilient WASH/Water Resources Management strategy and Water Safety Plan b) Support to develop climate resilient water supply project/programs proposals and investment plans c.) Access to climate resilient water supply facilities/sources - develop design and install climate resilient water supply infrastructures - Identify and adopt less emitting and appropriate water supply technologies (solar pumps, water supply infrastructure and resource monitoring digital techs and equipment

	- improved institutional capacity for sustainable and responsive water operation and maintenance systems and services - Adopt policy/strategy for sustainable financing of water supply facilities in drought prone areas b.2) d) Promote climate resilient Sanitation technologies and practices i) Providing training on improved and climate proofed latrine technology options iv) Demonstrating improved and climate proofed latrine technology options v) Producing and distributing audio-visual materials on household water treatment and safe storage technologies and uses vii) Undertake Water Safety Plan review regularly to monitor, prevent and manage waterborne and communicable diseases viii) Create awareness on water, sanitation, and hygiene e) Creating business models for investments in the water sector adaptation f) Plan and implement financial and technical support for promoting sustainable water management (integrated water resource management) - Development of ground and surface water infrastructure (boreholes, water facilities, etc.) - Technical support for potential water sources investigation, study and design and construction - Promote watershed management/ community based water resource management - Capacity building on sustainable water management - Promoting research on climate change adaptation in the water sector - Mobilization of finance and other resources for local implementation of water resource management initiatives - Providing technical support for sustainable water management - Strengthen Disaster Risk Reduction rather than Disaster Management - Replicate experiences in addressing arid and semiarid WASH services - Integrate CR- WASH with water conservation and catchment management to ensure sustainability
3.5.2. Promoted efficient use of water supply	• Use or establishment of sustainable monitoring systems focused on WRM to enable more informed WASH decision-making. • promoting water recycling technology and protecting water body from pollution • enhance water use management at household, industries and public area • establishing Water re-uses programs to reduce overall demand for fresh supplies • Deploying Water metering to limit demand where supplies are limited.
3.5.3. increased climate resilience and sustainability of water supply schemes	- Ensuring infrastructure is well built to increase durability. - Protecting water and sanitation infrastructure from natural disasters including flooding, landslides, and extreme winds (for example, raising borehole platforms above flood levels). - Service delivery schemes and infrastructure those are more adaptable and able to respond to unpredictable changes in weather patterns and resulting source quantity. - Ensuring infrastructure is well built to increase durability. - Protecting water and sanitation infrastructure from natural disasters including flooding, landslides, and extreme winds (for example, raising borehole platforms above flood levels). - Service delivery schemes and infrastructure those are more adaptable and able to respond to unpredictable changes in weather patterns and resulting source quantity.

3.5.4. Increased water availability through source diversification and conservation of source catchments	Safeguarding watersheds and landscapes in order to protect water sources - managing upper catchment water sources - Source protection to prevent contamination from flashier rain events with physical measures. - Community-level water safety and security planning to enable informed decision-making. - Sustainable financing of source protection and catchment management through payment for ecosystem services, environmental surcharges on the tariffs, or establishing financially sustainable nurseries in areas where reforestation is a priority. - Installing low-flow restrictors on faucets; replacing old toilets; planting less water-intensive landscapes; and reclaiming used water. - For industrial facilities, consider a zero-discharge water management plan centered on water reuse - safeguarding watersheds and landscapes in order to protect water sources - managing upper catchment water sources - Source protection to prevent contamination from flashier rain events with physical measures. - Community-level water safety and security planning to enable informed decision-making. - Catchment management planning and implementation including the full range of nature-based solutions that are most strategic given the local hydrology and can include reforestation, wetland restoration, transitioning to less degrading agriculture practices and household relocation. - Sustainable financing of source protection and catchment management through payment for ecosystem services, environmental surcharges on the tariffs, or establishing financially sustainable nurseries in areas where reforestation is a priority.
3.5.5. Improved water supply schemes management and system operation and maintenance	- Improvements detecting leaking pipes, fixtures, appliances and equipment;
3.5.6. Improved access to water supply for humans and animals use in remote drought affected words	Prioritize Climate Resilient WASH development for chronically drought-prone areas. - Replicate experiences in addressing arid and semiarid WASH services - Strengthen Disaster Risk Reduction and CR wash program - Prioritize Climate Resilient WASH development for chronically drought-prone areas. - Replicate experiences in addressing arid and semiarid WASH services
3.5.7. Improved local capacity for treatment of fluoride contaminated water supply sources	
3.6. Scaled up medium and large scale irrigation systems	
3.6.1. Increased agriculture production through developing gender inclusive medium and large-scale irrigation schemes	Develop bankable irrigation investment projects (Conduct feasibility studies and detail design), Capacity building in screening and design of climate smart or climate resilient irrigation and water management infrastructure/technologies, scheme construction management and supervision, irrigation scheduling and water distribution/allocation technologies and practices, on-farm drainage and water application control/monitoring practices, Establish and strengthen Irrigation Water users association/cooperatives, identifying and promote on-farm irrigation water application and management technologies

	Support to improve institutional capacity to analyse and integrate climate risks in the design and construction of irrigation scheme and water management is crucial to building resilience of the infrastructures, saving investments and adaptation capacity of the user communities
3.6.2. Water use efficiency of medium and large-scale irrigations increased	Improved irrigation technologies identified and used by medium and large-scale irrigation schemes
3.6.3 Gender balanced Irrigation Water User Associations (IWUAS) established and women's participation in irrigation development and utilization enhanced	
3.6.4 Increased job opportunities provided through scaling up and expansion of irrigation network infrastructure and agro-market development	Support and facilitate development and implementing of value chains for irrigated crop production, including support for supply chains to improve access to agricultural inputs (seeds, crop protection chemicals, irrigation machinery and equipment, inorganic/organic fertilizers)
3.6.5. Technical and management capacities of farmers, experts and relevant public institutions improved	Conduct training need assessment on on-farm irrigation agronomic practices, training farmers on efficient on-farm irrigation water and soils management (on-farm irrigation agronomy practices),
3.7. Strengthened Climate and early warning and resource monitoring data collection and dissemination for water and energy	
3.7.1. strengthen climate and early warning data produced and dissemination for water and energy	- Strengthen co-production of sector-specific climate services and linkage among stakeholders in the climate services chain; - Diversify climate service products with regard to gender needs, type of product, space, time, format, etc. and corresponding routes of communication, as appropriate;
3.7.2. Established modern meteorological/weather monitoring stations	- Expediting approval, financing and implementation of a weather station master plan;
3.7.3. Increased access to early warning information (for community and public and private organizations)	- Strengthening woreda early warning and disaster risk management system (decentralized risk profiling); - Strengthening disaster preparedness programs and early warning systems. - Creating access to climate services & knowledge products; and increasing the capacity of meteorological observers and engaging them in woreda and zonal DRR and Early Warning platform meetings.
3.7.4. Enhanced capacity in climate risk assessment and data reliability	- Setting standard operating procedures for quality data management and ensuring their implementation;

3.7.5. Water Basin information system and coverage updated and modernized	Staffing priority sectors at all levels (and more importantly at woreda levels) with Agro meteorologists, hydro-meteorologists, bio-meteorologists;
3.7.6. Strengthened capacity for Surface and ground water resource assessment and monitoring system and coverage	• conducting study on problem identification, • purchasing the necessary material for testing, • establish flow measurement instruments, • Measuring/monitoring the Productivity of water quality and quantity in the rehabilitated watershed area managed develop and establish representative monitoring sites
3.7.7. Enhanced water quality monitoring coverage	Water quality and quantity, sediment and biological monitoring

4. Ministry of industry

Components of the Plan	Number
Outcomes	**3**
Outputs	**9**
KPIs	**17**
Adaptation	0
Mitigation	11
Cross-cutting	6

Outcomes/ Output	Activities (optional)
4.1. Improved alternative production process and emission reduction	
4.1.1. Identification of raw material substitution potential	Conduct assessment on availability and applicability of alternative raw material (cement, chemicals, metal, textile and leather sectors)
4.1.2. Strengthen legal frameworks	Revising the existing standards and codes and Prepare legal framework
4.1.3. Increase the capacity of the private sector	provide awareness creation and training on alternative production process
4.1.4. Increase the share of Clinker substituted	Increasing clinker substitution by pumice and other raw materials
4.2. Appropriate/ Competitive low emission production technology adopted	
4.2.1. Improved energy efficiency and green	Undertake energy audit; Energy efficiency technology identification; Implement energy efficiency technology

Outcomes/ Output	Activities (optional)
technology in the industry sectors	Establish energy management system
	promote waste heat recovery for all industry sectors; Conduct green technologies assessment; Feasibility study of green technology
4.2.2. Increased use of renewable energy for the industry sectors	Conduct energy baseline; Identify renewable energy potential for the industry sectors
	Conducting feasibility study renewable energy
	Implementing the pilot project on selected industries (2 Cement industry to biomass energy and 4 leather industry to electricity and scaled up to other six industries
4.2.3. Industrial sector GHG inventory and emission reduction reporting system improved	Adopt and develop necessary GHG accounting guideline for the industry sectors, Develop data collection tools and database system; Validate the ongoing GHG inventory baseline
	Assessment study on mitigation actions
4.2.4. Improved capacity of gov't and private sector promoting energy efficient green technologies	Provide awareness creation training on energy efficient, green technologies, renewable energy and GHG emission and reduction.
	Study visits on mitigation actions best practice
4.3. Integrated industrial waste management system developed	
4.3.1. Improved resources efficiency and cleaner production technologies and practices promoted	Conducting environmental audits; Conduct assessment study on the industrial symbiosis
4.3.2. industrial effluent treatment plant Standard developed and implemented	Promoting circular economy in the manufacturing industries; Review and update existing industry waste management standard
	Awareness creation training on industrial waste management system, SME organized and supported to engage in green manufacturing businesses/services

5. Ministry of Urban Development and Construction

Components of the Plan	Number
Outcomes	**2**
Outputs	**9**
KPIs	**9**
Adaptation	5
Mitigation	4
Cross-cutting	0

Outcomes/Output	Activities
5.1. Improved solid waste management services (collection, disposal and reuse/recycling)	
5.1.1. Integrated Solid Waste Management Service bankable project proposal developed	Undertake field data collection, facilitate stakeholders consultation, develop concept notes and bankable project proposals
5.1.2. New sanitary landfill sites constructed, equipped and operated in selected cities/towns	Design preparation; site selection and preparation of ESIA, Manage and administer sanitary landfills construction contracts; Transport, machineries and equipment required for solid waste collection and landfill sites operation procured and delivered
5.1.3. Small and micro enterprises and private sector supported to provide solid waste collection services	Awareness creation and training provided in reuse of solid waste, provide technical and business management training and support for SMEs, Support private sector to design and manufacture improved waste collection equipment, design and construction of waste segregation shades
5.1.4. Private sector supported to engage in solid waste recycling and composting businesses	Conduct studies to identify potential recycling business opportunities and develop feasible business models, Work with Ministry of Agriculture to promote commercial scale compost productions for different farming systems (cereal and , horticulture crops and enset/root crops systems), Support solid waste recycling and composting market and value chain development (conduct value chain studies, develop and implement plan to improve markets, value chains, and enabling environment); Develop and enforce safety and quality standards and typical building and infrastructure designs for different scales of compost production, study and identify appropriate composting technologies/practices that can be adopted by households and urban agriculture/gardens and commercial scale compost production, work with government and private banks and micro-finance institutions to enable SMEs and private sector access finance and equipment/technologies for recycling and composting businesses, Provide technical and business development services for private businesses, promote awareness raising campaigns on solid waste re-use
5.2. Enhance climate resilience urban infrastructure of 75 cities/towns	
5.2.1. climate risk and vulnerability studies conducted	Undertake climate risk assessment of buildings and key infrastructures in major urban areas

5.2.2. Climate smart building design and construct standards developed and Promoted	Develop adaptation intervention measures for different climate hazards affecting major urban centers studied (floods, drought, heat waves) and key infrastructures, including review and update of existing and/or develop new climate smart building/infrastructure codes, standards, and laws/proclamations), improved institutional capacity in design, construction and supervision of climate smart buildings, and provide technical and regulatory services and policy advice and recommendations; Conduct action research and identify and recommend appropriate building/construction materials for different climate hazards affecting major urban centers (floods, drought, heat islands), Awareness raising of building owners, real state developers, contractors and Consultant in climate risks and adaptation measures developed
5.2.3. Improved climate resilience housing	awareness creation about redevelopment of slum areas, temporary housing service, development of slum areas and Housing provided for enhanced human safety against climatic stressors
5.2.4 Urban green area coverage of cities/towns increased (as set in 'the 30% urban green infrastructure standard) and properly managed	Develop and adopt a strategy/roadmap for promoting existing and new Green Infrastructures and/or nature based facilities; Develop feasible business models, identify sites and integrate the Green infrastructure development into the urban master land use plan, Identify the type of GI to be promoted based on the principles of IWSM; Develop guidelines and standards for GI types identified; Develop requirements for land/plot allocations, business licensing and approval; Support SMEs and private sector in developing business plan and market-oriented green Infrastructure investment/financing plan, provide technical training in GI, business development and management for SMEs. Capacity building of public institutions in GI/NBs (technical training in GI design/landscape architecture and business planning, etc), support green infrastructure development
5.2.5. Green infrastructure and/or integrated urban catchment management based employment provided for urban poor/food insecure household promoted	Target households/food security beneficiaries in greenery development identified and organized, Green infrastructures to be developed identified and designed, streets/road and drainages infrastructures to be cleaned and management interventions identified, planned and implemented

6. Ministry of Transport and Logistics

Components of the Plan	Number
Outcomes	**4**
Outputs	**12**
KPIs	**15**
Adaptation	4

Mitigation	8
Cross-cutting	3

Outcomes/Output	Activities (optional)
6.1. Increased transport electrification	
6.1.1. Vehicles that shifted from petroleum to electricity energy/used electricity	Conducting feasibility studies, Prepare bankable project proposals for electric car and zero-emission-vehicles (ZEV) market development proposals, develop standards and specifications for imported and locally assembled electric cars, Developing transport energy transformation roadmap/strategy, Prepare incentives packages for electric vehicle importers and car assembly manufacturers; Develop investment proposal to design and build networks of auxiliary infrastructures (charging stations, parking stations, depots); Awareness raising and organizing trade exhibitions and workshops for electric car importers, assembly companies and other stakeholders. Improve technical and strategic/business management and law enforcement/regulatory capacity of relevant public institutions involved in electric car transport service and providing technical and business development support services for private sector
6.1.2. City buses powered by electricity energy and hybrid introduced	Conducting feasibility study and develop bankable project proposals and financing strategy/business plan for electric powered bus transport services, Develop technical standards for buses and related infrastructures and manage and administer infrastructure construction projects, Prepare incentive packages for public buses importers and car assembly, Facilitate and support importers and assemblers to access finance from government and private banks
6.2. Improved public transportation	
6.2.1. Shifting transport energy demand from petroleum to electricity	Awareness raising through design of multimedia channels (preparation of different brochures, magazines and advertisement) and via social media to reach more audiences and encourage electric vehicles usage, Conducting focused workshops with private sector and other stakeholders in the value chain
6.2.2. Increased share of public transport and railways	Expanding the public bus infrastructures, Design and implement multi-media awareness raising campaigns and activities
	Clear the RW, Resource mobilization
	Finalizing the ongoing project
	Creating awareness to stakeholders by using media and via work shop
6.3. Built sustainable transport system for resilience through enhanced access to mobility (Non Motorized Transport Strategy)	
6.3.1. Dedicated bike lanes in regional cities to provide cycling transport	Constructing bike lane for the selected cities, Organizing Youth for bicycles rental(Creating job for youth), Providing training for youth those of organizing for bicycles rental job

6.3.2. Constructed pedestrian walkway in different cities	Constructing pedestrian lane for the selected cities
6.3.3..Planted road side trees along the pedestrian lane	Develop a multisector partnership plan for promoting tree planting (planning with MoUD and Forestry Development), Land acquisition for planting seedling, Buying seedlings, Planting seedlings
6.3.4. Non Motorized Transport network developed (based on the National NMT Strategy)	- Support NMT Bankable projects and - Develop resource mobilization and implementation plan
6.4. Increased climate resilient designs and safety standards for major transport systems	
6.4.1. Increased share of major transport infrastructures that take climate change in to consideration	Preparation of design manual standard and safety for Each transport infrastructures
6.4.2. Establish enabling Environment for Implementation of NDC plan	Developing policy and comprehensive roadmap/country strategic plan that serves as country framework to guide and promote to ZEV, encourage use of Hybrid & Electric Vehicles, Establishing rules & regulations to implement vehicle emission standards, Develop rule and regulations for Implement of Bus Rapid Transit /BRT/, Developing policy, rule and regulation that encourages the use off-parking systems
6.4.3. Improved institutional capacity to implement the transport sector NDC plan, the NMT strategy and proclamations/guidelines	NMT strategy support is required to develop investment plans/sustainable financing strategy and bankable project proposals, developing the business models and value chains/markets to improve access to affordable bicycles and related product, technical and management capacity of transport and urban sector institutions in design, implementation and management of NMT and green infrastructure facilities prioritised in the strategy. Training Need assessment conducted, training courses and materials developed and courses delivered
6.4.4. Increased awareness in transport sector NDC plan and the NMT Strategy and the legal frameworks/proclamations, guidelines and standards developed	Organize awareness workshops and info materials about the transport sector climate actions/strategies and emission regulations/standards
6.4.5. Transport sector MRV/M&E system developed and institutionalized (inline with the National/IPCC standards	MRV/M&E system developed, MRV/M&E guidelines developed, software and hardware for data collection, storage, analysis and reporting provided, GHG inventory/baseline conducted and staff training in MRV/M&E

7. Ministry of Mining

Mining Components of the Plan	Number
Outcomes	**4**
Outputs	**19**

KPIs	21
Adaptation	11
Mitigation	4
Cross-cutting	5

Outcomes/Output	Activities (optional)
7.1. Improved sustainable natural resource management through safeguarding landscapes	
7.1.1. Roadmap for restoration of mine deforested and degraded land developed and enacted	Develop ToR and undertake diagnostic studies to assess current challenges in reclamation and restoration of mined lands, conduct stakeholders analysis, stakeholder workshops to present and get feedback on the findings of field diagnostic study, facilitate consultation in preparation of draft roadmap document, conducting stakeholder validation workshops and launching of the Roadmap
7.1.2 Guideline for mine deforested and degraded land restoration enacted	identification of stakeholder , stakeholder engagement, preparation of draft guideline document, conducting consultative workshop, conducting validation workshop and disclosure
7.1.3. Deforested and Degraded land by mining development area restored	Mined sites reclamation - Backfilling of the pits, trenches and quarries, compacting the ground for stability, plantation and management, plan and implement biological conservation measures in mined sites
7.1.4. Institutional capacity for developing concept notes, bankable project proposals and investment plans for mining sector improved	Identification of relevant trainees, announcing training requirement to EPA, taking training on project proposal development
7.1.5. Support provided to improve staff capacity in planning, implementing and monitoring of restoration and reclamation of degraded lands/closed mining lands	Undertake training need assessment, determine/design training objectives, contents and methods and monitoring and evaluation plan, prepare training materials, deliver and monitor training on degraded land management and conduct post training assessment
7.1.6. MRV system developed and operationalized	Review needs and develop MRV tools/software, procedures and guideline, adopt and link the MRV to EPA server, provide software/hardware for MRV, Organize and deliver MRV training for 12 staff, conduct GHG Inventory, collect, upload, analyses MRV data and submit MRV report to EPA
7.2. Social protection and livelihood diversification options identified and provided for households displaced from mining sites	

Outcomes/Output	Activities (optional)
7.2.1 Strategy and guideline for promoting livelihood improvement/diversification interventions developed and implemented	Develop and implement strategy and guideline for promoting livelihood improvement/diversification interventions in consultation with key stakeholders and affected communities
7.2.2. Access to basic services improved (health, water supply and education) for communities affected by mining operations	Conduct need assessment, design, construct and handover facilities in partnership with local/regional sector organizations
7.2.3. Livelihood improvement projects monitored and evaluated	Preparation of checklist , Field inspection, Report preparation and feedback on corrective actions to be taken
7.3. Enhanced alternative and renewable power generation and management	
7.3.1. Legal frameworks for provision of Geothermal licenses and geothermal resource administration enacted	Initiation and drafting of directive; Stakeholder engagement on the proposed directive; Appraisal of directives
7.3.2. Improved human capacity for Geothermal resource management	Training material preparation, Identification of relevant trainees, call for trainees, delivering training on geothermal resource management and post training assessment.
7.3.3. Improved access to geothermal management technologies	Purchasing and installing geothermal management system
7.3.4. Geothermal resource projects monitored and evaluated for production increment to 120 MW	Preparation of checklist , Field inspection, Report preparation and feedback on corrective actions to be taken
7. 4. Improved early warning systems	
7.4.1. land slide risk assessment conducted	Identifying and demarking landslide prone area
7.4.2. Earthquake risk assessment Conducted	Identifying and demarking earthquake prone area; Installing monitoring devices; Analysis and Preparing report; Disseminating early warning and recommending counter measure works
7.4.3. Flood risk assessment Conducted	Identifying and demarking flood prone area; Installing monitoring devices; Analysis and Preparing report; Disseminating early warning and recommending counter measure works
7.4.4. Human capacity in Early warning system enhanced	Training material preparation, Identification of relevant trainees, call for trainees, delivering training of Trainers on Early warning system and post training assessment.

Outcomes/Output	Activities (optional)
7.4.5. Technology capacity for Early warning system enhanced	Purchasing and installing early warning system instruments
7.4.6, Early warning systems Monitored and evaluated	Preparation of checklist , Field inspection, Report preparation and feedback on corrective actions to be taken