KOGI STATE INVESTMENT PROMOTION AND PUBLIC PRIVATE PARTNERSHIP AGENCY

UPDATED KOGI STATE PROJECT CLIMATE SCREENING ASSESSMENT REPORT: PPP PROJECT PIPELINE

31/12/2023

Project Name: AJAOKUTA-KADUNA-KANO (AKK) GAS PIPELINE
Location: AJAOKUTA
Sector: ENERGY
Amount: 8540000 BNNGN
2800M US$
Contracting Authority: NIGERIA NATIONAL PETROLEUM LIMITED

SN	Assessment Domain	Remarks
1	**Purpose of the Project**	(a) Increase its electricity generation; (b) jumpstart its industries; (c) increase domestic use of gas; and (d) export. The proposed Ajaokuta-Abuja-Kaduna-Kano Gas Pipeline (Phase I) Project construction and operation is a further step in the government's policy, as it will help guarantee the supply network in the North and South of Nigeria, as well as reduce the environmental impacts associated with gas flaring.
2	**Alignment with the country's national climate-change mitigation and adaptation targets**	Nigeria National Petroleum Limited, in collaboration with the Kogi State Government, oversaw the project to ensure alignment with the State's climate mitigation and flood management policies. This involved revising and adapting standards and guidelines to contribute to Nigeria's national target of reducing greenhouse gas emissions by 60% below "business as usual" by 2030, as outlined in the Nigeria National Determined Contribution of 2021 and the National Climate Change Policy of 2021. The project encompasses Providing a secure storage facility for grains to ensure food security by preventing spoilage and loss due to pests, weather, or other environmental factors in Kogi State and enhancing the food value chain to foster economic development. **Industrial Efficiency**: The pipeline will supply gas to industries, enabling them to use a cleaner energy source.

		This not only helps reduce emissions from industrial processes but also promotes energy efficiency. The pipeline infrastructure development can stimulate the growth of other essential infrastructure, such as roads and communications, which are critical for building climate-resilient communities.
	Contribution to Green House as (GHG) emission	The Ajaokuta (AKK) Gas Pipeline project contributes to greenhouse gas emissions through methane leaks during extraction, processing, and transportation and CO_2 emissions from natural gas combustion. The construction and operation of the pipeline also generate emissions. However, the project aims to reduce overall emissions by displacing more polluting fuels like coal and oil, as natural gas produces less CO_2 per unit of energy. Additionally, using natural gas in high-efficiency power plants and industrial processes can lower emissions per unit of energy or product output. Thus, while there are emissions associated with the project, it offers a cleaner alternative that supports overall emissions reduction.
	Contribution to Nigeria's resilient development pathway	The Ajaokuta-Kaduna-Kano (AKK) Gas Pipeline enhances Nigeria's energy security by providing a reliable energy supply, reducing vulnerability to shortages and climate-related disruptions. It stimulates industrial growth, job creation, and economic stability, supporting resilience against climate impacts. The project promotes the development of essential infrastructure, aiding overall resilience and adaptability. It reduces environmental and health impacts by facilitating the shift from more polluting fuels to cleaner natural gas. Additionally, it provides a stable backup for renewable energy sources, ensuring a consistent energy supply while integrating renewables.
	Mitigation features that contribute to the transition to a net-zero carbon emission feature.	The Ajaokuta-Kaduna-Kano (AKK) Gas Pipeline supports the transition to net-zero carbon emissions by facilitating the switch from coal and oil to cleaner-burning natural gas, which produces less CO_2. It reduces methane leaks through advanced detection and repair technologies. The project enhances energy efficiency in power generation and industrial processes, lowering emissions per unit of energy. It also integrates with renewable energy sources, providing a stable backup to support their use. Lastly, the pipeline supports the development of carbon capture and storage (CCS) technologies, further reducing emissions.

Project Name: CONFLUENCE ADVANCED MEDICAL DIAGNOSTIC AND IMAGING CENTRE.
Location: LOKOJA
Sector: HEALTH
Amount: NGN2BN
Contracting Authority: KOGI STATE GOVERNMENT

SN	Assessment Domain	Remarks
1	**Purpose of the Project**	To provide advanced diagnostic and imaging services (including CT scans, MRIs, digital X-rays, ultrasound, and laboratory services) aimed at strengthening early detection, disease monitoring, and treatment capabilities in Kogi State. It reduces medical tourism and improves universal access to quality healthcare, particularly for underserved populations in North Central Nigeria.
2	**Alignment with the country's national climate-change mitigation and adaptation targets**	Kogi State Government in collaboration with Private Health Partner VII3 oversaw the project to ensure alignment with the State's climate mitigation and flood management policies. This involved revising and adapting standards and guidelines to contribute to Nigeria's national target of reducing greenhouse gas emissions by 60% below "business as usual" by 2030, as outlined in the Nigeria National Determined Contribution of 2021 and the i) Nationally Determined Contributions (NDCs): By modernizing health infrastructure to reduce travel-related emissions (medical evacuation and tourism) and improving public health systems' resilience to climate-induced health crises (e.g., vector-borne diseases) ii) Nigeria's Energy Transition Plan (ETP): Promotes the integration of solar energy and energy-efficient systems in public buildings, iii) National Adaptation Strategy and Plan of Action on Climate Change (NASPA-CCN): Improves community resilience to health shocks through reliable, localized diagnostics and care.

	Contribution to Green House as (GHG) emission	The Confluence Advanced Medical Diagnostic and Imaging Centre project contributes to greenhouse gas emissions reduction through i)**r**eduction in GHG emissions associated with long-distance travel to Abuja, Lagos, or overseas for diagnostics, ii)**d**igitization reduces paper waste, film usage, and chemicals associated with traditional imaging and iii) **b**uilding Management Systems (BMS) in place for energy optimization and reduced energy loss.
	Contribution to Nigeria's resilient development pathway	The Confluence Advanced Medical Diagnostic and Imaging Centre project enhances Nigeria's health sector through i) health system strengthening, building capacity to respond to climate-sensitive health conditions such as heat stroke, malaria, waterborne diseases, and respiratory issues, ii) creation of green-skilled jobs in biomedical engineering, health ICT, and energy-efficient facility maintenance, iii) reduced vulnerability through the enhancement of health access during climate disasters (e.g., floods) when other regional centers may be inaccessible and iv)data and early warning helps with medical data for tracking and responding to climate-related epidemics and outbreaks.
	Mitigation features that contribute to the transition to a net-zero carbon emission feature.	The Confluence Advanced Medical Diagnostic and Imaging Centre, through the following: 1**.** Energy-Efficient Equipment**:** Incorporation of low-energy-consuming digital imaging systems. **2.** Solar Hybrid Power System**:** Installation of rooftop solar and inverter backup to reduce diesel dependency. **3.**Green Building Principles**:** Facility design includes passive ventilation, natural lighting, and insulated roofing to reduce cooling loads. **4.** Waste Management Protocol: Implementation of biomedical waste segregation and environmentally compliant disposal. 5**.** Digital Records System: Reduces physical storage and transportation needs, cutting operational emissions. .

Project Name: KOGI STATE HOUSING DEVELOPMENT PROJECTS (GANJA AND ZANGO KABBA ESTATE)
Location: KABBA
Sector: HOUSING
Amount: NGN5.3BN
Contracting Authority: KOGI STATE GOVERNMENT

SN	Assessment Domain	Remarks
1	**Purpose of the Project**	The Kogi State Housing Development Projects**,** comprising the Ganaja Estate in Lokoja and the Zango-Kabba Estate, were conceived to address the state's urgent need for affordable, livable, and inclusive housing. These estates target low- and middle-income families, civil servants, and small business owners, aiming to reduce urban congestion, informal settlements, and homelessness while promoting social stability and economic inclusion. The projects are part of a broader public-private partnership strategy aimed at expanding urban infrastructure, stimulating local construction industries, and creating long-term employment opportunities. With integrated schools, clinics, commercial spaces, and recreational amenities, they promote self-sustained community living. This mixed-use planning ensures socio-economic vibrancy and reduces residents' reliance on distant services and amenities. Importantly, these estates are envisioned as climate-conscious urban models that combine cost-effective building technologies with community planning that encourages walkability, resource efficiency, and infrastructure resilience. As Kogi urbanizes, these developments demonstrate the state's commitment to planned, sustainable urban expansion aligned with the SDGs and the African Union's Agenda 2063.

2	**Alignment with the country's national climate-change mitigation and adaptation targets**	The project aligns with Nigeria's Nationally Determined Contributions (NDCs) under the Paris Agreement by adopting green building principles, promoting sustainable land use, and integrating climate-resilient infrastructure. Through efficient planning, these estates reduce urban sprawl and limit emissions from uncontrolled housing developments, a key mitigation priority under Nigeria's Climate Change Act, 2021. In adaptation terms, the estates incorporate stormwater drainage systems, green landscaping, and flood-resistant construction standards. These features support Nigeria's National Adaptation Plan Framework by reducing the vulnerability of housing infrastructure to flooding—one of the most common climate-related disasters in Kogi State. Further, the project is consistent with Nigeria's Energy Transition Plan (ETP) **by** offering infrastructure suitable for future renewable energy integration such as rooftop solar PVs and smart meters. These features enhance energy efficiency and reduce dependency on fossil-fuel-powered generators, aligning the estates with climate-compatible infrastructure development objectives.

	Contribution to Green House as (GHG) emission	While the initial construction process generates some GHG emissions through material sourcing, transportation, and machinery use, the estates are designed to minimize long-term operational emissions. Use of hollow blocks, local materials, and low-carbon cement helps reduce embodied carbon during construction phases compared to conventional urban housing models. Once operational, the housing units are expected to produce significantly lower per capita emissions due to compact designs, natural ventilation systems, and efficient insulation that reduce energy demand for cooling. Shared infrastructure (such as water systems and waste collection) also supports economies of scale that reduce GHG footprints per household. Furthermore, by promoting non-motorized transport options like pedestrian walkways and bicycle routes within the estates, and limiting private car dependency, the project helps cut transport-related emissions. Plans to connect the estates to public transit systems reinforce this mitigation benefit.
	Contribution to Nigeria's resilient development pathway	These housing developments advance Nigeria's ***resilient development pathway*** by addressing the triple challenge of climate risk, poverty, and access to infrastructure. By housing vulnerable populations in climate-resilient buildings, the estates reduce long-term exposure to extreme weather events and enhance household stability. The economic resilience of residents is also strengthened through the provision of commercial spaces, markets, and schools within the estate. This fosters local value chains and reduces the need for extensive travel, thereby building local economic hubs and reducing stress on urban transport systems. From a governance standpoint, the project supports decentralization and inclusive service delivery by establishing local community governance structures and monitoring frameworks. These participatory processes are essential for climate-responsive urban planning and inclusive development in Nigeria's subnational context.

	Mitigation features that contribute to the transition to a net-zero carbon emission feature.	Key mitigation features include the integration of green infrastructure—such as solar-ready rooftops, LED lighting systems, and rainwater harvesting systems—which reduce the estates' overall carbon intensity and improve long-term energy sustainability. These elements are in line with Nigeria's ambition to achieve net-zero emissions by 2060. The estate designs incorporate *passive cooling strategies*, such as building orientation, cross-ventilation, shaded public spaces, and use of reflective building materials to reduce cooling needs. These strategies are low-cost, effective, and climate-appropriate for Kogi State's tropical conditions. Lastly, the project aims to *pilot a decentralized waste-to-energy model* in partnership with private sector operators. By converting organic waste from households into biogas or compost, the estates will reduce methane emissions and promote circular resource use. These practices are steppingstones toward urban communities that are not only climate-resilient but carbon-conscious and future-ready. .

Project Name: Kogi State Integrated Agricultural Development Projects
Location: Lokoja, Ibaji and Bassa LGAs,Yagba East / Mopamuro (Kogi West)

Sector: Agriculture
Amount: NGN5BN
Contracting Authority: Kogi State Agricultural Development Agency

SN	Assessment Domain	Remarks
1	**Purpose of the Project**	The Kogi State Integrated Agricultural Development Projects aim to boost agricultural productivity, food security, and rural livelihoods across the state's key afro-ecological zones. The initiative focuses on improving access to irrigation, deploying climate-smart farming techniques, expanding agro-processing facilities, and connecting farmers to markets through structured cooperatives and off-taker arrangements. It is designed to transition subsistence farming systems into commercially viable and climate-resilient value chains. By investing in infrastructure such as rural roads, solar-powered irrigation systems, warehousing, and post-harvest processing, the project addresses systemic bottlenecks in the agricultural sector. It empowers smallholder farmers,

		particularly women and youth, to scale their operations, access financial resources, and adopt sustainable practices. Ultimately, the project serves as a driver of rural transformation and economic diversification in Kogi State.
2	**Alignment with the country's national climate-change mitigation and adaptation targets**	The project is directly aligned with Nigeria's Nationally Determined Contributions (NDCs) by promoting climate-smart agriculture (CSA), land restoration, and reduced emissions from deforestation and degradation (REDD+). It contributes to targets related to sustainable land use, improved water efficiency, and reduced chemical input use—core priorities under Nigeria's climate strategy. Adaptation-wise, the project strengthens the resilience of farming communities to drought, flooding, and temperature extremes by promoting adaptive cropping systems, weather-indexed insurance, and early warning systems. It also aligns with the National Adaptation Plan (NAP) **and** Agriculture Resilience Framework by enhancing agro-ecosystem resilience and food system sustainability in climate-vulnerable zones like Ibaji, Bassa, and Dekina.

	Contribution to Green House as (GHG) emission	While agriculture is a known source of greenhouse gas (GHG) emissions, the project is structured to reduce net emissions through improved land management and the use of low-emission technologies. Practices such as no-till farming, organic composting, and agroforestry are encouraged, which helps reduce methane and nitrous oxide emissions associated with traditional land clearing and fertilizer use. The transition to solar-powered irrigation and mechanized equipment also significantly reduces diesel dependence, curbing CO_2 emissions. Additionally, improved storage and processing facilities reduce post-harvest losses, a key driver of wasted emissions from unutilized food. These interventions ensure that the project remains climate-compatible and emission-sensitive. .
	Contribution to Nigeria's resilient development pathway	The project advances Nigeria's resilient development by improving food security, enhancing incomes, and protecting the natural resource base upon which livelihoods depend. It equips farmers with the knowledge and tools to adapt to climate variability, while reducing their exposure to crop failure and land degradation, particularly in flood-prone areas of Kogi State. It also supports inclusive development by targeting vulnerable groups, such as women and youth, for climate-smart agribusiness training and inputs. Through public-private partnerships and value chain development, the project builds a robust rural economy that can withstand external shocks, including those related to climate and market fluctuations.
	Mitigation features that contribute to the transition to a net-zero carbon emission feature.	The project integrates several mitigation features that contribute to Nigeria's net-zero transition goal by 2060. These include the deployment of solar-powered irrigation**,** biogas digesters for farm waste management, and sustainable biomass energy for processing facilities—all of which offer low-carbon alternatives to conventional fossil fuel usage. Further, the promotion of agroforestry and cover cropping enhances carbon sequestration while restoring degraded landscapes. By aligning agricultural productivity with emission reduction and ecosystem regeneration, the project sets a precedent for climate-smart rural development that accelerates Nigeria's journey to a net-zero economy.

Project Name: Gegu Beki Cement Factory Project
Location: Gegu Beki, Kogi Local Government Area of Kogi State
Sector: ENERGY
Amount: USD$100M
Contracting Authority: KOSIPPPPA

SN	Assessment Domain	Remarks
1	**Purpose of the Project**	The Gegu Beki Cement Factory Project is designed and implemented in collaboration with Private Investor-Havanna is to catalyze industrial growth and economic diversification in Kogi State through the local production of cement and allied construction materials. Its purpose is to harness Kogi's abundant limestone and mineral resources to reduce Nigeria's reliance on imported clinker and cement, thereby strengthening domestic manufacturing capacity. The factory also seeks to create direct and indirect employment, foster skills development, and stimulate ancillary industries such as logistics, mining, and power. The project also addresses regional infrastructure needs by ensuring a reliable supply of affordable cement to support the state's housing, road, and urban development agenda. Beyond economics, the project contributes to inclusive development by integrating local communities into its value chain and promoting public-private partnerships in the extractive and industrial sectors.
2	**Alignment with the country's national climate-change mitigation and adaptation targets**	The project aligns with Nigeria's Nationally Determined Contributions (NDCs) by promoting local production to reduce the emissions associated with cement imports and long-distance transportation. It also supports industrial energy efficiency objectives under the Nigeria Energy Transition Plan (ETP), particularly if low-emission technologies like waste heat recovery, biomass fuel blending, and renewable power inputs are integrated into the production line. In terms of adaptation, the cement factory can support climate-resilient infrastructure development. Access to affordable, locally produced cement enables the construction of flood-resilient roads, housing, and public facilities, especially in climate-vulnerable communities across Kogi State. This supports Nigeria's National Adaptation Plan Framework, which emphasizes resilient infrastructure as a key sector for adaptation investment.

	Contribution to Green House as (GHG) emission	Cement manufacturing is a well-known high-emission industrial process, primarily due to the calcination of limestone and energy-intensive kilns typically powered by fossil fuels. Therefore, the Gegu Beki Cement Factory—if it relies on traditional processes—would contribute significant volumes of CO_2 emissions, both from energy use and the chemical reactions inherent in cement production. However, the factory's emissions profile can be significantly reduced through modern, low-carbon production methods, such as blending Portland cement with fly ash or slag, adopting vertical roller mills, and using alternative fuels like rice husks or waste-derived fuels. These measures would limit the facility's overall GHG footprint and align it with national and international emissions-reduction targets under the Paris Agreement.
	Contribution to Nigeria's resilient development pathway	The Gegu Beki Cement Factory plays a vital role in Nigeria's resilient development pathway by enabling localized, climate-resilient infrastructure development. With climate-related disasters like flooding and erosion becoming more frequent, access to strong, affordable cement will facilitate the construction of durable roads, schools, hospitals, and homes in both urban and rural settings. Moreover, the factory's value chain contributes to socioeconomic resilience by creating jobs, developing skilled labor, and promoting industrial innovation in central Nigeria. By integrating climate risk management into its operations and fostering environmentally conscious mining and processing practices, the factory exemplifies how industrial growth can support long-term community and climate resilience goals.
	Mitigation features that contribute to the transition to a net-zero carbon emission feature.	To contribute meaningfully to Nigeria's net-zero emissions target by 2060, the Gegu Beki Cement Factory can adopt several mitigation features. These include the use of energy-efficient kilns**,** integration of waste heat recovery systems, and the transition from coal or diesel to biomass or gas-based energy sources**.** The facility can also commit to carbon capture and utilization (CCU) technologies to trap CO_2 released during production. Additionally, blending clinker with supplementary cementitious materials (SCM**s)** such as pozzolana or fly ash can reduce emissions intensity by up to 30%. The factory's design can also include renewable power inputs **(**e.g., solar

		PV for plant operations) and sustainable transport logistics, further reinforcing its role in Kogi State's and Nigeria's low-carbon industrial transition.

Project Name: FIBRE OPTIC CABLE TELECOMMUNICATIONS INFRASTRUCTURE (PHASE 3 TELECOM)
Location: KOGI STATE
Sector: TELECOMMUNICATION
Amount: 5131.2BN NGN
US$4M

SN	Assessment Domain	Remarks
2	**Purpose of the project**	The demand for telecommunications in Nigeria is increasing, but the country's backbone transmission mainly relies on microwaves. Economic investment and fast profit are the advantages of microwave transmission, but the limited traffic capacity and poor anti-jamming capability are the disadvantages. To build an optical fiber backbone network (OFBN) is the only way to solve the conflict between the limited traffic capacity and significant demand. After market research, we found that building an optical fiber backbone network in Nigeria is essential. Although the one-time investment in building OFBN is larger, its unit cost will be lower than the long-term investment, as well as the vast traffic capacity and anti-jamming capability.

	Alignment with the country's national climate-change mitigation and adaptation targets	This project aligns with Nigeria's National Climate Change Policy (NCCP) 2021. The Fibre Optic Cable Telecommunications Infrastructure project aligns with Nigeria's National Climate Change Policy (NCCP) 2021 by enhancing energy efficiency in telecommunications and reducing the sector's carbon footprint. It supports digital infrastructure development, which promotes remote work and reduces transportation emissions. The project aids in climate adaptation by improving communication networks, which are crucial for climate monitoring and disaster response. It facilitates the growth of intelligent technologies and grid systems that optimize energy use and integrate renewable energy sources. Additionally, it bolsters economic resilience by fostering a digital economy, creating jobs, and supporting sustainable development. This is because the project will lead to the reduction of GHG emissions by reducing GHG E by 50%, promote sustainable development, and enhance resilience to climate change impacts. This alignment contributes to Nigeria's broader sustainable development and climate resilience strategy.
	Contribution to Green House as (GHG) emission	The Fibre Optic Cable Telecommunications Infrastructure project contributes to greenhouse gas (GHG) emissions through the energy consumption required for manufacturing, installing, and maintaining the cables and associated equipment. The construction process involves activities that emit GHGs, such as using heavy machinery and transporting materials. However, once operational, fiber optic cables are more energy-efficient than traditional copper cables, leading to lower emissions in the long term. The project also supports digitalization, which can reduce overall emissions by enabling remote work and decreasing the need for travel. Overall, while there are initial GHG emissions, the project reduces emissions over time through increased efficiency and reduced energy consumption.
	Contribution to Nigeria's resilient development pathway	The Fibre Optic Cable Telecommunications Infrastructure project enhances Nigeria's resilience by providing a robust digital communication network, crucial for climate monitoring and disaster response. It supports the digital economy, projected to contribute up to 15% of Nigeria's GDP by 2025, fostering economic stability (World Bank, 2023). The project facilitates remote work and online education, reducing the need for transportation and lowering emissions. Improving connectivity promotes innovative technologies and grid systems that optimize energy use and integrate renewable energy sources. Overall, the project strengthens Nigeria's infrastructure, making it more adaptable to climate impacts and economic challenges.

	Mitigation features that contribute to the transition to a net-zero carbon emission feature.	The Fibre Optic Cable Telecommunications Infrastructure project aids in the transition to net-zero carbon emissions by significantly reducing energy consumption, as fiber optic networks are up to 85% more energy-efficient than traditional copper networks. It supports the growth of digital services, which can lower carbon emissions by up to 20% through reduced travel and paper use. The project enhances the implementation of smart grid technologies, which can improve energy efficiency by up to 30%. Additionally, it facilitates the integration of renewable energy sources, helping to decrease reliance on fossil fuels. Overall, the project contributes to a cleaner, more efficient telecommunications infrastructure, aligning with Nigeria's net-zero carbon goals.

Project Name: OMI-KAMPE DAM
Location: KOGI STATE
Sector: ENERGY
Amount: US$3.962M

SN	Assessment Domain	Remarks
3	**Purpose of the Project**	The national peak power demand forecast figure is 12,800 MW against the available power of less than 4,000 MW. This calls for newer power projects to be implemented. It has been proposed that the dam's waters be utilized to generate hydroelectric power to boost the power supply within the dam's environs.

	Alignment with the country's national climate-change mitigation and adaptation targets	The Omi-Kampe Dam aligns with Nigeria's National Climate Change Policy (NCCP) 2021 and National Economic Empowerment and Development Strategy (NEEDS) by generating renewable hydropower, thus reducing greenhouse gas emissions and dependence on fossil fuels. It supports the National Agricultural Policy by providing reliable irrigation, enhancing food security, and resilience to climate-induced droughts. The dam aids water resource management, aligning with Nigeria's Water Resources Policy by addressing changing rainfall patterns and flood prevention. Additionally, it contributes to the National Economic Empowerment and Development Strategy (NEEDS) by promoting local economic development through water supply for domestic and industrial use, supporting diversified and resilient livelihoods.
	Contribution to Green House as (GHG) emission	The Omi-Kampe Dam contributes to greenhouse gas (GHG) emission reduction by generating renewable hydropower, which produces no direct GHG emissions during operation. By providing a clean energy source, it helps decrease reliance on fossil fuels, thus lowering overall carbon emissions. Additionally, the dam supports sustainable agricultural practices through irrigation, potentially reducing emissions associated with traditional, less efficient farming methods. While the construction phase may produce some emissions, the long-term impact of the dam is a net reduction in GHG emissions through clean energy and improved resource management.
	Contribution to Nigeria's resilient development pathway	The Omi-Kampe Dam contributes to Nigeria's resilient development pathway by providing renewable hydropower, enhancing energy security, and reducing dependence on fossil fuels. According to the International Renewable Energy Agency (IRENA), hydropower can reduce CO_2 emissions by up to 90% compared to coal-fired power plants. The dam also supports agricultural productivity by supplying water for irrigation, potentially increasing crop yields by up to 50% in drought-prone areas (FAO). Additionally, it improves water resource management, crucial for climate adaptation, and aligns with Nigeria's Water Resources Policy to mitigate flooding and water scarcity. These contributions foster economic stability, enhance food security, and support sustainable development, making Nigeria more resilient to climate change impacts.

	Mitigation features that contribute to the transition to a net-zero carbon emission feature.	The Omi-Kampe Dam generates renewable hydropower, which produces no direct CO_2 emissions during operation, significantly reducing reliance on fossil fuels. According to the International Energy Agency (IEA), hydropower's lifecycle emissions are about 1-5% of those from coal power plants. The dam also supports sustainable agricultural practices through irrigation, potentially reducing methane emissions from rice paddies by up to 25%, as noted by the Intergovernmental Panel on Climate Change (IPCC). By stabilizing the water supply and preventing deforestation for agriculture, the dam contributes to carbon sequestration, aligning with Nigeria's goal of achieving net-zero emissions by 2060 (Nigeria's Nationally Determined Contributions, 2021). **Nature-Based Solutions (NBS)** 1. **Carbon Sequestration**: NBS, such as reforestation, can capture up to 205 gigatons of CO_2 globally, offsetting decades of emissions (Nature). 2. **Cost-Effectiveness**: Reforestation costs range from $5 to $50 per ton of CO_2 sequestered, which is lower than many carbon capture technologies (World Bank). 3. **Biodiversity and Ecosystem Resilience**: NBS enhances biodiversity and ecosystem resilience, supporting long-term climate adaptation (IUCN). **Green Power (Renewable Energy)** 1. **Emission Reductions**: Renewable energy sources like wind, solar, and hydropower could account for

		over 90% of the power sector's emission reductions to meet Paris Agreement goals (IRENA). 2. **Energy Efficiency**: Solar PV systems and wind turbines are more efficient than fossil fuels, with modern coal plants operating at about 33% efficiency. In comparison, solar PV can exceed 20% and wind turbines up to 45% (U.S. Department of Energy). 3. **Economic Benefits**: Renewable energy created over 11.5 million jobs worldwide in 2020, demonstrating significant job creation potential compared to the fossil fuel sector (IRENA). NBS are effective for capturing CO_2 directly from the atmosphere, with their impact dependent on land availability and management. Green power is crucial for decarbonizing the energy sector, providing a sustainable solution for reducing emissions. Green power technologies can be rapidly scaled with sufficient investment and policy support, while NBS may require more time to achieve full benefits. NBS also offers additional benefits such as enhanced biodiversity and improved water quality, whereas green power primarily provides environmental benefits within the energy sector.

For more information, contact the

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