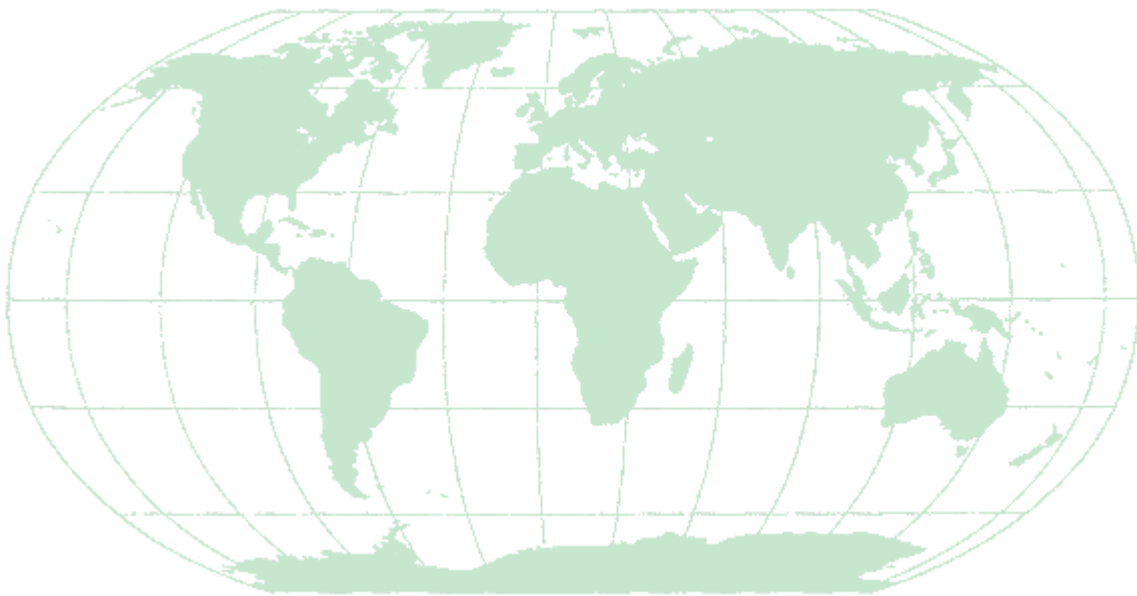


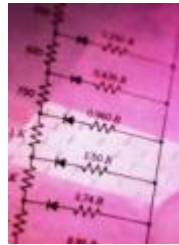
AZOROM

ENERGY SERVICES



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

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POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

INTRODUCTION

AZOROM is an independent private company that provides services to the electricity sector in Ireland and throughout the world. It has its headquarters in Dublin, Ireland.

The company was formed in 2001 with the objective of providing added value and quality services to its clients in all aspects of the electricity business. This first class service is provided through a combination of highly qualified staff and emphasis on careful management of projects to a successful conclusion.

AZOROM is independent of manufacturers and suppliers and can provide totally independent advice and assistance.

The company's knowledge and know-how derives from the vast skills and experience of its experts in the areas of engineering, accounting, economics, regulation, human resources and management. A unique quality of the company is the experience of its experts deployed on projects.

Apart from wide ranging consulting experience, AZOROM experts generally come from line positions in utilities, regulators and government ministries. Therefore, they not only bring the deep knowledge and understanding of issues but also the practical experience of having implemented best international practice themselves.

Since its establishment, AZOROM has worked with energy institutions (ministries, utilities, regulators) and companies in various parts of the world including European Union, South America, Eastern Europe, CIS, Balkans, Mediterranean, Africa and Far East.

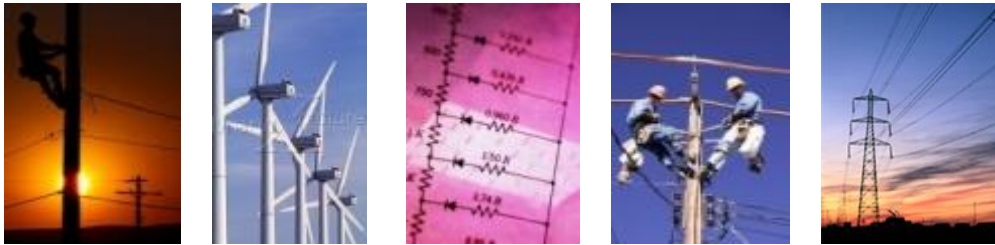
AZOROM has worked on projects funded by private sources and on projects funded by institutions such as WB, MCC, EU, EiB, KfW, SECO, AfD, UN.

AZOROM is intent on delivering expert advice and services at good value for money through professionally experienced and competent staff that are culturally sensitive and can develop fruitful working relationships with client and beneficiary.



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

CLIENT SERVICES

AZOROM provides a broad range of services for the electricity business:

Consulting

Our experts cover the whole range of electricity business knowledge base in areas of generation, transmission, distribution, supply, renewable energy, covering technical, financial, regulatory, human resources, restructuring and privatisation issues.

Infrastructure Feasibility Studies and Design

Experience in developing least cost proposals for powering major infrastructure projects for mines, ports, industrial zones and urbanisation through the various stages of pre-feasibility, feasibility and design stages of power plants, transmission lines and natural gas pipelines.

Procurement

AZOROM can provide expertise in all stages of power sector procurement from preparation of scope, specifications, contract documents, tender evaluation and negotiations to award.

Project Management

Our experts are skilled in project management and contracts management with ability to deliver projects to technical specification and within the budgetary and time parameters.



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

Training

Provision of training services including training needs assessment, preparation of training materials and delivery of training in the areas of general management, project management, power station training, networks training, health and safety.

Renewable Energy & Energy Efficiency

We provide expert advice on all aspects of renewable energy and energy efficiency including feasibility studies, due diligence, investment analysis, project design, tender documents preparation for EPC contracts, PPA development, tariff calculations, contract supervision and technical support.

Network Mapping and Asset Management

AzGIS is a mapping and asset management system developed by AZOROM.

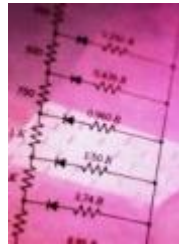
AzGIS has the following capabilities:

- Digital mapping of electrical networks
- Production and printing of high quality geographic network maps
- Extremely powerful planning tool
- Integration with load-flow analysis software
- Facilitates efficient operation of the networks
- Identifies locations of network faults
- Facilitates planning of maintenance works
- Facilitates selection of substation site and line routes for new works and production of location maps



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

CONSULTING SERVICES

Energy Policy

- Approximation of Policy to EU Legislation
- Development of Energy Self-Sufficiency Policy
- Development of Energy Efficiency Policy
- Development of Policy on Public Service Obligations

Liberalisation

- Electricity Sector Reform
- Development of New Industry Structure
- Establishment of Independent Regulator
- Development of Licenses and Permits
- Development of Transmission & Distribution Grid Codes
- Development of Metering Code
- Unbundling and Account Separation

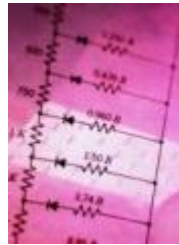
Utility Restructuring

- Company Reorganisation
- Development of Policies and Strategies
- Development of Change Management Plan
- Effecting a Culture Change
- Transfer Pricing
- Development of Job Specifications and Person Specifications.
- Analysis of Staff Training Needs
- Establishment of Modern Accounting Practices
- Staff Downsizing and Design of Exit Packages
- Introduction of Cost-Cutting Measures



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

Privatisation Assessment

- Carrying out Due Diligence Assessments
- Estimation of Investment Requirements
- Benchmarking of Performance Indicators
- Assessment of Management and Staff
- Analysis of Market
- Analysis of Regulatory Environment

Institutional Strengthening

- Re-Engineering of Procedures, Structures and Relationships
- Delivery of Performance Improvement Programmes
- Functional support for IT Systems implementation
- Development of Mission Statement and Strategies
- Design of Organisation Chart
- Development of Job Descriptions
- Design of Staff Development Programmes
- Development of Cost-Cutting Programmes

Pricing and Tariff Design

- Development of TUOS tariffs
- Costing of Ancillary Services
- Development of DUOS tariffs
- Design of Final Customer tariffs
- Allocation of Costs and Price Reviews
- Tariff Rebalancing

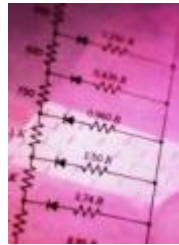
Training & Development

- Carrying out Training Needs Analysis
- Design of Training Programmes
- Conducting Training Modules
- Organisation of Training Tours



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

Technical and Commercial Losses Reduction

Evaluation of Technical and Commercial Losses
Development of Least-Cost Investment Programmes to counter losses
Provision of technical support to implement losses reduction programmes

Collection Improvement

Analysis of Collection Rates
Design of Programmes to Improve Collection Rate
Analysis of Feasibility of Pre-Payment Meters

Standards and Performance Indicators

Establishment of International Technical Standards
Establishment of Performance Standards in Technical, Financial, Human Resources and Safety areas.
Benchmarking Performance with International Best Practice

Accounting and Finance

Introduction of International Accounting Practices
Development of Financial Accounts
Development of Management Accounting
Development of Regulatory Accounting
Establishment of Profit Centres

Planning

Development of System Plans
Development of Transmission Expansion Plans
Development of Distribution Plans
Development of Integrated Resource Plans
Development of Maintenance Management Plans

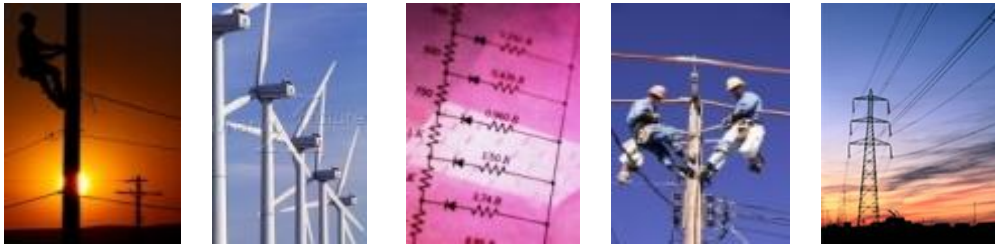
Safety and Environment

Safety Audits
Drafting of Safety Procedures
Environmental Impact Studies



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

Generation

- Carrying out Technical Studies
- Development of Performance Standards
- Carrying out Environmental Audits
- Specification of Equipment
- Supervision of Rehabilitation Programmes
- Witnessing of Tests and Inspection
- Development of Safety Procedures

Transmission

- Planning, Design and Costing
- Development of Maintenance Programmes
- Supervision of Construction and Rehabilitation
- Design of SCADA System
- Development of TUOS
- Design of Protection Systems

Distribution

- Planning, Design and Costing of Networks and Substations
- Supervision of Construction and Rehabilitation
- Design of SCADA System
- Design of Protection System
- Introduction of Efficient Work Management Systems
- Benchmarking Performance

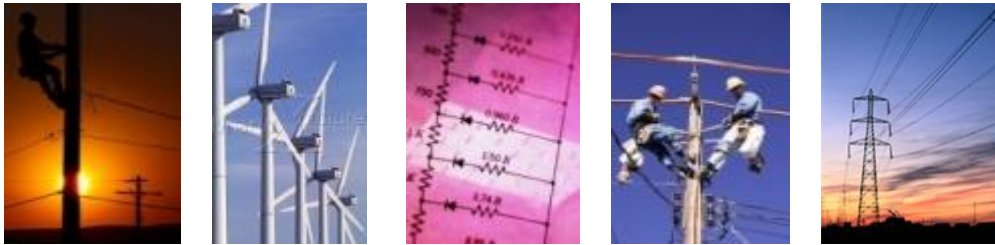
Energy Efficiency & Demand Side Management

- Development of Energy Efficiency Policy
- Carrying out Energy Efficiency Audits.
- Development of Energy Efficiency Programmes.
- Design of Demand Side Management Programmes



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

Procurement

- Development of Procurement Strategy
- Development of Specifications
- Preparation of Tender Documentation
- Tender Evaluation and Selection
- Contract Negotiation

Project and Contracts Management

- Development of Specifications and Project Budget.
- Preparation of Tender Documents.
- Tender Evaluation and Selection.
- Project Management in accordance with FIDIC, etc.

Renewables

- Conducting of Feasibility Studies for Renewable Sources of Energy
- Evaluation of Wind Energy Potential
- Provision of maintenance services for wind farms
- Renewable Integration Studies

Feasibility Studies

Pre-feasibility and feasibility studies for power requirements and supply to major infrastructure projects such as mines, ports, industrial zones.

Front End Engineering Design

Front end engineering design studies for power requirements and supply to major infrastructure projects such as mines, ports, industrial zones.

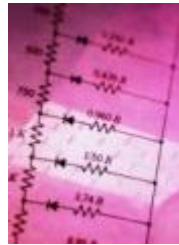
Due Diligence

- On behalf of purchasers of energy assets
- On behalf of vendors of energy assets



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

COUNTRY EXPERIENCE

Our worldwide experience includes projects carried out in the following countries:

Bosnia

Bulgaria

Congo (Brazza)

Congo (DRC)

Chad

Gambia

Georgia

Ghana

Grenada

Iraq

Ireland

Kosovo

Kuwait

Laos

Latvia

Lebanon

Liberia

Malawi

Montenegro

Mozambique

Nigeria

Peru

Poland

Russia

Rwanda

Saudi Arabia

Serbia

Sierra Leone

Tanzania

Togo

Turkey

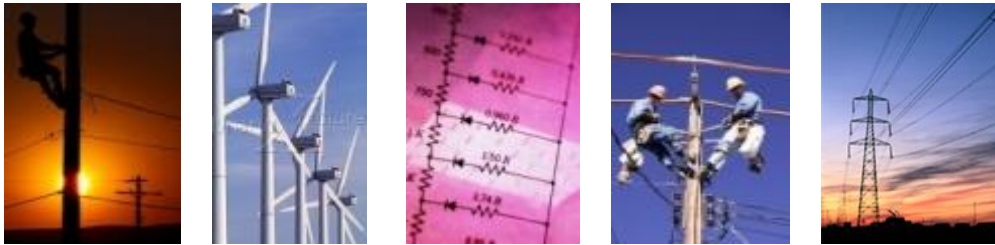
Uganda

Ukraine



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

SELECTED PROJECTS

Technical Services to Electricity Networks Company (DNO)

Ireland

(2021 – ongoing)

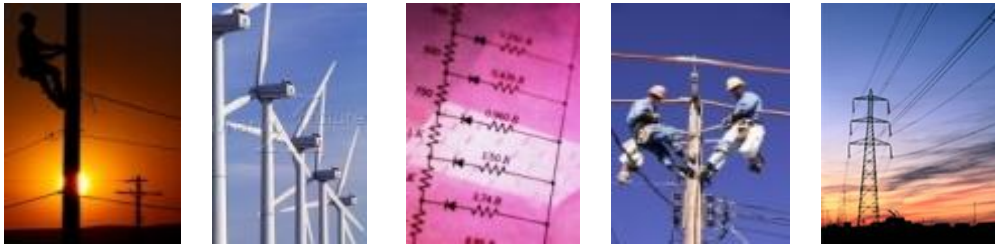
AZOROM is supporting ESBN, the national DNO in Ireland, in a number of areas including:

- LV System Development and Readiness for 1m EVs and 600,000 heat pumps by 2030 and microgeneration. Ensuring that LV System is fit for purpose. Review of processes and procedures and tools used for preparing LV designs.
- Technical studies to determine a proposed connection method to the distribution system for a single or group of generator connections as part of ECP-2. The proposed connection method to be in compliance with the approved CRU (regulator) rulesets and planning criteria and ESBN practices.
- Review new or MIC increase MV/38kv cut-off. Document Guideline clearly outlining the cut-off limits for MV and 38kV connections demand connections to the Distribution system. Develop tool to allow planners to ascertain cut-off limit for a particular station.
- Dual Radial Connections review. Drafting of new guideline or updates to the existing procedures supported with documentation and examples of how it will operate.
- Review of Tailfed Stations. Review and analyse feeding arrangements for transformers and provide direction on future use and long-term plans. Production of document Guideline clearly outlining assessment for overloading of these stations and N-1 contingency.
- Review of DLAF Methodology & Calculations. DLAF's are a calculation of the distribution losses which is the difference in the amount of energy transferred from the distribution network to supply electricity customers. Updating methodology and method documentation.
- Review of Load Factor used in Distribution Planning. Production of report detailing analysis done and conclusions drawn; methodology and method documentation to be updated.
- Review and analyse Security of Supply Standards in light of changes to ADMD and other factors. Production of report with advice on strategy going forward.



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

Power Sector Skills Strengthening Study – funded by World Bank (WB)

Uganda

(2022 – ongoing)

The objective of this study is to support the Ministry establish a Power Subsector hands-on skills development and enhancement plan to provide a holistic power subsector skill strengthening to enable the subsector effectively and sustainably implement its mandate. Undertake capacity strengthening needs assessment of the power subsector and evaluate processes and requirements to establish a training facility. Recommend a comprehensive curriculum for the training facility to train in-house staff, through apprentice, induction programs, refresher programs, hands-on training and other capacity enhancements on new technologies.

Technical Advisor to Developer of Greenfield Mini-Grids

Democratic Republic of Congo

(2021 – 2022)

AZOROM is supporting funders considering financing the construction, operation, and ownership of four greenfield Mini-Grid projects of size ranging from 2MW to 8MW. Responsibilities include:

Phase 1: Pre-Financial Close – Technical Due Diligence

Phase 2: Post-Financial Close – Annual Monitoring

Technical Adviser to Purchaser of Mini-Grids

Tanzania

(2021 - 2022)

AZOROM is technical adviser to a purchaser of a Concession consisting of two Mini-Grids. Responsibilities include technical due diligence and estimation of investment requirements



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

Turnaround Technical Advisor to Electricity & Water Utility – funded by World Bank

The Gambia

(2021 – ongoing)

Following the successful implementation of Phase 1 between 2017 and 2021, AZOROM was retained to implement Phase 2 technical assistance to the electricity and water utility of The Gambia. The high-level objective of Phase 2 is to support NAWEC to become an operationally efficient and financially viable company. Specifically, this assignment will provide support and assistance to NAWEC in implementing its 2019-25 Strategic Development Plan, including establishing efficient processes, procedures, and activities to run operations with support of the new IMS. Responsibilities include: Electricity SBU Organisation Support; Water SBU Organisation Support; Support Services Organisation Support; Change Management and Governance Support; Systems and Facilities Development Support; Additional Capacity Building Support; Contingency support for emergent issues.

Development of Design Guidelines, Specifications and Construction Standards for Distribution System – funded by World Bank (IFC)

Ghana

(2020 – ongoing)

AZOROM is providing services to the Northern Electricity Distribution Company of Ghana (NEDCo) in the development of technical documentation covering Technical Specifications, Design Guidelines and Construction Standards in accordance with international best practice. The specific objectives of the assignment include: (1) develop equipment and material specifications to conform to current industry standards (2) develop engineering design guidelines to serve as NEDCo's System Design Reference Manual (3) develop engineering construction standards to guide NEDCo's engineering construction practice (4) Training and capacity development of staff.



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

Technical Adviser on Off-Grid PV Solar & Battery Storage – funded by European Investment Bank (EiB)

The Gambia

(2019 – ongoing)

AZOROM is supporting the Government of The Gambia to set-up and assist in running a dedicated New Company which will function as a PIU. Furthermore, the objective is to develop and operate a portfolio of off-grid solar photovoltaic (PV) energy systems with battery backup in up to 1,100 primary and secondary education schools and health facilities in the country. The PIU will be responsible for the co-ordination and successful delivery of all activities under the Project, including procurement and cooperation between the representatives of the relevant authorities on the project sites and the contractors. The overall objective of the project of which this contract will be a part is as follows: To provide stable and reliable electricity supply to a maximum of 100 on-grid and off-grid health facilities in the country and a maximum of 1000 on-grid and off-grid public schools facilities. The Project will install solar PV with battery backup equipment in schools and health clinics in The Gambia, and possibly it will provide limited electricity services in neighboring communities without access to the grid.

Review of the Institutional Reform and Performance of Electricity Sector – funded by World Bank (WB)

Rwanda

(2019 – 2020)

AZOROM was retained as part of a partnership to review the institutional and operational performance of Rwanda Energy Group (REG) in the context of transition reform initiatives, to identify the key challenges and to address these in order to improve sector performance. The functions of REG are mainly performed by two wholly owned subsidiaries, namely EUCL and Energy Development Corporation Limited (EDCL).



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

Technical Support on Floating Offshore Wind Technology – funded by Ministry of Energy

**Ireland
(2021)**

AZOROM is supporting the Sustainable Energy Authority of Ireland (SEAI) in the development of a test site some 20km of the West Coast of Ireland for the testing of floating offshore wind technology. Specifically, to provide technical advice on the connection by undersea cable of the test site to shore including seabed cable route investigation; cable burial risk assessment; engineering design studies; least cost evaluation; preparation of tendering documentation and evaluation; programming of work; liaison with Client and Works Contractors.

Monitoring and Reporting on Gas & Electricity Infrastructure Projects – funded by Ministry of Energy

**Ireland
(2019 – ongoing)**

AZOROM was retained by the Sustainable Energy Authority of Ireland (SEAI) to perform the technical monitoring task, on behalf of Ireland as the Member State of the EU, for the certifying of claims for energy projects in receipt of funding under the European Union's Connecting Europe Facility (CEF). The Framework is also used to provide other technical analyses and studies on electricity, gas and energy infrastructure and gas safety issues, on an as-needed basis.

Promotion of Energy Efficient Lights through the Replacement of Incandescent Lamps with LEDs – funded by SIDA

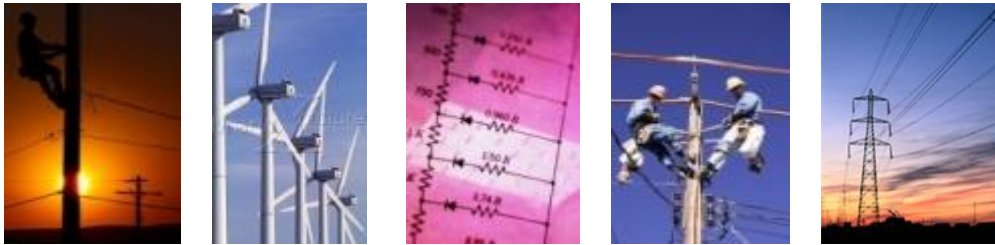
**Mozambique
(2020 – 2021)**

AZOROM supported the Electricidade de Mocambique (EdM) to implement demand side management to reduce energy demand with resultant huge cost saving benefits. The main purpose of the project is to develop a full Project Document related to promotion of energy efficient lights, through the replacement of incandescent lamps by LEDs in domestic premises. Develop a Business Case and a Project Document covering all technical and financial aspects to be accepted in any international financial institution for funds' application.



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

Electricity Infrastructure Program Implementation Unit (PIU) - funded by Millennium Challenge Corporation (MCC)

Ghana

(2019 – 2022)

The Millennium Development Authority (MiDA) is the independent Ghanaian entity accountable for overall management of an MCC (USA) funded compact program investing approx. US\$500 million in electricity infrastructure and services in Ghana. MiDA engaged the services of AZOROM to establish and operate a Program Implementation Unit (PIU) to provide over-arching program and project management support and co-ordination to the MiDA management and Project Directorates/Teams. The PIU will also work closely and collaborate with Implementing Contractors and other consultants engaged by MiDA.

Implementation of a Regulatory Information Management System – funded by KFW

Uganda

(2018 – 2021)

AZOROM is a member of a consulting partnership retained to support the Energy Regulatory Authority (ERA) in implementing an information management system as well as the procurement of required software and hardware for the purpose of information collection, regulatory analysis, compliance monitoring, decision making and other regulatory functions.

Development of a Training Center – funded by Millennium Challenge Corporation (MCC)

Liberia

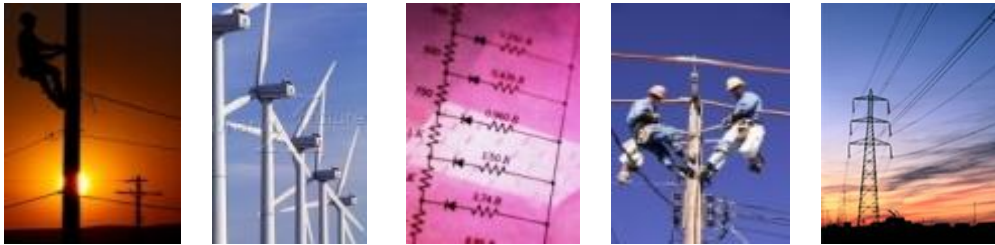
(2018 – 2019)

AZOROM was retained to provide advisory services to establish a Training Center to enable the Liberian electricity utility LEC to deliver high-quality, fit-for-purpose training to its staff to ensure they can fulfill the needs of the corporation and support a well-functioning electricity utility. Responsibilities included training needs analysis (TNA), development of training programs and curricula, development of training manuals, gender inclusion policies, design of training center layout and identification of training equipment required.



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

Definition, Procurement & Supervision of the Implementation of an ERP System – funded by Millennium Challenge Corporation (MCC)

Ghana

(2018 – 2019)

AZOROM was a member of a consulting partnership retained to define an ERP solution that permits a consolidation of information holdings and a move to a new paradigm service orientation for integrated service delivery involving the following three phases of work:

- Pre-ERP Study, Definition of System Requirements, Launch Solicitation Docs
- Solicitation of ERP Contractor
- Oversight Service and Supervision

Development of 60 MWp Solar Power Plant

Chad

(2017 – 2019)

AZOROM provided technical advice to a private developer in Central Africa for the development of a 60MWp solar plant. Tasks included:

- Preparation of tender documents and selection of the EPC contractor
- Preparation of tender documents and selection of the O&M contractor
- Drafting of the EPC and O&M contracts
- Preparation of financial models

Monitoring of Turnaround Electricity Utility Management Contractor – funded by Millennium Challenge Corporation (MCC)

Liberia

(2017 – 2021)

AZOROM provided support to MCA-Liberia to:

- evaluate the performance of the Turnaround Management Contractor of the state electricity company LEC
- approve disbursements
- advise MCA-Liberia with respect to all related matters
- assist in resolving any disagreement or dispute between the parties.



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

Transition Technical Advisor to Electricity & Water Utility – funded by World Bank

The Gambia
(2017 – 2021)

AZOROM provided support to NAWEC, the national water and electricity utility, over a 4-year period to become an efficiently operating and commercially viable enterprise. Responsibilities include: Organizational improvement; improving commercial performance including reduction of losses; improving financial performance and reporting; demand-side management and reactive power assistance; technical performance improvement; definition, procurement and deployment of integrated management system (IMS) including the preparation of pre-feasibility study report for IMS; definition of IMS TOR and technical requirements and procurement and deployment of IMS; develop and implement capacity-building/training program.

Development of Integrated Strategic Plan for Electricity Utility

Malawi
(2017 – 2018)

AZOROM assisted ESCOM to develop a robust integrated strategic plan for coming 4 years (ISP21). The process will allow the Malawi Government, project partners, ESCOM Board, ESCOM Executive Management and staff and other key stakeholders to not only have a guiding document for the next 4 years in the development of the power sector, but also take stock of the Corporation's effectiveness in implementing of the ISP 17 by looking at the immediate past, current situation, emerging dynamics, government policies and offer suggestions for the strategic direction for the 4-year plan.

Support to Energy Regulator – funded by KFW

Uganda
(2016 – 2018)

Working with ERA to enhance its internal capacities for power system analysis, technical regulation, economic regulation, legal and procedural aspects of regulation of DISCOs and TRANSCOs, environmental aspects of regulation of DISCOs and TRANSCOs, understanding of other regulatory regimes and broader aspects of regulation of the ESI.



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

Due Diligence for Private Sector Investment in Power Sector

Sierra Leone

(2016)

AZOROM provided technical services to a private client looking at investing in the power sector of Sierra Leone. Work involved technical due diligence of the networks, review of performance of power companies and development of financial models and analysis of options for private sector participation.

Technical Support in Development of Mini-Grid

Democratic Republic of Congo

(2016 – 2017)

AZOROM provided technical services to a private client developing an off grid power generation and distribution business in an un-electrified area of DRC. Provision of technical, financial and commercial advice.

Technical Adviser for PV Solar Technical and Connection Services

Ireland

(2015 – 2017)

AZOROM provided technical services to a number of private investors looking at investment in grid connected solar farms in Ireland ranging in size from 4MW to 25MW. Evaluation of technical constraints and development of technically competent grid connections at best value for money. Processing of grid connection applications.

PV Solar Development Feasibility Study and Tender Documents

Preparation – funded by DFID

Sierra Leone

(2015)

AZOROM carried out a study to identify the options for the rollout of utility- scale solar power plants in multiple locations in Sierra Leone and the options for the rollout of small-scale off-grid private sector-led solar power initiatives nationwide. Also, identified the potential financing sources for the further funding of the feasibility study and policy work of the identified national solar power rollout options. AZOROM prepared tender documents to go to the market for a number of solar PV grid connected farms.



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

Financial & Operational Turnaround Consultancy - funded by Millennium Challenge Corporation (MCC)

Malawi

(2014 – 2017)

AZOROM supported ESCOM the national electricity utility of Malawi to restore financial healthy and rebuild it into a financially strong, well-managed company. Technical assistance was provided in areas of business planning, financial management, accounting and auditing, operational performance improvements including H&S, asset maintenance, work planning, reduction of losses, DSM/EE, HR operations including staff performance monitoring and improvement, corporate governance support, communications and public relations.

Development of a Training School and Training of Linesmen and Technicians – funded by World Bank (WB)

Malawi

(2014 – 2018)

AZOROM assisted ESCOM the national electrical utility of Malawi to establish a new training school for linesmen and technicians. It involved training needs analysis, development of training methodology, design of training facilities and course syllabus, development of training courses and manuals, specification and procurement of tools and equipment; training of some 200 linesmen and technicians.

Improvement of Energy Efficiency in Government Buildings

Ireland

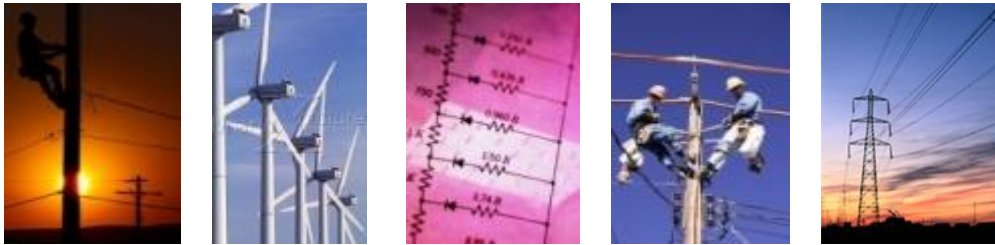
(2013 – 2020)

AZOROM supported the Office of Public Works to implement a large scale Energy Conservation Campaign across up to 1,500 public service buildings in the Republic of Ireland, ranging from offices to schools, colleges and hospitals. The project aims to reduce energy costs in all Government buildings in Ireland by 20% and is on track to achieve this by 2016. This is Ireland's largest energy saving initiative.



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

Supervising Consultant, Infrastructure Development Project – funded by Millennium Challenge Corporation (MCC)

Malawi

(2013 – 2016)

AZOROM provided supervisory services for MCC \$260m investment in the rehabilitation of the power sector. Survey of lines, cables and substations and preparation of tender documents to hire contractors. Supervision of contractors carrying out the work.

Establishment of a Strategic Business Unit in Electricity Utility – funded by SECO

Ghana

(2014 – 2017)

AZOROM assisted ECG to establish a Strategic Business Unit in the Ashanti Region with institutional change management as the core element of the assignment. Scope covered Diagnostic Baseline Studies: Business Management Capacity, Network condition, Work measurement, ICT adequacy and needs, Technical, Commercial, Financial operational procedures. Guide and support the Management in transitioning management & operational activities to the new SBU business model in the areas of: Maintenance Management Plan, Network Master Plan, Project Management Unit, Project Program, Optimum Procurement Management process, Metering, Billing, Revenue protection, service delivery, Call Centre, Accounting and Financial management procedures, Financial Management Information Systems, planning budgeting and performance reporting, cash handling and control, accounts payable and general governance. Preparation of a Strategic Business Plan, Annual Work Plans, Performance Monitoring Systems and a Management Information System.

Technical Adviser in Rehabilitation of Hydro Power Plants

Ireland

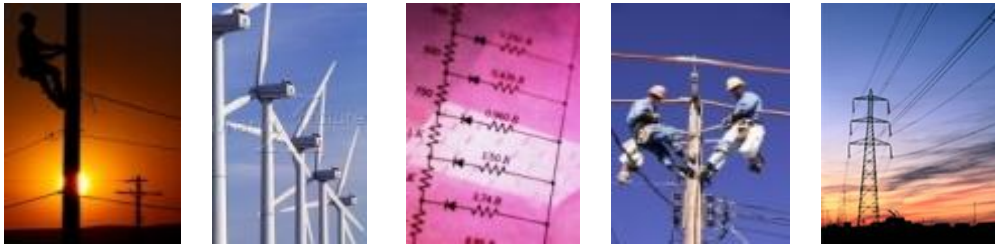
(2013 – 2016)

AZOROM provided technical support to ESB the national electricity utility of Ireland in its program of refurbishment of its hydro power plants. Work involves contract management, quality control, establishment of maintenance standards and procedures.



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

Technical Adviser in Private Sector Participation in Power Distribution Companies – funded by World Bank (WB)

Ghana

(2013 – 2014)

AZOROM worked with IFC on behalf of MCC to assess the opportunities to introduce private sector participation in the distribution companies of Ghana. Undertake technical and financial due diligence of ECG and NEDCO, and due diligence on the legal and regulatory environment within which PSP can be implemented in Ghana's electricity distribution sector. Develop Options Analysis and identify the most appropriate form and scope of PSP in Ghana's electricity distribution sector.

Performance Testing of Power Plants

Lebanon

(2012 – 2020)

AZOROM carried out pre-upgrade and post-upgrade tests on a number of CCGT units for the power utility to ensure upgrade and rehabilitation work reached required standards. The company has also been involved in investigation and root cause analysis of a number of faults in power stations.

Support in Developing Peat to Power Projects

Rwanda

(2012 – 2014)

AZOROM provided a range of expertise and technical assistance to the Government and EWSA the power and water utility in development and harvesting of peat bogs to generate electricity with development of 15MW and 100MW power plants. Assistance with energy policy development, planning of new power stations, peat sampling and analysis, negotiation with contractors, negotiation of PPAs, and supervision of work.



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

Design of Power Supply for Phosphate Mine

Republic of Congo

(2012 – 2013)

AZOROM provided technical advice to a private mining company related to power supply requirements for a phosphate mine undergoing feasibility studies including PFS and DFS and front end engineering. Analysis of forecasted loads and consumption. Design of technical and financial optimum solution for supplying power. Multicriteria analysis. Natural gas pipeline studies.

Reduction of Technical and Commercial Losses - funded by Millennium Challenge Corporation (MCC)

Tanzania

(2011 – 2013)

AZOROM was retained to assist the power utilities Tanesco and Zeco to reduce their technical and commercial losses. The work involved:

Calculation of total losses with breakdown between by technical and commercial and allocation by voltage level and by region; Analysis of reasons for the losses and development of solutions to reduce the losses with economic analysis of investment required; Development and prioritization of priority projects based on economic return for a number of regions. Also, equipment specification and preparation of contract documents; Implementation of quick-gain project involving installation of capacitors (design, procurement and installation supervision). Funded by MCC.

Preparation of Business Plans for Purchase of Power Plants and Distribution Companies

Nigeria

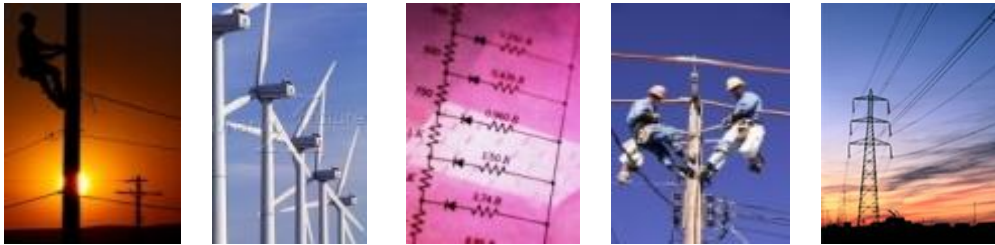
(2012)

AZOROM provided assistance to a number of clients in their bids to purchase majority shareholding in power plants and distribution companies. The work consisted of due diligence of existing assets and operations, developing strategies, organization structures, staffing levels, efficiency improvement, costs reduction, investment requirements, economic analysis and financial statements.



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

Development of Power Generation and Supply Business

Haiti

(2012 – 2013)

AZOROM was retained by a private investor to provide assistance in developing a power business in Haiti. The project involves the various stages of investigation and analysis from concept to PFS to FS stages. Investigation of generation technology options and fuel availability, design of distribution lines and route selection, analysis of market and development of PPAs, permitting, environmental requirements, economic analysis, tariff structure and rates.

Chemical Analyses of Power Plants

Ireland

(2008 – 2012)

AZOROM provided the services to ESB Generation to carry out various chemical analyses required in its fossil fuel power plants (peat and coal).

Design of Power Supplies for Special Economic Zones

Republic of Congo

(2012 – 2013)

AZOROM carried out feasibility studies and outline design to deliver a secure and quality power supply to special economic zones in the RoC. Analysis of risks and mitigation measures for grid supply and self generation options with costing and economic analysis.

Development of a Plan for Oil Management

Serbia

(2011)

AZOROM developed an oil management plan for Elektromreza Srbije (EMS) the transmission, system and market operator on how to manage its transformer and circuit breaker oil under EuropeAid funding involving management of new and used oil and disposal of waste oil including environmental issues (PCBs, etc.)



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

Design of Power Supply for Potash Mine

Republic of Congo

(2011 – 2012)

AZOROM provided technical advice to a private mining company related to power supply requirements for a potash mine undergoing feasibility studies including PFS and DFS. Analysis of forecasted loads and consumption. Design of technical and financial optimum solution for supplying power. Multicriteria analysis.

Feasibility Studies and Design of 400MW Power Supply for Iron Ore Mine

Republic of Congo

(2010 – 2013)

AZOROM provided technical advice to a private mining company related to power supply requirements for iron ore mine under development.

Investigation of options to supply power for development of major iron ore mine. Power supplies required at mine site (380MW) port site (20MW). Investigation, outline design and costing of various options for power supply by new generation fuelled by natural gas, HFO, diesel oil or construction of 400kV line for some 360km with power purchase agreement. Power plant, HV/MV substation and distribution design and costing. Development of natural gas pipeline construction design and costs.

Design of Power Supply Requirements for Boubyan Island

Kuwait

(2011 – 2012)

AZOROM is providing technical assistance to the State of Kuwait on the power supply requirements and the sources of power for the development of Boubyan Island. Power requirements will reach 1,000MW over 20 years. Work involves estimation of power demand and analysis of power supply options including development of power plant, power purchase, 400kV transmission cable and substation design, fuel options, use of renewables.



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

Turnaround Financial and Engineering Support Services to Electricity Utility – funded by World Bank (WB)

Lebanon
(2007 - 2009)

Under this World Bank funded project Azorom provided technical assistance to the national electricity utility of Lebanon EdL in order to improve its performance with a focus on technical issues (generation, transmission & distribution), procurement procedures, commercial operations and improvement of financial position. Projects carried out included: Development of Power Plant Improvement Plan; Development of Health & Safety Policies and Procedures; Improvement in Procurement Policies and Procedures; Technical Losses Study; Non-Technical Losses Study; Development of System Operations Policies and Procedures; Development of Budgetary Control Procedures; Development of Business & Investment Plans. Also, assisted in restructuring transition by: Participating in the review of reports prepared by consultants related to corporate restructuring and electricity trading arrangements; Ensuring the availability of reliable information to the corporate restructuring consultants

Provision of Generation Training Services to Electricity Utility

Ireland
(2007 – 2009)

Provided training support to ESB Shared Services in provision of training to ESB PowerGen. Services included:

- Power plant operations training
- Power plant maintenance training
- Power plant management training
- Mobile elevated working platforms training
- Fork lift truck operator training
- Health & Safety training



POWER UTILITY EXPERTISE WORLDWIDE





A Z O R O M

Technical Assistance in Establishing Transmission System & Market Operator (TSMO) – funded by European Union

Serbia

(2005 – 2008)

As part of a consortium, AZOROM provided assistance to Ministry of Mining and Energy to establish, organise, and assist in the start up of the operations of the Independent Transmission, System and Market Operator (ITSMO) consistent with the Serbian Energy Law and requirements agreed within the ECSEE process. The specific objectives of the project were to assist in the establishment and development of fully operational ITSMO with developed and approved codes, ready to participate in the regional electricity market with state-of-the-art system operation and market operation software and trained staff. This project also restructured the existing vertically integrated monopoly and separated the transmission function into Transmission Operator and created as a separate entity the System Operator and Market Operator.

Technical Assistance to Energy and Water Utilities Regulatory Authority – funded by World Bank (WB)

Tanzania

(2006)

Under this World Bank funded project provided technical assistance to the newly formed energy and water regulatory authority in reviewing the pricing submission by the national electricity utility and assisted in establishing procedures for price reviews.

Provision of Technical Support to Electricity Utility

Ireland

(2005 – 2008)

AZOROM provided specialist technical and project management expertise to assist ESB PowerGen at its largest power plant Moneypoint during implementation of large projects. Activities included:

- Review and assess current shortfalls in Station, Fuel & Ash areas
- Co-ordinate Line Management Plans in improving Plant Reliability
- Review Maintenance Programmes of work and drive their implementation
- Provide training where identified as necessary
- Contribute to MERP Project Installation and Commissioning
- Co-ordinate work program to improve Electrical and C&I equipment reliability



POWER UTILITY EXPERTISE WORLDWIDE

