

GHANCHI

ENERGY

COMPANY PROFILE

Powering Africa's Clean Energy Future

Solar Energy Plants | Wind Energy Plants | Green Energy | Energy Investments

Dubai, United Arab Emirates | Harare, Zimbabwe | 2026-2027

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WELCOME

Powering Africa's Clean Energy Future



Ghanchi Energy develops, builds and invests in solar and wind power plants, bringing clean and reliable electricity to growing communities, industries and economies across Africa.

This profile introduces who we are, what we do, how we deliver projects and how we work with partners. It is written for project owners, developers, investors, lenders, utilities, landowners and technology providers who are evaluating renewable energy opportunities with us.

> Energy that never runs out: the sun shines, the wind blows and Africa's potential is limitless. Our work is to turn that potential into dependable power.

LEADERSHIP

Message from Our Leadership

Clean energy is no longer a promise for the future. It is a practical, bankable and urgent opportunity today.

Across Africa, demand for electricity is growing quickly, while the continent has some of the best solar and wind resources in the world. Ghanchi Energy was built to connect these two realities, by developing, engineering, building and investing in renewable energy plants that are technically sound, commercially viable and responsibly delivered.

We believe good projects are built together. That is why we work as a connected team across development, engineering, procurement, construction and investment, and why we place such importance on honest communication with our partners, from the first site visit to the day a plant delivers power.

From our head office in Dubai and our subsidiary in Harare, we look forward to working with you to bring clean energy to the places where it matters most.



Mr. Zaid Atif Ghanchi (CEO) Ghanchi Technical LLC-FZ

CHAPTER 01

Who We Are

Our company, our purpose and the way we work.

WHO WE ARE

Company Overview

Ghanchi Energy is the renewable energy brand of Ghanchi Technical L.L.C-FZ, a company based in Dubai, United Arab Emirates.

We develop, engineer, build and invest in solar and wind energy plants, with a strong focus on green energy projects across Africa. Our approach is simple: renewable projects work best when development, engineering, procurement, construction and investment are planned together rather than treated as separate steps.

By connecting these stages, we help our partners move from an early idea to a working power plant with fewer handovers, fewer delays and fewer surprises. We work with project developers, investors, landowners, equipment suppliers and engineering partners, and we adapt our role to each project: from delivering the plant as a contractor, to developing and financing it, to investing alongside our partners.





At a glance	
Brand	Ghanchi Energy
Legal entity	Ghanchi Technical L.L.C-FZ (Dubai, U.A.E.)
Africa subsidiary	Ghanchi Technical Africa Investments (Pvt) Ltd (Harare, Zimbabwe)
Technologies	Solar energy plants, wind energy plants, battery energy storage (BESS) and hybrid solutions
Services	Development, EPC, EPC+F, investment and partnership
Focus region	Africa

WHO WE ARE

Vision, Mission and Purpose

Our Vision

To be a trusted partner in building Africa's clean energy future, where reliable, affordable and sustainable power is within reach of every community and industry.

Our Mission

To develop, deliver and invest in solar and wind projects that are technically sound, commercially viable and responsibly built, creating lasting value for our partners and the communities we serve.

Our Purpose

Electricity is the foundation of modern life: it powers homes, schools, clinics, farms, factories and mines. Our purpose is to expand the supply of clean electricity in the markets where it can make the greatest difference, and to do so in a way that our partners and communities can rely on for decades.



WHO WE ARE

Our Values

Four values guide how we make decisions, how we treat partners and how we run our projects.

01 **Reliability**

We plan carefully, communicate clearly and deliver what we agree. Our partners should always know where a project stands, what the next step is and who is responsible for it.

02 **Integrity**

We are open about what we can do, what we cannot and where each project stands. We do not overstate capabilities and we do not promise outcomes we cannot control.

03 **Sustainability**

We build for the long term. That means respecting the environment, the land and the people around our projects, and designing plants that perform for their full life.

04 **Partnership**

Good projects are built together. We work with developers, investors, landowners, utilities and technical partners as one team, with shared goals and clear roles.



WHO WE ARE

Our Approach: One Partner, Every Stage

Renewable projects succeed when development, finance, engineering and operation work together. We bring these stages under one roof, which reduces risk for our partners.

01 **Opportunity and site assessment**
Early evaluation of the site, the energy resource, grid access, regulation and commercial potential.

02 **Development**
Feasibility studies, land rights, permits, environmental and social assessment and grid connection planning.

03 **Financing and structuring**
Project structuring and work with financial partners to bring projects to financial close, including our EPC+F model where it fits.

04 **Engineering, procurement and construction**
Design, equipment supply, civil and electrical works, installation, testing and commissioning.

05 **Operation and long-term performance**
Handover, training and operations and maintenance, as agreed for each project.

> Fewer handovers mean fewer delays. One accountable team from the first assessment to the first kilowatt-hour.

WHO WE ARE

Corporate Structure

Ghanchi Energy operates through two companies. Contracts, invoices and legal documents are issued by the relevant legal entity named below.

Entity	Role	Registered details
Ghanchi Technical L.L.C-FZ	Parent company, head office. Group strategy, project origination, engineering, procurement and finance coordination.	Meydan Grandstand, 6th Floor, Meydan Road, Nad Al Sheba, Dubai, U.A.E. Tel: +971 55 647 9279 sales@ghanchigroup.ae
Ghanchi Technical Africa Investments (Pvt) Ltd	Subsidiary. Local presence in Africa: market access, partners, permitting support and project coordination.	28 Newmarch Road, Hillside, Harare, Zimbabwe Tel: +263 78 444 4073 sales@ghanchigroup.co.zw

> Ghanchi Energy is a trading name of Ghanchi Technical L.L.C-FZ.



WHO WE ARE

Where We Work

A Regional Presence. A Continental Vision.

Our head office in Dubai connects us to equipment suppliers, technology partners, engineering expertise and investors. Our subsidiary in Harare keeps us close to the markets, regulators, partners and communities across Africa.

Office	Location	Role
Head office	Dubai, United Arab Emirates	Strategy, engineering, procurement, finance coordination, partnerships
Africa office	Harare, Zimbabwe	Local presence, partner network, permitting support, project coordination

CHAPTER 02

What We Do

Four areas of activity, one connected approach.

WHAT WE DO

Our Areas of Activity

Ghanchi Energy works across four connected areas. Each can be engaged on its own, or combined into a single end-to-end partnership.

Area	What it covers	Chapter
Solar Energy Plants	Utility-scale and commercial and industrial solar power plants, from development to commissioning.	03
Wind Energy Plants	Wind plant development, engineering and construction support, from site assessment to grid connection.	04
Green Energy	Our focus on clean power across Africa, including battery storage (BESS), hybrid solutions and grid connection.	06, 07, 08
Energy Investments	Investment, joint ventures and partnership in renewable energy projects, including EPC+F. Our projects are listed in the Projects Portfolio.	05, 09, 10



> Engage us for one step, or for the whole journey. The scope is set together, project by project.

WHAT WE DO

Our Capabilities at a Glance

[06]	[500 MW]	[15]	[25]
Projects in development	Capacity in pipeline	Countries of activity	Years of team experience

Capability	What it means for our partners
Development	Land, permits, studies and grid connection prepared before construction.
Engineering	Plant design, electrical and civil engineering, performance modelling.
Procurement	Equipment selection, supplier management, logistics to site.
Construction	Site management, quality control, health and safety, installation.
Storage	Design, integration and delivery of battery energy storage (BESS), stand-alone or with solar and wind.
Finance	Project structuring and our EPC+F model, with financial partners.
Investment	Joint ventures, equity and long-term participation in suitable projects.
Operations	Commissioning, handover, training and O&M support as agreed.

CHAPTER 03

Solar Energy Plants

Harnessing the sun. Delivering power.

SOLAR ENERGY PLANTS

Solar Energy at a Glance



Solar is one of the most practical and cost-effective ways to add clean generation, and Africa has some of the strongest solar resources in the world.

Solar plants can be built in modular stages, constructed relatively quickly and sized from a few hundred kilowatts for a single business to hundreds of megawatts for the grid. They have no fuel cost, few moving parts and a long service life, which makes their economics predictable once built.

- No fuel to buy, transport or store
- Modular: capacity can be added in stages
- Fast to build compared with most conventional plants
- Suitable for grid supply, for industry and for remote sites
- Pairs naturally with battery storage and with wind

> We support solar projects across every stage: development, engineering, procurement, construction, commissioning and operation.

SOLAR ENERGY PLANTS

Types of Solar Plants We Support

Type	Typical use	Notes
Utility-scale ground-mounted	Supplies electricity to the grid under a power purchase agreement or similar arrangement.	Largest plants. Grid connection, land and permitting are central.
Commercial and industrial (ground)	Powers a factory, mine, farm or campus on its own land.	Sized to the site's consumption. Reduces energy cost and supply risk.
Commercial and industrial (rooftop)	Uses existing roofs of warehouses, factories, malls and hotels.	Needs structural assessment. Quick to deploy.
Solar plus storage	Adds batteries for evening supply, backup or peak management.	Improves reliability on weak grids.
Solar-wind hybrid	Combines both resources at one grid connection.	Smoother output across the day and the seasons.

SOLAR ENERGY PLANTS

Anatomy of a Solar Plant

A solar plant is a system of well-matched components. Each is selected for performance, durability and compatibility with local conditions.

Component	Function
Solar modules	Convert sunlight into direct-current electricity. Selected for efficiency, durability and warranty.
Mounting structures	Hold modules at the right angle. Fixed-tilt or single-axis trackers, designed for wind and soil.
Inverters	Convert DC to grid-quality AC electricity and manage plant output and grid support functions.
DC and AC cabling	Carry power from modules to inverters, transformers and the grid connection point.
Transformers and switchgear	Step voltage up for the grid, with protection and isolation.
Monitoring and control (SCADA)	Track production, faults and weather data in real time, and support performance reporting.
Civil and site works	Roads, foundations, drainage, fencing, security and buildings.
Storage (optional)	Batteries and power conversion for shifting, backup and grid services.

SOLAR ENERGY PLANTS

Solar Project Lifecycle

Stage	Key activities	Main outputs
1. Site screening	Land, resource, grid proximity, access, constraints	Go / no-go on the site
2. Feasibility	Yield estimate, preliminary design, cost estimate, grid study	Feasibility report
3. Permitting and rights	Land rights, licences, environmental and social approvals	Permits and agreements
4. Offtake and finance	Offtake terms or self-consumption case, funding structure	Contracts, financing plan
5. Detailed design	Electrical, civil, structural design, equipment selection	Issued-for-construction design
6. Procurement	Tendering, supplier contracts, factory checks, logistics	Equipment delivered to site
7. Construction	Site works, installation, cabling, inspection	Mechanically complete plant
8. Commissioning	Testing, grid synchronisation, performance checks	Operating plant, handover
9. Operation	Monitoring, maintenance, reporting	Long-term performance

SOLAR ENERGY PLANTS

Engineering and Design

Good design is the foundation of a solar plant that performs reliably for decades. Our engineering work is carried out with reference to recognized international practice and the requirements of the local grid and regulator.

Design inputs

- Solar resource and weather data for the site
- Topography, soil and geotechnical information
- Grid connection requirements and grid code
- Offtaker's load profile (for self-consumption plants)
- Environmental, social and permitting constraints

Design work

- Plant layout and row spacing to limit shading losses
- Energy yield and performance modelling
- DC and AC electrical design, protection and earthing
- Mounting structure and foundation design
- Lightning protection, drainage and access roads
- Selection of modules, inverters and other major equipment

Design outputs

Issued-for-construction drawings, single-line diagrams, bill of materials, specifications and a performance estimate that forms the basis for commissioning tests.

SOLAR ENERGY PLANTS

Procurement and Supply Chain

Equipment quality drives plant performance and lender confidence. We select equipment on technical merit, bankability, warranty terms and delivery reliability, not on price alone.

Criterion	What we look for
Technical performance	Efficiency, degradation, temperature behavior, test certificates
Bankability	Track record of the manufacturer, financial strength, acceptance by lenders
Warranty and support	Product and performance warranties, local after-sales support
Quality control	Factory audits, batch testing, pre-shipment inspection
Logistics	Delivery schedule, port and inland transport, customs, storage on site
Compliance	Conformity with relevant standards and local import requirements

> A competitive tender, careful supplier qualification and inspection before shipment protect both quality and schedule.

SOLAR ENERGY PLANTS

Construction and Quality

01	**Site mobilization**	Access roads, site office, temporary power and water, safety induction and security.
02	**Civil and foundations**	Clearing, grading, drainage, piling or foundations for mounting structures.
03	**Mechanical installation**	Mounting structures and modules installed to tolerance, with inspection at each stage.
04	**Electrical installation**	DC and AC cabling, inverters, transformers, switchgear and earthing.
05	**Grid connection works**	Substation, protection, metering and communications, coordinated with the utility.

Quality assurance on site

- Inspection and test plans agreed before work starts
- Hold points for critical activities, such as foundations and cable termination
- Daily progress records and photographic evidence
- Non-conformance reporting and close-out
- Weekly progress and safety reporting to the project owner

SOLAR ENERGY PLANTS

Testing, Commissioning and Handover

Before the plant is handed over, it is tested systematically to confirm it is safe, correctly installed and performing as designed.

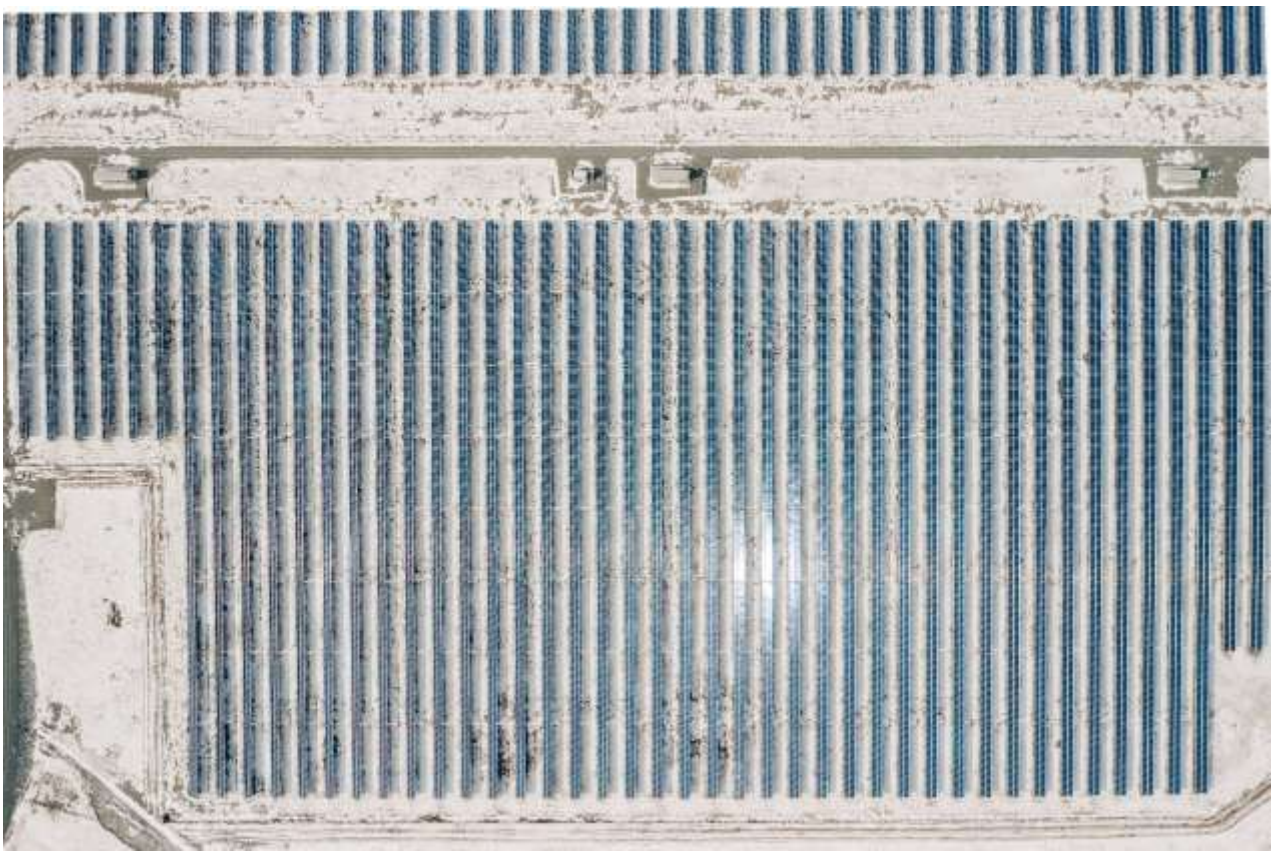
Step	Typical checks
Pre-commissioning	Visual inspection, torque checks, insulation resistance, polarity, earthing continuity
Electrical tests	String tests, inverter and transformer tests, protection relay settings
Energization	Grid synchronization with the utility, as agreed and witnessed
Performance checks	Measured output compared with expected output under reported conditions
Documentation	As-built drawings, test records, manuals, warranties and spare parts list
Training and handover	Operator training and formal handover to the owner or operator

> Handover is not the end of our involvement. We can remain available for operations and maintenance support, where agreed.

SOLAR ENERGY PLANTS

Solar Gallery





CHAPTER 04

Wind Energy Plants

Turning wind into clean power at scale.

WIND ENERGY PLANTS

Wind Energy at a Glance



Wind is a proven source of clean electricity and a valuable partner to solar, because the two often produce power at different times of the day and the year.

Wind plants range from single turbines to large wind farms. Their output depends strongly on the site, so every project begins with careful measurement and assessment of the wind resource, the terrain, the grid and the permitting position.

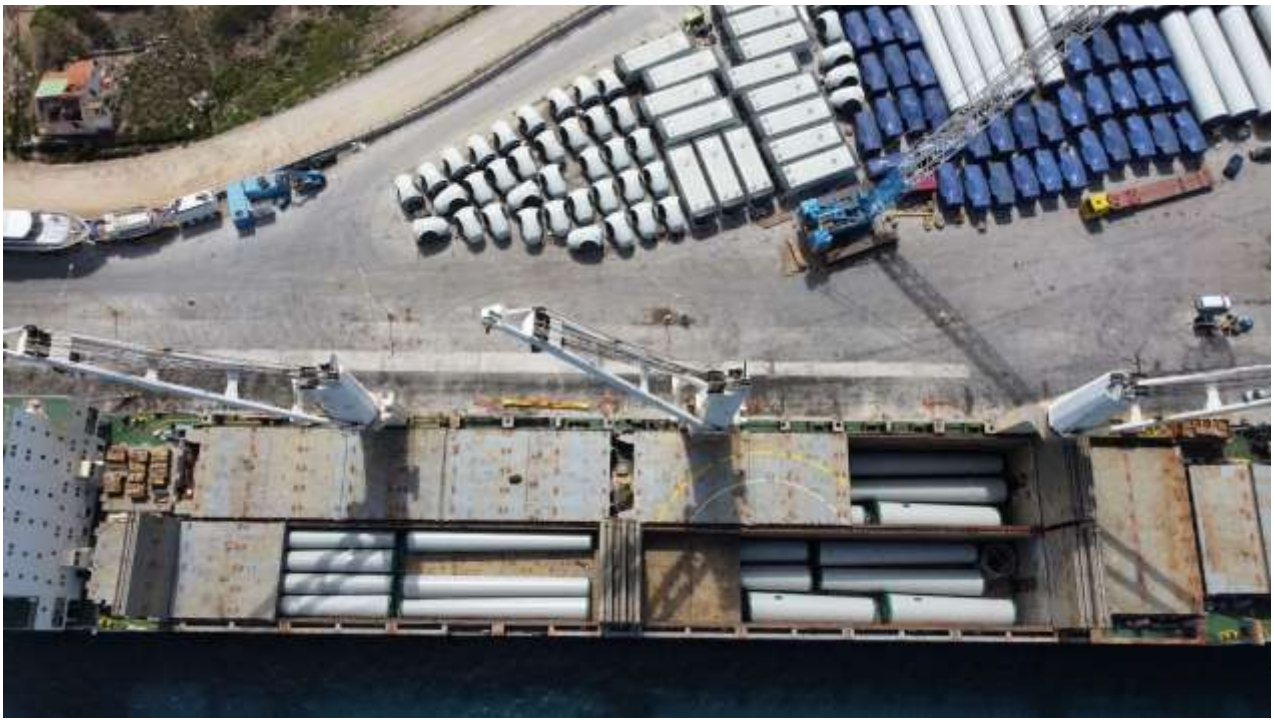
- Complements solar generation across the day and the seasons
- Large units give high output from a compact footprint
- Land between turbines can often remain in agricultural use
- Long operating life with planned maintenance

> Every wind project is different. We assess carefully before any commitment is made.

WIND ENERGY PLANTS

Anatomy of a Wind Plant

Component	Function
Wind turbines	Rotor, nacelle and tower convert wind into electricity. Size and model are matched to site conditions.
Foundations	Reinforced concrete bases designed for turbine loads and ground conditions.
Crane pads and access roads	Allow heavy transport and crane operation during construction and maintenance.
Collection system	Medium-voltage cables linking each turbine to the plant substation.
Substation and grid connection	Step up the voltage and connect to the utility network, with protection and metering.
SCADA and control	Remote monitoring, control and performance reporting for the whole plant.
Meteorological equipment	Masts or remote sensing devices to measure wind during development and operation.



WIND ENERGY PLANTS

Wind Project Lifecycle

Stage	Key activities	Main outputs
1. Site screening	Wind map review, land, grid, access, constraints	Candidate sites
2. Wind measurement	Met mast or remote sensing campaign, data analysis	Wind resource report
3. Feasibility	Energy yield estimate, preliminary layout, cost estimate	Feasibility report
4. Permitting and rights	Land, environmental and social studies, aviation and noise	Permits and agreements
5. Offtake and finance	Power purchase terms, funding structure	Contracts, financing plan
6. Design and procurement	Turbine selection, layout, civil and electrical design	Supply contracts
7. Construction	Roads, foundations, cabling, substation, erection	Mechanically complete plant
8. Commissioning	Testing, grid compliance, performance checks	Operating plant
9. Operation	Monitoring, maintenance, reporting	Long-term performance

WIND ENERGY PLANTS

Wind Resource Assessment and Site Selection

The wind resource is the single most important factor in a wind project. We treat resource assessment as a disciplined, data-driven activity, not an estimate.

01 **Desktop screening**
Wind atlas data, terrain, land use, distance to grid, access routes and environmental constraints.

02 **On-site measurement**
Measurement masts or remote sensing to record wind speed and direction at hub height, usually over a year or longer.

03 **Energy yield analysis**
Long-term correction, turbulence and wake effects, losses and uncertainty, producing a range of expected output.

04 **Layout optimization**
Positioning turbines to balance energy, wake losses, access, noise, set-backs and construction cost.

> Reliable measurement at the start protects investors and lenders from surprises later.

WIND ENERGY PLANTS

Civil, Electrical and Erection Works

Civil works

- Access roads able to carry turbine components and heavy cranes
- Crane pads and hardstands at each turbine
- Reinforced concrete foundations designed to site geotechnical data
- Drainage, erosion control and site restoration

Electrical works

- Medium-voltage collection cabling between turbines
- Plant substation with transformers, switchgear and protection
- Grid connection and metering to the utility's requirements
- Communications and SCADA

Transport and erection

Turbine blades, tower sections and nacelles are very large loads. Route surveys, port handling, escorts and crane scheduling are planned early because they strongly influence cost and schedule. Erection is weather-dependent and planned with wind limits for lifting.

WIND ENERGY PLANTS

Commissioning, Grid Compliance and Operation

Topic	What it involves
Commissioning	Mechanical and electrical checks on each turbine, SCADA integration, energization
Grid compliance	Demonstrating the plant meets grid code requirements for voltage, frequency and protection
Performance	Measured availability and power curve checks, as agreed in the contract
Operation and maintenance	Scheduled maintenance, remote monitoring, spare parts and service agreements
Handover	Documentation, training and transfer to the owner or operator

> Operations and maintenance are normally carried out under agreements with the turbine supplier or specialist operators, as set out in each project agreement.

WIND ENERGY PLANTS

Wind Gallery





CHAPTER 05

Delivery Models

Choose the structure that fits your project: EPC, EPC+F, or development plus EPC.

DELIVERY MODELS

End-to-End Solar Energy Solutions

Every project owner has a different starting point. Some own the land and want a contractor. Some need funding. Some want us to take a project from nothing to operation.

Ghanchi Energy offers a family of delivery models built around the same disciplined engineering and project management. The owner chooses how much of the journey we take on, and how it is funded.

Model	In one sentence
EPC	We engineer, procure and construct the plant. The owner funds and owns it.
EPC+F	We engineer, procure and construct the plant and arrange the financing, so the owner can build without paying the full cost up front.
Development + EPC, self-consumption	We develop and build a plant that supplies your own electricity needs.
Development + EPC, IPP	We develop and build a plant that sells electricity to the grid or an offtaker.
Partnership and investment	We invest alongside you in suitable projects. See Chapter 09.

DELIVERY MODELS

EPC Model: Roles and Responsibilities

Under an EPC contract, Ghanchi Energy takes responsibility for delivering a complete, working plant to an agreed scope, schedule and price.

Responsibility	What it includes
Engineering and design	Plant layout, equipment selection, electrical and civil design, performance modelling.
Procurement	Purchasing modules, inverters, structures, cables and all other equipment and materials.
Construction	Site works, installation, electrical connection and inspection.
Commissioning and testing	Testing and commissioning so the plant is ready to generate energy.
Permits and licenses	Support to obtain the permits needed to build and connect the plant, in line with local regulation.
Project management	Budget, planning, coordination, quality control and progress reporting.
Training and handover	Training of the operations team and transfer to operation and maintenance.

> Our aim is a plant completed on time and within budget, safe, reliable, and compliant with local legal and environmental requirements.

DELIVERY MODELS

EPC+F Model: Build Now, Pay Over Time



EPC+F stands for Engineering, Procurement, Construction and Finance.

It combines the technical delivery of a standard EPC contract with a financing solution, so that a business or institution can build a renewable energy plant without funding the full capital cost from its own budget.

01 **Engineering, procurement and construction**

Ghanchi Energy designs the plant, buys the equipment and builds it, exactly as under an EPC contract.

02 **Finance**

Ghanchi Energy arranges the financing for the project cost, using its own resources and, where appropriate, financial partners.

03 **Contract**

The owner signs an agreement setting out the scope, schedule, price, financing terms and each party's obligations.

04 **Energy and repayment**

Once built, the plant produces energy. Its revenues or savings are used to repay the financing over the agreed period.

DELIVERY MODELS

EPC+F: How the Structure Works

The flow below shows how money, equipment and energy move in an EPC+F project.

Phase	What happens	Who is responsible
1. Agreement	EPC contract and financing terms are agreed and signed.	Owner and Ghanchi Energy
2. Funding	The project cost is funded through the financing arranged for the project.	Ghanchi Energy and financing partners
3. Build	Design, procurement, construction and commissioning.	Ghanchi Energy
4. Operate	The plant generates energy. It supplies the owner's own load or sells to a grid or buyer under a power purchase agreement.	Owner or operator
5. Repay	Revenues or savings are used to make repayments according to the agreed schedule.	Owner
6. Completion	After the final repayment the plant is fully owned by the owner, free of financing obligations.	Owner

DELIVERY MODELS

EPC+F: Benefits and Considerations

Why owners choose EPC+F

- Little or no up-front capital: the plant can be built without drawing on the owner's own budget
- One accountable party for design, construction and financing
- Energy savings or revenues are used to repay the project, aligning cost with benefit
- Faster start: no separate search for a lender, contractor and engineer
- Predictable, contract-based repayment schedule

What owners should consider

- Financing is subject to credit assessment, approvals and agreed security
- Financing has a cost, which is reflected in the agreed repayment schedule
- A clear, bankable source of repayment (energy savings or a power purchase agreement) is essential
- The owner remains responsible for the plant's operation unless an O&M agreement is signed

Typically suited to

- Factories, mines, farms, hotels, hospitals and campuses with steady electricity demand
- Public or private institutions that wish to avoid up-front capital outlay
- Projects where a creditworthy offtaker supports a power purchase agreement

DELIVERY MODELS

EPC+F: Documents, Security and Timeline

Key documents

Document	Purpose
Term sheet	Summarizes the commercial and financing terms before detailed contracts
EPC contract	Scope, price, schedule, performance and warranties
Financing agreement	Amount, repayment schedule, security and conditions
Power purchase or supply agreement	Where applicable, the sale of electricity that supports repayment
O&M agreement (optional)	Operation and maintenance after handover

Illustrative timeline

Stage	Typical activities
Assessment	Site visit, load or resource review, preliminary design and credit review
Structuring	Term sheet, financing structure, security package
Contracting	EPC and financing agreements signed, conditions satisfied
Delivery	Design, procurement, construction, commissioning
Repayment period	Operation and scheduled repayments

DELIVERY MODELS

Development + EPC: Self-Consumption

A plant built to meet your own electricity needs.

In this model Ghanchi Energy carries out all the services needed to supply the owner's own consumption, from project development to commissioning, with its own team acting on the owner's behalf. This brings many of the risks of each stage under one accountable partner.

01	**Project development** Identifying suitable land or roof space, completing permits and approvals, and handling the zoning, building and environmental processes on the owner's behalf.
02	**Engineering and design** Sizing the plant to the site's load profile, with optional storage.
03	**Procurement and construction** Supplying, installing and connecting the plant.
04	**Commissioning and approvals** Testing to international practice and obtaining final approvals.
05	**Training and handover** Training the owner's operations team for operation and maintenance.

DELIVERY MODELS

Development + EPC: IPP

A plant that sells electricity to the grid or to an offtaker.

For investors who plan to generate electricity and sell it, Ghanchi Energy can carry out the full range of services from project development to commissioning, on the investor's behalf and with its own team.

01	**Project development** Land identification, permits, grid connection application, environmental and social assessment.
02	**Engineering and design** Layout, electrical design and yield modelling, optionally including storage.
03	**Procurement** Equipment supply and logistics to site.
04	**Construction** Site works, installation, grid connection works and testing.
05	**Commissioning and approvals** Final tests, grid synchronization and approvals.
06	**Project management** Budget, schedule, quality control, reporting to the investor.

> Taking development and EPC together removes interfaces, and the risks that live in them, from the investor's side.

DELIVERY MODELS

Comparing the Models

	EPC	EPC+F	Dev + EPC (self-consumption)	Dev + EPC (IPP)
Who funds the build	Owner	Arranged by Ghanchi Energy, repaid over time	Owner or arranged finance	Investor or project finance
Who develops the project	Owner	Owner	Ghanchi Energy	Ghanchi Energy
Who builds	Ghanchi Energy	Ghanchi Energy	Ghanchi Energy	Ghanchi Energy
Who owns the plant	Owner	Owner (after repayment)	Owner	Investor / project company
Source of revenue or saving	Owner	Energy sales or savings	Avoided electricity cost	Sales to grid or offtaker
Best for	Owners with funds and a site	Owners wanting to build without up-front capital	Businesses supplying own load	Investors selling electricity

CHAPTER 06

Energy Storage & BESS

Batteries and hybrids that make clean power dependable.

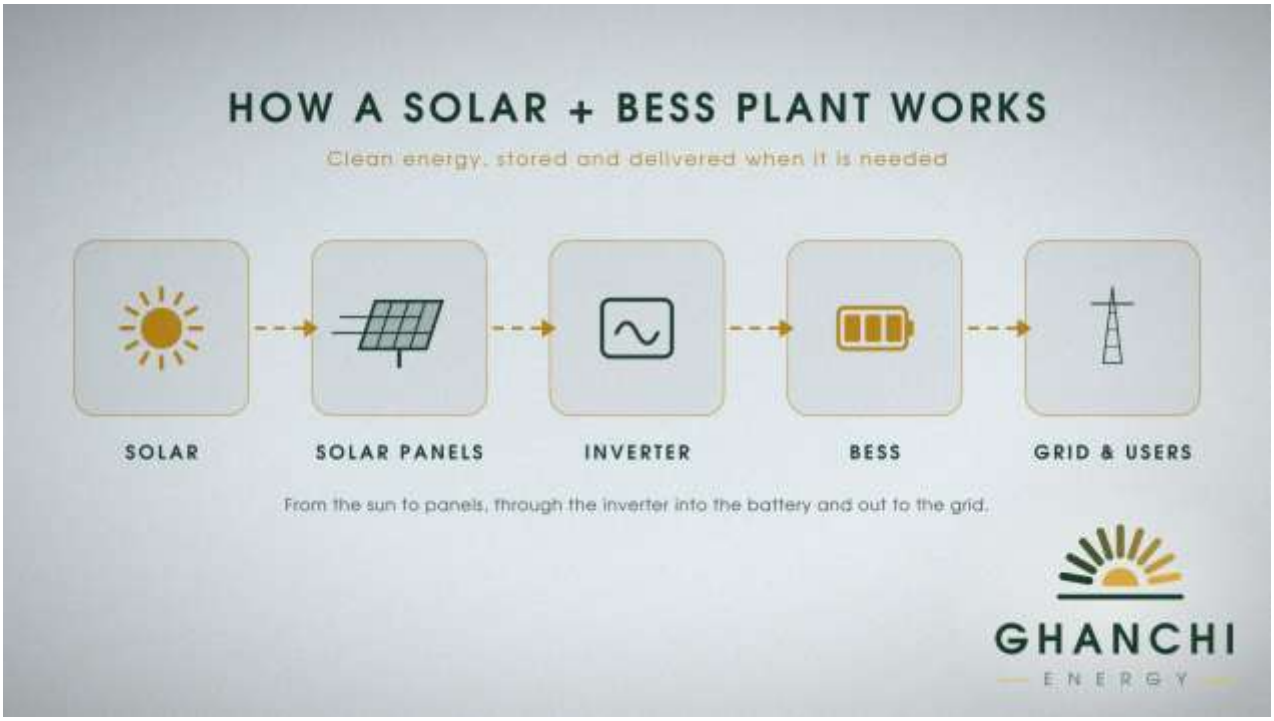
STORAGE AND HYBRID

Why Energy Storage

Solar produces most in the middle of the day. Demand often peaks in the evening. Storage closes the gap.

Battery energy storage systems (BESS) store electricity when it is abundant and release it when it is needed. They make solar and wind more dependable for grid operators, industries and communities.

Application	Benefit
Energy shifting	Store midday solar output and supply it in the evening peak
Peak demand management	Reduce the highest demand charges for commercial and industrial users
Backup and resilience	Keep critical loads running during grid outages
Renewable integration	Smooth the variability of solar and wind output
Grid support	Help stabilize voltage and frequency, where the grid code allows



STORAGE AND HYBRID

Solar Plus Storage Configurations

Configuration	Description	Typically used for
AC-coupled	Battery with its own inverter connected on the AC side. Flexible, easy to add to an existing plant.	Retrofits and new plants with separate storage
DC-coupled	Battery connected on the DC side, sharing inverters with the solar array. Can reduce conversion losses.	New integrated solar-plus-storage plants
Stand-alone storage	Battery connected to the grid without a solar plant.	Grid services and peak management
Hybrid (solar + wind + storage)	Several resources behind one grid connection.	Smoother output, better use of the connection

Typical sizing inputs

- Daily and seasonal load profile
- Desired backup duration and critical loads
- Solar and wind output profile
- Grid code requirements and tariff structure
- Site temperature and space constraints

STORAGE AND HYBRID

Safety, Performance and Operation

Storage systems need to be engineered with care. Safety, thermal management and monitoring are built into the design from the start.

01 **Safety by design**

Battery selection from reputable suppliers, enclosure design, fire detection and suppression, ventilation and separation distances, in line with recognized standards and local requirements.

02 **Performance and degradation**

Capacity declines with use and temperature. Warranties, expected cycles and augmentation plans are agreed up front.

03 **Monitoring and control**

A battery management system and plant controller manage charging, discharging, limits and alarms.

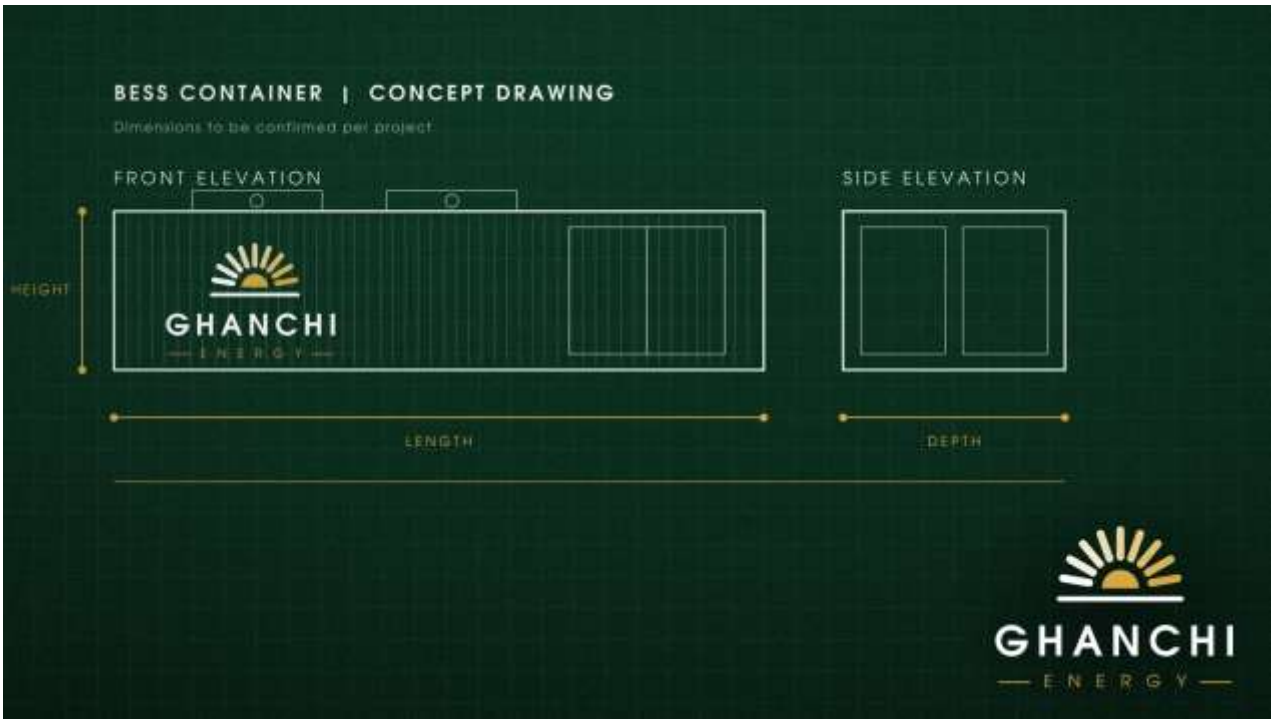
04 **Lifecycle**

Planning for maintenance, replacement and responsible end-of-life handling.

> Performance and economics of storage are project-specific and are confirmed through engineering and commercial assessment for each project.

BATTERY STORAGE (BESS)

What Is a BESS?



A battery energy storage system stores electricity when it is plentiful and delivers it when it is needed.

A BESS plant combines batteries, power conversion, controls and a grid connection into one system. It can sit alongside a solar or wind plant, at an industrial site, or on its own, connected directly to the grid.

Where BESS adds value	How
Energy shifting	Store midday solar output and supply it in the evening peak
Peak demand management	Reduce the highest demand charges for commercial and industrial users
Backup and resilience	Keep critical loads running during grid outages
Renewable firming	Smooth the variability of solar and wind output
Grid support	Help stabilize voltage and frequency, where the grid code allows
Less diesel	Reduce generator running hours at sites that rely on diesel

BATTERY STORAGE (BESS)

Inside a BESS Plant

Component	Function
Battery modules and racks	The cells that store the energy, housed in containers or buildings
Power conversion system	Inverters that convert between DC battery power and AC grid power
Battery management system	Monitors every module for voltage, temperature and safety limits
Plant controller	Decides when to charge and discharge, and communicates with the grid operator
Thermal management	Cooling and heating to protect performance and battery life
Fire detection and suppression	Detection, suppression, ventilation and separation distances
Transformer and grid connection	Switchgear, protection and metering to the network

BATTERY STORAGE (BESS)

Sizing a BESS: Power, Energy and Duration

Two numbers describe every battery system. Understanding them is the first step in choosing the right size.

Term	Unit	Meaning
Power	MW	How fast the system can charge or discharge
Energy	MWh	How much electricity the system can store
Duration	hours	Energy divided by power

> Illustration: a 10 MW / 20 MWh system can deliver its full power for two hours.

How we size a system

01 **Define the goal**
Energy shifting, peak shaving, backup, firming or grid services.

02 **Analyze the profile**
Load, solar and wind output, tariffs and grid constraints.

03 **Select power and duration**
Match MW and MWh to the goal and the grid connection.

04 **Model life and economics**
Degradation, temperature, cycling and project economics.

BATTERY STORAGE (BESS)

Delivering a BESS Project

01 **Feasibility**
Site, grid and load review, with an outline design and cost.

02 **Design and technology selection**
Battery chemistry, layout, electrical and safety design.

03 **Procurement**
Supplier qualification, factory checks and shipping to site.

04 **Construction and installation**
Civil works, enclosures, electrical installation and grid connection.

05 **Commissioning and handover**
Tests, grid compliance, training and operation support as agreed.

Ways to work with us

Model	How it applies to BESS
EPC	We design, procure and build the BESS. You fund and own it.
EPC+F	We build it and arrange the financing, repaid over time.
Development + EPC	We develop and build solar-plus-storage for your own load or for sale.
Partnership and investment	We can invest alongside you in suitable storage projects.

BATTERY STORAGE (BESS)

BESS: Safety, Quality and FAQ

Safety and quality

- Reputable suppliers and tested battery systems
- Enclosure and layout designed for safe spacing
- Fire detection, suppression, ventilation and separation
- Thermal management and continuous monitoring
- Commissioning tests, operating procedures and emergency plans
- All in line with recognized standards and local requirements

Frequently asked questions

Question	Answer
What is the difference between MW and MWh?	MW is power. MWh is the energy stored. Duration is MWh divided by MW.
How long does a battery last?	It depends on chemistry, cycles, temperature and operation. Warranties and degradation are agreed and modelled per project.
Can storage be added to an existing solar plant?	Often yes, usually AC-coupled, subject to grid and site assessment.
Is a BESS safe?	Safety is designed in from the start, with certified equipment, fire protection, thermal management and monitoring.

> Performance, lifetime and economics of storage are project-specific and are confirmed through engineering and commercial assessment.

CHAPTER 07

Grid Connection

Connecting new plants to the network safely and reliably.

GRID CONNECTION

Scope of Grid Connection Works

A power plant is only as useful as its connection to the network. We carry out, or coordinate, the engineering and construction of grid connection works within the agreed scope of each project.

Element	Description
Plant substation	Transformers, switchgear and protection that step the voltage up to the network level
Transmission or distribution line	Overhead line or cable linking the plant to the utility's network
Switchyard / point of connection	Interface with the utility's substation, including bays and protection
Protection and control	Relays and settings coordinated with the utility
Metering	Revenue metering as required by the utility and regulator
SCADA and communications	Remote monitoring and control, and communications with the grid operator



GRID CONNECTION

Grid Integration in African Markets

Many grids in Africa face constraints that influence how renewable plants are designed and operated. Understanding these early avoids costly changes later.

Challenge	How we address it in design and planning
Weak or limited network capacity	Early grid studies, appropriate connection voltage, reinforcement where needed
Voltage and frequency variation	Inverter and turbine capabilities, protection settings, storage where appropriate
Curtailment risk	Offtake terms, storage, and sizing to match network capacity
Long utility approval times	Early engagement with the utility and clear technical documentation
Evolving grid codes	Design for compliance with the current code, and adaptable to updates
Remote locations	Logistics planning, access roads, local labour and support

> Early grid studies and early engagement with the utility are the most effective ways to protect project schedule.

GRID CONNECTION

Working with Utilities and Regulators

01	**Connection enquiry**	Initial request to the utility describing plant type, capacity and location.
02	**Grid study**	Network analysis to confirm available capacity and identify required reinforcement.
03	**Connection agreement**	Terms, technical requirements, costs and timelines agreed with the utility.
04	**Design approval**	Utility review of single-line diagrams, protection and control design.
05	**Construction and inspection**	Utility witnessing of key works and tests.
06	**Energization**	Final approvals, synchronization and commercial operation.

CHAPTER 08

Green Energy & Africa

Clean power for Africa's growth.

GREEN ENERGY

Our Green Energy Focus



Green energy is not a side activity for Ghanchi Energy. It is the reason we exist.

Everything we develop, build and invest in is aimed at increasing the supply of clean, renewable electricity, mainly through solar and wind. We focus on projects that make commercial sense and also make a difference: adding reliable generation, helping industry reduce its reliance on diesel and costly fuel, and supporting local economic growth.

> We are working on a number of different renewable energy projects across Africa, at different stages of development.

GREEN ENERGY

Why Africa

Opportunity	Why it matters
Strong resources	Some of the best solar resources in the world, and strong wind resources in many regions.
Growing demand	Electricity demand is rising with populations, cities and industry.
Energy access	Many households and businesses still face unreliable, costly or no electricity.
Diversification	Renewables reduce dependence on a single fuel, hydro conditions or imports.
Speed and modularity	Solar and wind can be built faster than many conventional plants and expanded in stages.
Industrial users	Mines, factories and farms can cut energy cost and supply risk with on-site renewables.

GREEN ENERGY

Our Work Across Africa

Ghanchi Energy is working on a number of different renewable energy projects across Africa. These projects are at different stages, from early evaluation and development through to delivery, and involve different technologies, sizes and partners. Through our subsidiary in Harare we stay close to the markets, regulators, partners and communities involved.

Project status labels

Status	Meaning
Proposed	Concept stage, site or opportunity identified
Under Evaluation	Technical and commercial feasibility being assessed
In Development	Permits, land, grid and offtake being secured
Under Construction	Plant being built
Operational	Plant delivering power

CHAPTER 09

Energy Investments

Investing in the renewable energy future.

ENERGY INVESTMENTS

Our Investment Approach



Ghanchi Energy invests in renewable energy projects, and partners with developers, investors, landowners and technology providers to bring them forward.

We focus on solar and wind power plants and on green energy projects across Africa. Because we combine investment with development and engineering capability, we look at every project from both sides: does it make financial sense, and can it be built and operated well?

01	**Origination and assessment**	Identify promising opportunities and assess site suitability, demand, grid access, regulation and commercial potential.
02	**Development**	Support planning, feasibility, permitting, grid connection and investor-ready information.
03	**Investment evaluation**	Review technical information, risks, capital needs and revenue arrangements.
04	**Structuring and partnership**	Agree the right structure with developers, investors, landowners and technical partners.

ENERGY INVESTMENTS

How We Evaluate Opportunities

Factor	What we examine
Site and resource	Quality of the solar or wind resource and the site
Grid access	Connection capacity, voltage, distance and utility process
Revenue	Tariff, power purchase agreement, self-consumption savings or other revenue arrangements
Regulation	Licensing, permitting, land rights, local content and tax
Finance	Access to funding, currency and repayment considerations, overall risk
Construction	Ease and cost of building, logistics, local conditions
Partners	Strength, experience and credibility of the project partners

> All opportunities are subject to due diligence and appropriate technical, legal, financial and commercial assessment.

ENERGY INVESTMENTS

Possible Investment Structures

Structure	How it works
Joint venture development	Ghanchi Energy and a partner develop a project together and share costs and rewards.
Equity participation	Ghanchi Energy takes an ownership stake in a project company.
Independent power producer (IPP)	A project company builds, owns and operates a plant and sells electricity under a long-term agreement.
Build-own-operate (BOO)	Ghanchi Energy builds, owns and operates the plant.
EPC contracts	Ghanchi Energy builds a plant for a third-party owner.
EPC+F	Ghanchi Energy builds and arranges financing for a plant that the owner repays over time.
Long-term asset ownership	Holding renewable assets over their operating life.

ENERGY INVESTMENTS

Who We Partner With

01 **Project developers**
Collaboration on development, EPC and possible investment participation.

02 **Investors and financial partners**
Renewable energy opportunities that may warrant further technical, commercial and financial evaluation.

03 **Landowners and project originators**
Assessment of land and project concepts for solar, wind and hybrid developments.

04 **Technology and equipment providers**
Equipment sourcing, technical coordination and project-specific supply.

05 **EPC and engineering partners**
Collaboration on design, construction, electrical infrastructure and commissioning.

> Nothing in this document is an offer of securities or a promise of investment returns.

CHAPTER 10

Projects Portfolio

Where we are working, and how far each project has come.

PROJECTS PORTFOLIO

Portfolio Overview

Ghanchi Energy is working on a number of different renewable energy projects across Africa, at different stages of development.

This chapter lists each project with its location, capacity and current status, including the status of its power purchase agreement (PPA). Projects are shown only once the information is verified and approved for publication.

[06]
Projects in Pipeline

[500 MW]
Total capacity

[04]
Countries

Status	Projects	Capacity (MW)
Proposed	[06]	[500]
Under Evaluation	[06]	[500]
In Development	[00]	[00]
Under Construction	[00]	[00]
Operational	[00]	[00]

PROJECTS PORTFOLIO

Portfolio Map and Breakdown

Technology	Projects	Capacity
Solar	[03]	[250 MW]
Wind	[02]	[50 MW]
Battery storage (BESS)	[01]	[200 MW / 1,200 MWh]
Hybrid	[00]	[00 MW]

PROJECTS PORTFOLIO

Project List

Each project, with location, technology, capacity, status and PPA status.

Ghanchi Energy is actively developing a pipeline of utility-scale renewable energy projects across Africa, with a focus on Solar PV and Battery Energy Storage Systems (BESS).

Our project pipeline includes development-stage opportunities, strategic partnerships, and investment prospects across selected African markets.

Through our integrated approach to project development, EPC, investment structuring, and financing, we aim to bring viable energy projects from concept to implementation.

Technologies: Solar PV | Battery Energy Storage Systems (BESS)

Markets: Africa | Selected Emerging Markets

Focus: Utility-Scale Projects | EPC | Investment & Project Development

CONFIDENTIAL PROJECT PORTFOLIO

Our detailed project portfolio, including project locations, capacities, development status, investment requirements and commercial information, is available exclusively to qualified investors, prospective buyers and strategic partners upon request and subject to confidentiality requirements.

For further information and access to our project portfolio, please contact our team directly.

PROJECTS PORTFOLIO

Status and PPA Definitions

Project status

Status	Meaning
Proposed	Concept stage. Site or opportunity identified.
Under Evaluation	Technical and commercial feasibility being assessed.
In Development	Permits, land, grid and offtake being secured.
Under Construction	The plant is being built.
Operational	The plant is delivering power.

PPA status

PPA status	Meaning
Not started	No power purchase agreement discussions yet.
Under negotiation	Terms of the PPA are being negotiated with the offtaker.
Signed	A PPA has been signed with the offtaker.
Not applicable	For example, self-consumption projects that supply the owner directly.

> A signed PPA is an important milestone, but it does not by itself mean a project is financed or built.

CHAPTER 11

How We Deliver

A disciplined process, from first assessment to handover.

HOW WE DELIVER

Stage-Gate Project Process

Every project passes through defined stages, with a review before each gate. This keeps decisions deliberate and protects our partners from unplanned commitments.

Gate	Question we answer	Decision
G0 Opportunity	Is the opportunity credible and aligned with our focus?	Proceed to assessment
G1 Feasibility	Is it technically and commercially viable?	Proceed to development
G2 Development	Are rights, permits, grid and offtake secured?	Proceed to financing
G3 Financial close	Are contracts, funding and security in place?	Proceed to construction
G4 Construction complete	Does the plant meet the design and test requirements?	Proceed to commissioning
G5 Handover	Is the plant operating and documented?	Proceed to operation

HOW WE DELIVER

Quality Management

Quality is planned, not inspected in at the end. Each project has a quality plan that sets out standards, inspections, responsibilities and records.

01	**Project quality plan**	Defines standards, inspection and test plans, hold points and responsibilities.
02	**Supplier quality**	Qualification of suppliers, factory audits and pre-shipment inspection.
03	**Site quality control**	Inspection at each stage, with records and photographic evidence.
04	**Non-conformance management**	Issues are logged, corrected and closed with evidence.
05	**Handover documentation**	As-built drawings, test records, manuals and warranties.

HOW WE DELIVER

Health, Safety and Environment

No project is worth an injury. Health and safety is the first item on every project agenda.

Area	Our approach
Planning	Hazard identification and risk assessment before work begins
Site safety	Induction, permits to work, personal protective equipment, supervision
Working at height and electrical safety	Defined procedures, trained and competent personnel, isolation and lock-out
Emergency preparedness	Emergency plans, first aid, communication and evacuation routes
Environment	Waste, dust, noise, water and biodiversity managed under the project's environmental plan
Reporting	Incidents, near misses and observations reported and acted upon

HOW WE DELIVER

Risk Management

Risk	Typical mitigation
Resource uncertainty	Measured data, independent yield assessment, conservative assumptions
Permitting delay	Early engagement, clear documentation, local advisors
Grid connection delay	Early grid studies, utility engagement, phased connection
Supply chain and logistics	Qualified suppliers, buffer in schedule, route surveys
Construction risk	Experienced contractors, quality plan, weather planning
Currency and payment risk	Appropriate contract currency, security and payment terms
Counterparty risk	Credit assessment, guarantees and security
Operational performance	Monitoring, maintenance plan, warranties

> Risks are identified early, owned by the party best placed to manage them and tracked throughout the project.

HOW WE DELIVER

Technology and Supply Partners

We work with established manufacturers and specialist partners.



CHAPTER 12

Sustainability

Doing it the right way.

SUSTAINABILITY

Our Sustainability Approach

Good green energy projects respect people and the environment as well as delivering power.

Our approach to every project includes the following commitments.

- Careful consideration of environmental and social impacts during development
- Respect for landowners, local communities and local regulation
- A strong focus on health and safety on site
- Preference for local skills, labour and suppliers where practicable
- Open and honest communication with stakeholders
- Responsible handling of waste, water and land during construction and at end of life

SUSTAINABILITY

Community and Local Content

01	**Stakeholder engagement** Early and continuing dialogue with landowners, communities, local authorities and utilities.
02	**Local employment and skills** Employing and training local people where practicable and building lasting skills in construction and operation.
03	**Local suppliers** Buying goods and services locally where quality, safety and price allow.
04	**Community benefit** Considering practical benefits such as access, training and local investment, agreed project by project.

SUSTAINABILITY

Environmental Stewardship

Topic	Our approach
Land and biodiversity	Site selection and design to limit disturbance, with environmental studies and permits
Water	Efficient use during construction and panel cleaning, protection of local sources
Waste	Segregation, reuse and recycling of construction waste, and responsible disposal
Noise and visual impact	Assessment and mitigation, particularly for wind projects
End of life	Planning for responsible decommissioning, recycling of modules, batteries and turbine components

> Clean energy should be built cleanly. The environmental plan for each project is set during development and followed through construction and operation.

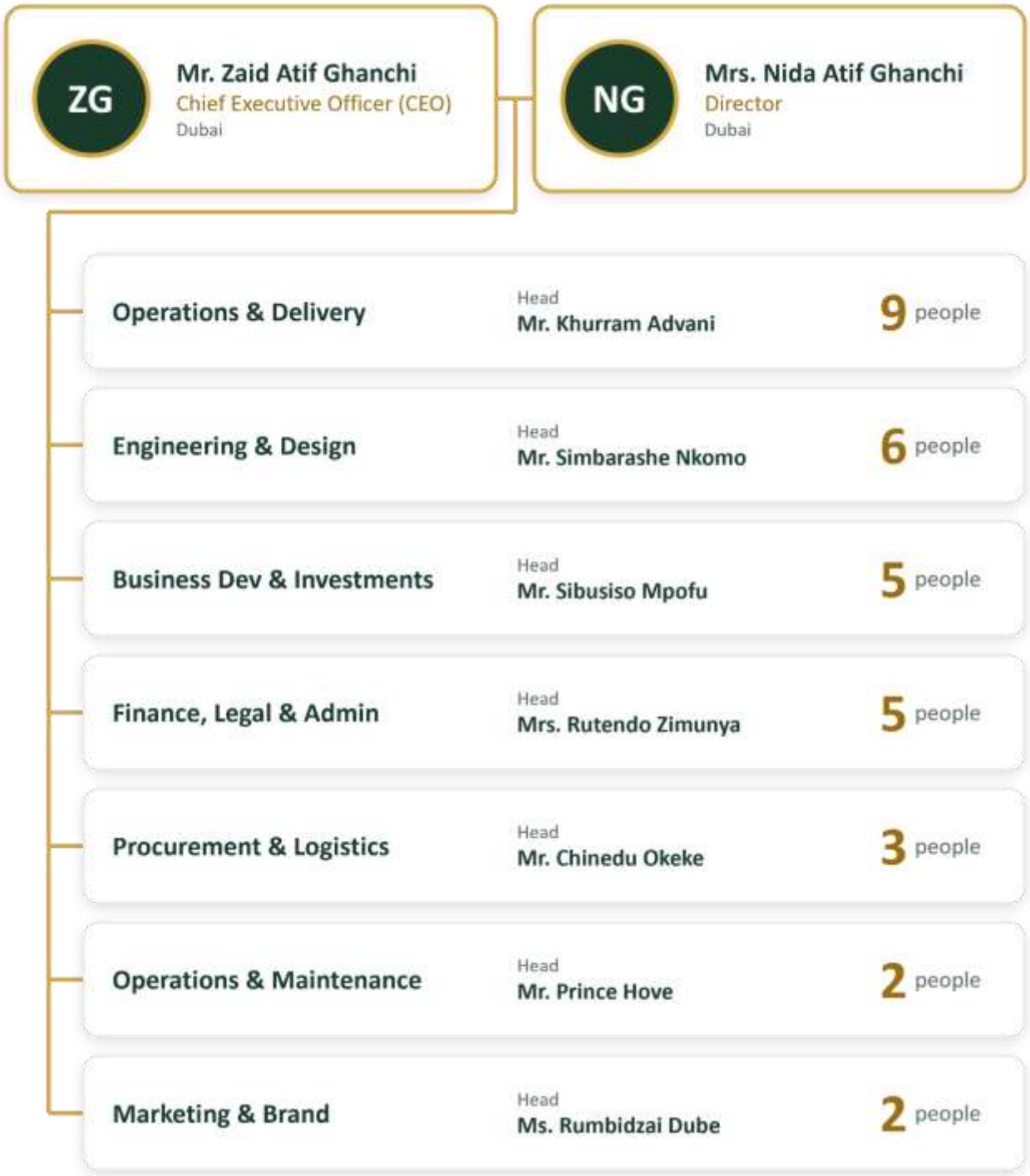
CHAPTER 13

Our Team & Credentials

The people and credentials behind the projects.

OUR TEAM

Leadership Team



Executive office: CEO, Director and Executive Assistant (3)

Dubai HQ: 11 people · Harare: 24 people

OUR TEAM

Organization and Expertise

Executive Office

Sets the direction of the company and oversees the seven departments.

ZG — **Mr. Zaid Atif Ghanchi**
Chief Executive Officer (CEO)
Dubai

NG — **Mrs. Nida Atif Ghanchi**
Director
Dubai

AO — **Ms. Amara Okonkwo**
Executive Assistant
Dubai

What the executive office does

- Company strategy and growth
- Investor, lender and partner relations
- Approval of projects, budgets and contracts
- Oversight of all department heads

Department heads

Operations **Khurram Advani**	Engineering **Simbarashe Nkomo**	Business Dev **Sibusiso Mpofu**	Finance **Rutendo Zimunya**
Procurement **Chinedu Okeke**	O&M **Prince Hove**	Marketing **Rumbidzai Dube**	

CONTACT

Let's Power Your Next Energy Project

Whether you are a developer seeking an EPC partner, an investor evaluating renewable energy, a landowner with a promising site or a technology provider looking to collaborate, we would like to hear from you.

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NOTICE

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Descriptions of services, delivery models and structures are indicative. The scope, responsibilities, price, schedule and terms of any project are set out only in the agreements signed between the parties. Services that depend on appointed partners, licences, approvals or financing are subject to those conditions.

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Project information, capacities and statuses, including power purchase agreement (PPA) status, are shown only where verified and approved for publication. Photographs and illustrations are indicative. Wind and solar performance depends on site conditions and is confirmed through project-specific assessment.

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GHANCHI

ENERGY

Clean power. Built to last.

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