VACANCY FOR:

# CLIMATE SMART AGRO ENGINEER

JOB TITLE: Climate-Smart Agro Engineer

REPORTS TO:: Chief Executive Officer

## MARKET CONTEXT

Nigeria's agricultural sector, which employs over 70% of the rural population and contributes approximately 22% to GDP, faces significant challenges in energy access and climate resilience. The sector remains heavily dependent on fossil fuel-powered equipment, inefficient irrigation systems, and outdated processing technologies that contribute to high operational costs and environmental degradation.

Current agricultural operations are characterised by limited access to reliable electricity for processing and storage facilities, dependence on diesel-powered irrigation systems and machinery, post-harvest losses exceeding 40% due to inadequate cold storage and processing infrastructure, and vulnerability to climate variability affecting crop yields and food security.

The transition to climate-smart agriculture presents substantial opportunities for Nigeria to enhance food security, improve farmer incomes, and contribute to national climate goals. This transition requires investment in renewable energy solutions for agricultural operations, energy-efficient processing equipment, smart and solar-powered irrigation systems, and climate-resilient infrastructure. Conservative estimates indicate that achieving comprehensive energy transition across Nigeria's agricultural value chain will require investment of at least US$15 billion over the next Decade.

However, agricultural companies face significant barriers in accessing capital for energy transition investments largely due to perceived high-risk profile of agricultural lending, limited collateral and credit history among smallholder farmers and agribusinesses, lack of specialised financial products tailored to agricultural energy investments, and insufficient understanding among financial institutions of climate-smart agricultural technologies and the revenue potential.

## PROJECT DESCRIPTION

InfraCredit, in partnership with the Shell Foundation, British International Investment (BII), UK Foreign, Commonwealth & Development Office (FCDO), and other strategic development partners, is co-developing a five-year catalytic programme aimed at accelerating rural electrification and sustainable agriculture in Nigeria. The initiative addresses the critical financing gap restricting smallholder farmers and agro-processors from accessing affordable, clean energy-powered Productive Use of Energy (PUE) equipment.

The initiative is anchored under the Climate Finance Blended Facility (CFBF) structure combining concessional and commercial capital, alongside a technical assistance grant. With an initial pilot fund size of $1.7 million ($1 million concessional loan and $0.7 million technical assistance grant), the programme seeks to unlock access to clean, electric-powered agricultural processing technologies for smallholder farmers and agro-processors, particularly in unserved and underserved regions of Nigeria to:

- Facilitate local currency financing for PUE equipment
- Reduce foreign exchange exposure risk for rural SMEs
- Promote climate-smart agricultural processing powered by decentralized clean energy
- Aggregate demand via OEM partnerships and farm aggregator networks
- Pilot scalable asset financing models such as lease-to-own for sustainable adoption
- Generating real-world data and learning to support replication and scale

The project aims to support up to 560,000 farmers by 2030, improving productivity, rural incomes, and energy demand for mini-grid developers.

## PROBLEM STATEMENT

Nigeria's agricultural sector, which employs over 70% of the rural population and contributes significantly to GDP, is severely constrained by an acute energy crisis. Unreliable grid electricity, evidenced by numerous collapses, forces agribusinesses and smallholder farmers to depend on costly diesel generators. This dependence consumes a majority of production costs, amounting to billions of dollars annually, which erodes profitability, undermines competitiveness, and creates a major barrier to adopting modern technologies

This energy bottleneck directly threatens national food security and economic growth, impeding progress toward key development goals. A transition to renewable energy solutions like solar-powered irrigation and cold storage is essential but faces a massive financing gap. This gap is exacerbated by systemic market failures, macroeconomic instability, and investor hesitancy, with institutional investors like pension funds allocating very little capital to the agricultural sector despite its size

To address this, InfraCredit has developed a Climate-Smart Agro Productive Use of Renewable Energy (PURE) strategy to de-risk investments and unlock domestic institutional capital for PUE eligible projects. Supported by technical assistance, the initiative now seeks a specialist to join its deal team.

This role is critical for originating, structuring, and executing projects to achieve targeted annual transaction values of up to NGN 20 billion and help meet Nigeria's food security and clean energy objectives.

## SCOPE OF WORK

The Climate-Smart Agro Engineer will be required to carry out the following activities:

- Conduct hands-on technical due diligence on all agricultural processing equipment and renewable energy systems proposed for projects, evaluating OEMs and local fabricators for quality, durability, and contextual relevance.
- Lead the end-to-end technical design, operational modelling, and scalability validation of the PUE AssetCo including creating standardised, replicable PUE equipment packages (e.g., solar-powered milling, drying, cooling) to be deployed by the AssetCo.
- Provide support with the structuring of the AssetCo operational model to embed diverse business models (lease-to-own/PAYGO structures, maintenance protocols, performance monitoring).
- Validate the scalability of the technical model across diverse regions and product value chains (cassava, maize, rice, oil palm amongst others) to de-risk the portfolio for investors.
- Develop technical models and assessment frameworks that incorporate technical data from OEM, equipment, energy while accommodating agricultural seasonality and climate variability for PUE projects.
- Provide critical technical assumptions and data for financial models, including equipment CAPEX, maintenance schedules, energy consumption profiles (load forecasting), efficiency rates, and expected asset lifespans.
- Collaborate with DRE engineers to ensure agro-processing load requirements are perfectly matched with the design and capacity of the Distributed Renewable

- Lead the technical sections of New Business Committee and Credit Committee Papers for the PUE AssetCo model and the respective projects, clearly articulating the technical rationale, risks, and mitigants.
- Provide expert responses to all technical queries from the MROC, Credit Committee, and development partners amongst others, instilling confidence and highlighting the credit thesis of the underlying assets.
- Support the climate-smart agro transaction team to design and structure innovative models tailored to agricultural energy projects, incorporating risksharing mechanisms and blended finance approaches.
- Support with the origination and structuring of climate-smart agro deals using the PUE AssetCo model.
- Develop comprehensive market assessments of energy transition opportunities across agricultural value chains, identifying priority sub-categories and investment themes.
- Build strategic partnerships with agricultural technology providers, original equipment manufacturers, and energy service companies including mini-grid operators.

Impact Measurement and Reporting

- Establish sector-specific impact measurement frameworks that capture agricultural productivity, climate, and socioeconomic outcomes.
- Develop regular reporting systems for tracking activities and performance in agricultural value chain.
- Prepare case studies and documentation to demonstrate impact and attract additional partners.
- Coordinate with development impact team to ensure detailed impact assessment and MEL reporting.

Stakeholder Engagement and Knowledge Sharing

- Build relationships with development partners, donors, other stakeholders and investors focused on climate-smart agro space and facilitate knowledge sharing and learning exchanges among agricultural energy project stakeholders.

- Design and implement capacity building programs for agribusinesses seeking energy transition investments.
- Create educational resources and toolkits for development partners and donor agencies interested in financing energy transition projects for agro companies

Standard Operating Procedures (SoPs) and Process Management

- Develop and implement SoPs guiding investment/financing strategies, execution and operational workflows.
- Document responsibilities, timelines, and approval requirements for climate smart agro activities.

Data Management and Reporting

- Provide critical data and update climate-smart agro transactions and database on the transaction reporting system.
- Ensure all transaction related documents, reports, templates, and operational materials are organised and up to date and monitor performance and generate regular reports for development partners

## EXPECTED OUTCOMES / OUTPUTS

The workstream is expected to deliver the outcomes outlined below:

1. Comprehensive sector strategy document outlining investment priorities, target markets, and implementation roadmap for climate-smart agriculture investments
2. Enable productive use of energy (PUE) AssetCo financing transactions in line with the Climate-Smart Agro strategy.
3. Directly contribute to the structuring and financial close of up to NGN5 billion climate-smart agro transactions utilising the PUE AssetCo financing model.

4. Standardised due diligence and project assessments frameworks designed for agricultural energy transition projects.
5. Design and develop the climate-smart agro PURE eligibility criteria which embeds key risks and structure mitigants.
6. Standardised, and bankable technical blueprint for the PUE AssetCo model that can be scaled across Nigeria, significantly reducing origination and due diligence timelines for subsequent transactions
7. Strategic partnerships with key players in the sector including OEMs, technology providers and energy service providers.
8. Detailed standard operating procedure for execution of transactions under the climate-smart agro productive use of energy strategy.
9. Ensure all agro-processing equipment integrated into transactions projects are technically sound, contextually appropriate, and optimally paired with DRE systems.
10. Build and maintain a reputable network of qualified and reliable OEMs and local fabricators for the PUE ecosystem.
11. De-risk the AssetCo model by establishing a robust technical basis, including standardised maintenance contracts, and clear performance metrics, that could potentially lead to lower cost of capita

## KEY PERFORMANCE INDICATORS

- Technical support to the team originating and developing climate-smart agro productive use of renewable energy project pipeline of eligible transactions using the PUE AssetCo model or agricultural energy related deals of over NGN 15 billion.
- Develop and design standardised due diligence framework and project assessment tools as well as reporting templates covering the critically important due diligence workstreams across PUE asset categories including solar irrigation, processing equipment, cold storage, e-mobility solutions.
- Provide technical support in the preparation and presentation of climate-smart agro PURE transactions up to NGN10 billion.

- Provide accurate technical inputs for the financial models of up to five Climate-Smart Agro transactions.
- Complete comprehensive technical reviews and assessments for a minimum of five agro-processing equipment and/or PUE project plans.
- Provide comprehensive technical support to the deal team in structuring up to productive use of renewable energy projects using the PUE AssetCo model which enables transactions of up to NGN5 billion reach financial close.
- Enable climate-smart agro PURE transactions that directly impact a minimum of 15,000 smallholder farmers, of which 30% should be women farmer participation within the first 12 months, with economic improvements and a goal to scale the impact on farmers income and livelihood by 5X.
- Prepare and maintain standard operating procedures (SOPs) covering all aspects of climate-smart agro PUE strategy execution, including transaction origination, due diligence, structuring, execution and monitoring processes, with full adherence while ensuring quarterly documentation of all processes and responsibilities, timelines, and approval requirements.
- Maintain comprehensive, real-time transaction database capturing all pipeline transactions, with weekly, monthly and quarterly updates and strategic pipeline assessments whilst ensuring data accuracy and providing automated reporting for both internal and external stakeholders.
- Timely preparation and delivery of all project pipeline information, project technical reports, other transaction resources whist ensuring compliance with reporting obligations for all stakeholders on quarterly and annual basis.
- Design and deliver comprehensive knowledge exchange programs for climate smart agro stakeholders through frequent and/or quarterly roundtables, workshops, conferences, and learning series.
- Establish and maintain strategic partnerships with key sector players including OEMs/technology providers, development partners, donor agencies, and other climate-smart agro stakeholders.
- Evaluate and provide a qualified opinion on up to five OEMs and/or local fabricators and technology providers.

- Develop and document the complete technical design and operating model for the standardised PUE AssetCo, including all equipment specifications, maintenance SOPs, and performance monitoring frameworks.
- Lead or contribute to the feasibility studies and site assessments of all prospective PUE projects.
- Lead the technical due diligence for at least up to five agro-processing projects considered for inclusion in the PUE AssetCo portfolio.
- Achieve 100% compliance in storing all technical due diligence reports, equipment datasheets, and model assumptions in the central approved repository.

## QUALIFICATION, EDUCATION AND REQUIREMENTS

Candidates for the role should possess the following qualifications:

- Bachelor's degree in Agricultural Engineering, Agricultural Science, or closely related field; Master's Degree (MBA, Agricultural Development).
- Relevant professional qualifications in engineering, agriculture, and other related subject areas are an advantage.
- 4-7 years of experience in agricultural engineering, agricultural development, with at least three to five working with development finance institutions (DFIs) or donor agencies.
- Proven experience in technical transaction structuring, assessment, and analysis for agricultural and/or infrastructure projects.
- Deep understanding of agricultural value chains, farming systems, and rural economic dynamics in Nigeria.
- Technical modelling and structuring risk sharing and blended finance transactions as well as risk assessment and mitigation strategies.
- Knowledge of renewable energy technologies, energy efficiency solutions, and climate-smart agricultural practices.
- Sound understanding of blended finance mechanisms and development finance structures and strategies.

- Strong analytical, project management skills and systematic problem-solving abilities, with excellent communication, writing and stakeholder engagement capabilities.
- Ability to effectively manage competing deadlines for projects in a fast-paced work environment, with varying degrees of supervision.
- Acute attention to detail and a dedication to providing high-quality reports.
- Proficiency in the use of all Microsoft Office applications, particularly MS. Excel and MS. Power Point

## COMPENSATION

Negotiable

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