

Integration of Power Generation Projects with Modular Refineries and Mini-Grids Network

People – [SCALPED]

1. Organizational Structure and Key Departments

The project organization is typically divided into several key departments, each responsible for specific aspects of the project lifecycle. Below is an overview of these departments along with the estimated number of personnel required. The numbers provided are approximate and can vary based on the project's scale and phase.

A. Project Management Office (PMO)

- **Purpose:** Oversee project coordination, scheduling, budgeting, and overall management.
- **Personnel:**
 - **PMO Director:** 1
 - **Project Managers:** 10-15
 - **Assistant Project Managers:** 15-20
 - **Project Coordinators:** 20-30
 - **Administrative Staff:** 10-15
- **Total:** ~60-80

B. Engineering and Design Department

- **Purpose:** Develop detailed engineering designs for refineries, mini-grids, and grid infrastructure.
- **Personnel:**
 - **Chief Engineers:** 3-5
 - **Design Engineers (Electrical, Mechanical, Civil):** 50-70
 - **CAD Technicians and Draftsmen:** 30-40
 - **Structural Engineers:** 20-30
 - **Environmental Engineers:** 10-15
- **Total:** ~113-160

C. Procurement and Supply Chain Department

- **Purpose:** Manage procurement of materials, equipment, and services.
- **Personnel:**
 - **Procurement Manager:** 2-3
 - **Procurement Officers:** 10-15
 - **Supply Chain Analysts:** 5-10
 - **Logistics Coordinators:** 10-15
- **Total:** ~27-43

D. Construction and Implementation Department

- **Purpose:** Oversee the construction of modular refineries, mini-grids, and grid infrastructure upgrades.
- **Personnel:**
 - **Construction Managers:** 5-10
 - **Site Supervisors:** 20-30
 - **Skilled Labor (Electricians, Plumbers, etc.):** 100-150
 - **Health, Safety, and Environment (HSE) Officers:** 10-15
- **Total:** ~135-205

E. Operations and Maintenance (O&M) Department

- **Purpose:** Ensure the ongoing operation and maintenance of all project components post-construction.
- **Personnel:**
 - **O&M Manager:** 3-5
 - **Maintenance Technicians:** 50-70
 - **Operations Staff:** 30-50
- **Total:** ~83-125

F. Finance and Accounting Department

- **Purpose:** Manage project budgeting, financial reporting, and auditing.
- **Personnel:**
 - **Chief Financial Officer (CFO):** 1
 - **Financial Analysts:** 5-10
 - **Accountants:** 10-15
 - **Auditors:** 5-10
- **Total:** ~21-36

G. Environmental and Social Management Department

- **Purpose:** Oversee environmental compliance, social impact assessments, and community engagement.
- **Personnel:**
 - **Environmental Manager:** 2-3
 - **Social Impact Analysts:** 5-10
 - **Community Liaison Officers:** 10-15
- **Total:** ~17-28

H. Information Technology (IT) and Data Management Department

- **Purpose:** Manage project information systems, data analytics, and cybersecurity.
- **Personnel:**
 - **IT Manager:** 2-3
 - **System Administrators:** 5-10
 - **Data Analysts:** 10-15
 - **Cybersecurity Specialists:** 5-10
- **Total:** ~22-38

I. Legal and Compliance Department

- **Purpose:** Handle legal affairs, contracts, regulatory compliance, and risk management.
- **Personnel:**
 - **Chief Legal Officer:** 1-2
 - **Legal Advisors:** 5-10
 - **Compliance Officers:** 5-10
- **Total:** ~11-22

J. Research and Development (R&D) Department

- **Purpose:** Innovate and optimize technologies used in refineries and mini-grids.
- **Personnel:**
 - **R&D Manager:** 2-3
 - **Researchers/Scientists:** 20-30
 - **Technical Specialists:** 10-15
- **Total:** ~32-48

K. Human Resources (HR) and Training Department

- **Purpose:** Manage recruitment, training, and employee relations.
- **Personnel:**
 - **HR Manager:** 2-3
 - **HR Officers:** 5-10
 - **Training Coordinators:** 5-10
- **Total:** ~12-23

L. Marketing and Communications Department

- **Purpose:** Handle public relations, marketing strategies, and stakeholder communications.
 - **Personnel:**
 - **Communications Director:** 1-2
 - **Marketing Specialists:** 5-10
 - **Public Relations Officers:** 5-10
 - **Total:** ~11-22
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2. Contracted Companies and Partners

In addition to the internal team, the project will require partnerships with various contracted companies specializing in different sectors. These companies may be local Nigerian firms or international corporations, depending on expertise and project needs. Below is a list of the likely types of contracted companies involved, along with examples where applicable.

A. Engineering and Design Firms

- **Roles:** Provide specialized engineering services, detailed design work, and technical consultancy.
- **Examples:**
 - **Fluor Corporation**

- **Jacobs Engineering Group**
- **AECOM Nigeria**
- **Siemens Nigeria**

B. Construction and Civil Engineering Contractors

- **Roles:** Execute construction of modular refineries, mini-grids, transmission lines, and related infrastructure.
- **Examples:**
 - **Cappa & D'Alberto**
 - **Dantata & Sawoe Construction Company**
 - **Graham Construction Nigeria**
 - **DPR Construction**

C. Equipment and Technology Suppliers

- **Roles:** Supply essential equipment for refineries, power generation, grid management, and renewable energy systems.
- **Examples:**
 - **GE Power**
 - **ABB Nigeria**
 - **Schneider Electric**
 - **Siemens AG**

D. Renewable Energy Technology Providers

- **Roles:** Provide solar panels, wind turbines, hydroelectric equipment, and energy storage solutions.
- **Examples:**
 - **First Solar**
 - **Vestas Wind Systems**
 - **SMA Solar Technology**
 - **Tesla Energy**

E. Grid Management and Smart Technology Firms

- **Roles:** Implement smart grid technologies, advanced metering infrastructure (AMI), and grid management software.
- **Examples:**
 - **IBM**
 - **Oracle Utilities**
 - **Honeywell**
 - **Schneider Electric**

F. Environmental and Social Consultants

- **Roles:** Conduct environmental impact assessments, social impact studies, and ensure compliance with environmental regulations.
- **Examples:**
 - **ERM (Environmental Resources Management)**

- **AECOM**
- **CH2M Hill**
- **PwC Sustainability Services**

G. Financial and Investment Partners

- **Roles:** Provide funding, financial advisory, and investment management services.
- **Examples:**
 - **African Development Bank (AfDB)**
 - **World Bank**
 - **Standard Chartered Bank**
 - **KfW Development Bank**

H. Legal and Compliance Firms

- **Roles:** Handle legal matters, contracts, regulatory compliance, and dispute resolution.
- **Examples:**
 - **Aluko & Oyebode**
 - **Banwo & Ighodalo**
 - **Olaniwun Ajayi LP**
 - **DHL Legal Services**

I. IT and Cybersecurity Firms

- **Roles:** Provide IT infrastructure, data management solutions, and cybersecurity services.
- **Examples:**
 - **MTN Nigeria (for telecom infrastructure)**
 - **Cisco Systems**
 - **Microsoft Nigeria**
 - **Palo Alto Networks**

J. Training and Capacity Building Partners

- **Roles:** Deliver training programs, technical workshops, and capacity-building initiatives for project staff and local communities.
- **Examples:**
 - **Nigerian Society of Engineers (NSE)**
 - **British Council Nigeria**
 - **Local Technical Colleges and Universities**
 - **International Training Organizations**

K. Security and Protection Services

- **Roles:** Ensure the security of construction sites, equipment, and personnel.
- **Examples:**
 - **G4S Nigeria**
 - **Securitas Nigeria**
 - **AIS Security Services**

L. Logistics and Supply Chain Partners

- **Roles:** Manage transportation, warehousing, and distribution of materials and equipment.
- **Examples:**
 - DHL Nigeria
 - GIG Logistics
 - Maersk Nigeria
 - Imperial Logistics

M. Research and Development Collaborators

- **Roles:** Partner with research institutions and technology firms to innovate and optimize project technologies.
- **Examples:**
 - National Petroleum Technology Development Company (NAPTIP)
 - Centre for Energy Research and Development (CERD)
 - Local Universities (e.g., University of Lagos, Ahmadu Bello University)
 - International Research Institutes

N. Community and Social Development Partners

- **Roles:** Facilitate community engagement, manage social programs, and ensure local benefits.
 - **Examples:**
 - Local NGOs and Community-Based Organizations
 - Corporate Social Responsibility (CSR) Partners
 - International Development Agencies (e.g., USAID, DFID)
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3. Summary of Personnel and Contracted Companies

Internal Personnel:

- **Total Internal Staff:** Approximately 450-600 personnel
 - **Project Management Office (PMO):** 60-80
 - **Engineering and Design:** 113-160
 - **Procurement and Supply Chain:** 27-43
 - **Construction and Implementation:** 135-205
 - **Operations and Maintenance (O&M):** 83-125
 - **Finance and Accounting:** 21-36
 - **Environmental and Social Management:** 17-28
 - **IT and Data Management:** 22-38
 - **Legal and Compliance:** 11-22
 - **Research and Development (R&D):** 32-48
 - **Human Resources (HR) and Training:** 12-23
 - **Marketing and Communications:** 11-22

Contracted Companies and Partners:

- **Engineering and Design Firms:** 4-6 major firms

- **Construction and Civil Engineering Contractors:** 5-10 major contractors
 - **Equipment and Technology Suppliers:** 10-15 suppliers
 - **Renewable Energy Technology Providers:** 5-10 providers
 - **Grid Management and Smart Technology Firms:** 4-6 firms
 - **Environmental and Social Consultants:** 4-6 consultants
 - **Financial and Investment Partners:** 4-6 financial institutions
 - **Legal and Compliance Firms:** 3-5 law firms
 - **IT and Cybersecurity Firms:** 4-6 IT firms
 - **Training and Capacity Building Partners:** 5-10 partners
 - **Security and Protection Services:** 2-4 security companies
 - **Logistics and Supply Chain Partners:** 4-6 logistics firms
 - **Research and Development Collaborators:** 5-10 research partners
 - **Community and Social Development Partners:** 5-10 partners
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4. Geographic Distribution of Personnel and Contracted Companies

Given the project's nationwide and cross-border scope, personnel and contracted companies will be distributed across various key regions:

- **Headquarters and Major Offices:**
 - **Location:** Abuja (Federal Capital Territory)
 - **Roles:** PMO, Finance, Legal, HR, Central Coordination
 - **Regional Offices:**
 - **Locations:** Lagos, Port Harcourt, Kano, Kaduna
 - **Roles:** Regional Project Management, Engineering, Construction Oversight, O&M
 - **Field Offices:**
 - **Locations:** Specific sites for modular refineries, mini-grids, and grid upgrades
 - **Roles:** Site Management, Construction Supervision, Local Operations
 - **Contracted Companies:**
 - **Local Presence:** Major contractors and suppliers will have offices in key states such as Lagos, Rivers, Kano, and Kaduna.
 - **International Partners:** Remote collaboration with international firms, supplemented by local subsidiaries or partners.
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5. Staffing Considerations and Recruitment Strategies

To meet the personnel requirements, the project will implement robust recruitment and staffing strategies:

- **Local Hiring:** Prioritize hiring local Nigerian talent to promote economic benefits and ensure community buy-in.
- **International Expertise:** Engage international experts for specialized roles and knowledge transfer.

- **Training Programs:** Establish comprehensive training programs to upskill local workforce, particularly for technical and operational roles.
 - **Partnerships with Educational Institutions:** Collaborate with universities and technical colleges for internships, apprenticeships, and recruitment pipelines.
 - **Diversity and Inclusion:** Implement policies to ensure diversity in hiring, promoting gender balance and inclusion of underrepresented groups.
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6. Long-Term Staffing and Sustainability

Ensuring the project's long-term sustainability involves planning for ongoing staffing needs and knowledge retention:

- **Career Development:** Provide career growth opportunities and continuous professional development for internal staff.
 - **Succession Planning:** Develop succession plans for key positions to maintain project continuity.
 - **Local Capacity Building:** Invest in local capacity building to reduce dependence on foreign expertise over time.
 - **Retention Strategies:** Implement competitive compensation, benefits, and a positive work environment to retain skilled personnel.
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7. Contracted Companies Engagement and Management

Effectively managing contracted companies involves:

- **Clear Contracts and Agreements:** Define scope, deliverables, timelines, and performance metrics in contracts.
 - **Regular Communication:** Maintain consistent communication channels between internal teams and contractors.
 - **Performance Monitoring:** Implement robust monitoring and evaluation frameworks to assess contractor performance.
 - **Risk Management:** Develop contingency plans for contractor delays, quality issues, or non-compliance.
 - **Collaboration Platforms:** Use project management tools and collaboration platforms to facilitate seamless coordination.
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8. Example Staffing Breakdown for Key Departments

To provide a clearer picture, here is an example staffing breakdown for some key departments:

Project Management Office (PMO)

- **Total Staff:** 70
 - **PMO Director:** 1
 - **Project Managers:** 12
 - **Assistant Project Managers:** 18

- **Project Coordinators:** 25
- **Administrative Staff:** 14

Engineering and Design Department

- **Total Staff:** 140
 - **Chief Engineers:** 4
 - **Design Engineers:** 60
 - **CAD Technicians:** 35
 - **Structural Engineers:** 25
 - **Environmental Engineers:** 16

Construction and Implementation Department

- **Total Staff:** 180
 - **Construction Managers:** 8
 - **Site Supervisors:** 25
 - **Skilled Labor:** 130
 - **HSE Officers:** 17

Operations and Maintenance (O&M) Department

- **Total Staff:** 100
 - **O&M Manager:** 4
 - **Maintenance Technicians:** 60
 - **Operations Staff:** 36



