Lunyati Solar Energy Corporation

www.lunyatisolar.com

LuSEC

Company Profile

Lighting up Zambia

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About
Lunyati Solar

Lunyati Solar Energy Corporation Limited is a Zambian owned and registered company under the Companies Act. 2017 (Act No. 10 of 2017), with Registration No. 120210017687. The company in located on Plot No. 34, Great East Road Block D, Room 5C, Garden City Office Park, Airport Roundabout Lusaka.

Lunyati Solar Energy Corporation Limited ("Lunyati") wishes to exploit the solar power potential of Zambia to meet some of the anticipated energy demand within the fast growing economy and electricity market in Zambia. Preliminary investigations have shown that 750MW of electricity could be generated from the PV project in the surveyed 15 sites.

ABOUT LuSEC Land Inclusive Solar Parks The way we implement our cerfication system is to use best-practice guidelines from science and industry knowledge, all of which sets the standard for quality actions and recognizable impact for the environment, local economy and communities.

ECONOMY A solid business case is the foundation of a successful project. Mitigating risks will increase the feasibility of the project.

TECHNOLOGY Not just choosing renewable technology, but also choose the best supplier with the required quality and social responsibility.

ECOLOGY Current and potential biodiversity will be incorporated in the park design so biodiversity can increase which will benefit agriculture, and the health of the ecosystem itself.

COMMUNITY Communicating with all (local) stakeholders. The community will benefit from the project and the project will receive acceptance.

Welcome
Chairman's Message

Lunyati Solar Energy Cooperation brings together a team of enthusiastic, dedicated and experienced minds in the renewable energy sector in Zambia. A team that is passionate about rethinking energy in terms of making deliberate efforts to contribute to a clean environment as well as monetizing the sector.

It cannot be over emphasized that renewable source of power; solar energy is critical in reducing greenhouse gas emissions and mitigating climate change to protect humans, wild life and the ecosystems.

With the backing of renowned local and international funding agencies and corporations, Lunyati is set up for success through the establishment of several solar energy plants across the country, sparking massive job prospects for Zambians, and that will result in improved livelihoods for families and communities, and that will greatly contribute to the economic development of the country. The solar project which is anticipated to operate at its full generation capacity of 1,500MW in three years' time, will evidently activate economic activities in several parts of the country, particularly the underserved rural communities where the majority of Zambians live. Furthermore, Lunyati is strategic about supporting the government of the Republic of Zambia to be an energy hub within Sub-Saharan Africa to address the energy deficit the region is faced with.

Our vision is clear, solid and intentional! We are "lighting up Zambia and the rest of the region."

Mr. Likando D. Mataa
Bsc. - Business administration

Executive Chairman and Co-founder

Vision & Mission

Vision

To build "People Capital" with integrity and proven experience.
Establish integrity in all aspects of our business through the creation of a climate of respect for the individual and encourage self respect.

A strong focus on corporate social responsibility to aid sustainable development in our communities through social and educational programs, environmental awareness and job creation is a core feature in all our developments.

Delivering low cost renewable energy through innovation and entrepreneurship.

Mission

Management's mission is to develop the Power Plant into a profitable venture that will provide the Company and its owners with a steady stream of income from the sale of energy production services. Further to this, LuSEC aims to provide environmentally friendly energy technologies and management systems to mitigate against global warming whilst contributing to national and regional economic development through employment creation and good corporate citizenship.

Our Values

The following three pillars represent the values of LuSEC:
Integrity - LuSEC shall have strict adherence to moral and ethical practices**.**
Continuous Improvement- LuSEC shall get better each time.
Delivery- We get things done

Goals and Objectives

The goals of this project for Lunyati Solar Energy Corporation Limited("Lunyati") is to be an efficient organization to implement this Solar PV power plant and do it in a way that the organization is financially profitable and therefore sustainable, so that investors have a low risk and safe investment opportunity, that customers get a good outcome and society as a whole gets a positive impact.

LuSEC

Our Team

Mr. Likando D. Mataa
BSc. Business Administration
Executive Chairman & Co-founder

Has nearly 20 years of experience in business development and strategic planning. Currently, in Lunyati, he provides business leadership and governance and sets the overall organization's strategic direction. He further leads on establishing strategic partnerships for the corporation, with both local and international agencies. He is the proprietor of BDL Enterprise LTD, a company specialized in mining and construction.

Mr. Munanga Nosiku
BSc. Project Management
Chief Executive Officer & Co-Founder

A seasoned entrepreneur and a business developer with over 18 years experience in business development and leadership. He established a multi-displinary Engineering Construction Companies :TOSH BUILDING CONTRACTORS LIMITED and DETOX ENGINEERING SERVICES. He brings a great wealth in project development and management. He values professionalism, integrity and has passion to influence others for social economic development.

Eng. Edward Mutumba Sambisi
MBA, M.Eng. , B.Eng.
Chief Power Officer - Electrical

He has 15 years of experience in distribution lines construction under the Zambia Electricity Supply Corporation Limited (ZESCO). This includes and is not limited to 400v, 11,000V, 33,000 and 66,000V wooden pole construction of overhead and underground networks including substation construction.
He also has 3 years of experience in Distribution System Operations and Maintenance in ZESCO. This involved ensuring continuity of supply of electricity to customers using various interventions.
· Distribution System Operations and Maintenance.
· Ensuring reliability of supply to consumers.
· Effective maintenance of the distribution system.
· Resolution of faults on the distribution network which is at 33kv down to 4kv

Eng. Charles Mwanza

Director - Mechanical Engineering

A mechanical Engineer with vast experience in Energy Sector from Renewable to Thermal Power as well as in mining. He has exceptional analytical and technical skills in project management of engineering projects. Thus, he brings 20 years experience in project management from both the business and technical. He is Chairman and CEO of Chatazzy Group; Chatazzy Engineering Limited, Chatazzy Security Services and Chatazzy Energies.

Eng. George Mulolo

Director - Civil Engineering

Seasoned Civil Engineer with over 20 years experience in Civil and Structural Engineering. An accomplished entrepreneur with over 10 years experience. He is the Chairman of Fitch Consult Limited.He brings to Lunyati Solar a whole hands-on wealth of expertise and corporate acumen.

Goodwin Mankomba

Director - Finance

An entrepreneur with over 10 years' experience; An Accountant by profession certified by the Charted Institute of Business Management and Qualified in Management Practice with over 20 years' experience in Financial Management and Accounting in various industries (South Africa). Exceptional in start-up business development. He has 10 years' experience as a Forensics accountant and Financial Forensic investigations. He is a qualified and Certified Forensic Accountant with the institute of forensic accountants (IFA) and a member of the Association of Certified Fraud Examiners (ACFE). He is the founder member of the Zambia Institute of Forensic Accountants and Investigative Auditors) (ZIFAIA).

Our
Products and Services

As the use of fossil fuels in power generation is continuously condemned by various international lobby groups and as such fuels continue to deplete, the demand by power utilities and regulatory bodies alike for economically viable alternatives has increased. As such, Lunyati Solar Energy Corporation Limited have documented a tremendous opportunity to develop facilities that produce power from solar energy. The company intends to set up and operate an initial 1500MW solar photovoltaic electricity generation plants in various parts of Zambia.

Our
Outsourced Services

- Energy Audit& Feasibility Study
- Energy Management Plan
- System Design & Commercial Proposal
- Installation & Servicing

Our
Online Product Range

The amount of technology in buildings and homes is rapidly growing and changing. The most significant change is that everything is now online : audio, video, voice, data, lighting, security, digital signage, Building Management and now our tier one range. This includes but not limited to:

Wide range of inverters and batteries.
We stock inverters for grid-tie, off-grid and hybrid applications. Our batteries are next gen with the latest lithium technology. We also stock super capacitors for the high-end customer.

Solar panels and wind turbines
Solar panels are a great way to offset energy costs, we stock Mono, Poly, PERC and Dual PV Modules. We also stock a wide range of wind turbines, including 700W, 900W, 1kW & larger.

Mounting systems and protection equipment.
Our mounting systems for PV systems provide solutions for a vast amount of applications and roof coverings. Our protection range covers AC as well as DC.

PV designing and Solar kits

Installing the right system for your needs is not a one size fits all scenario. We take the guessing out of the equation, with our accredited PV design team and catered solar kits.

Our TECHNOLOGY CONCEPT, APPLICATION AND ADVANTAGES

The mining sector is currently the largest energy consumer in Zambia, consuming a total of 51.08% of the energy produced. This is followed by the domestic consumption sector which stands at 33.16%. The finance and property sectors in Zambia jointly have an energy consumption of 5.46%, with the manufacturing and agriculture sectors consuming of 3.38%and2.27%, respectively, of the energy produced (ERB Energy Statistics, 2018).

There is evidence of a major power supply deficit in the Southern African Development Community (SADC) and Zambia is no exception. The ramifications of the country's failure to diversify its electricity generation mix became marked in 2015/2016,2018/2019 and 2019/2020 when the energy deficit resulted in unprecedented levels of electricity supply rationing to all consumers.

The country's power crisis has been largely, as a result of inadequate and delayed investments in generation and transmission infrastructure and the failure to diversify energy generation sources over the last 30 years. This was further compounded by inadequate incentives to attract investment in the sector. The deficit was exacerbated by the effects of climate change, in particular low rainfall, given that Zambia has been highly dependent on hydro -power. Thus, while Zambia's installed capacity has continuously exceeded demand, actual generation, which is limited by water reserves, has fallen short of demand since 2016. Demand for electricity stood at 6,949 MW. Zambia has been highly dependent on hydro -power despite the envisaged growth of other sources of energy to about 15 percent by 2030 (7NDP, 2017). To increase supply, there is need to promote investment in generation facilities such as hydro, nuclear, geo-thermal, wind and solar energy generation plants. The current projection syndicate that growth in demand will increase between 500 MW and 800 MW per annum. The peak demand for electricity in the country is likely to be 6,908.75MW by 2022 and is expected to increase to over 13,525 MW in 2030 (7NDP, 2017).

The need to do away with the use of fossil fuels in power generation has taken centre stage in international discourse. The Conference of Partners (COP) 27 held in Egypt in November 2022 noted the ever -rising global temperatures due to economic activities from developed countries, but with far -reaching effects on Africa's development and climate change. Lunyati, through this project sees an opportunity to align and supplement government efforts to develop and implement programmes and projects that help mitigate carbon emission within the country and globally as demonstrated by the creation of the Ministry of Green Economy and Environment. Furthermore, the project has economic benefits as it is expected that approximately 2,000 jobs will be created, and that w ill improve livelihoods for the people, particularly those living around the project sites.

Project Rationare

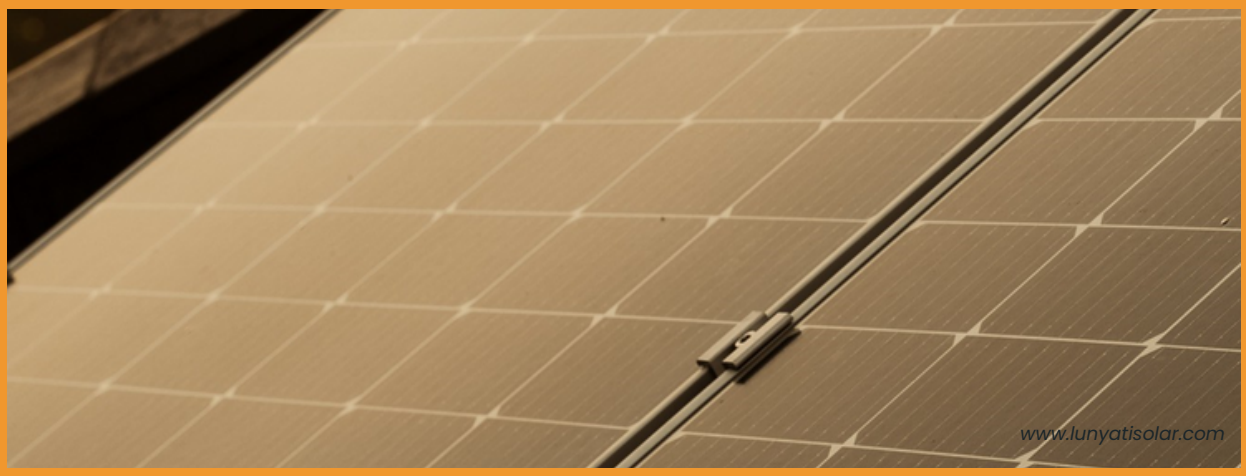
First of all, Regarding our patented solar generation technology that is very unique and special because it generate at least 3 times more electricity compare to conventional solar generation system. I would say our solar system generate up to 10 times more according to our experience Firstly, As you know, the efficiency of solar panel is only 20%, the other 80% of solar panel energy is wasted to heat. But we take 80% of solar panel energy, so our solar panel efficiency is 80% in our solar system.

Secondly we amplify electric energy through high frequency electricity amplication battery to battery charging which is in charging operation 24 hours repeatedly Therefore, The advantages of our solar generation system is
First: you can get 5~10 times more electricity compare to other solar generation system in the world.
Second: the lifespan of each components such as inverter, battery and charger are extended to over 20 years because there is no heat generation on each components.

Third: you need only 50% of land size and 50% of PV panel quantity to generate same electric capacity compare to conventional solar system.
Fourth: The PV panel temperature in our solar system is 20 Celsius degree lower than other PV panel during operation so it is also strongly recommended in hot temperature country in the world and solar panel life span can be much more extended.

A. Main technology
1. Solar panel—only series connection,10~800V (50VX2pcs~16pcs)
1-1 Almost no electricity loss through direct connection panel to panel
2. Charger(MPPT)

2-1 DC current from solar panel, can be converted high frequency alternative current stored in condenser, charging battery when discharging from the condenser.
2-2 while solar panel high frequency condenser battery,MPPT efficiency come to 214%~400%.
2-3 absorbing more electron through making high speed of electron flow, so panel efficiency reach to above 80%while conventional plant solar panel efficiency is 15~20%,
2-4 charging speed is 3 time quicker caused by high electron flow.
3. Inverter(No fuse, No cooling, No heat).
3-1 repeat charger: utilize resonance high frequency to amplify battery electricity to the battery(24hours charging, applied to e-bike, e-auto cycle)---(frequency=vibration)
3-2 transformer: make twin conductor as dividing to 16 lines from 2s line to prevent heat generation, electromotive force driven by coil Excuse us that we are limited to technical material and careful to write down some details of technology.
B. Comments
1. Proven technology in domestic and oversea that allows5~10 times more electric energy.
2. Life span of inverter, battery, charger, control system and distribution panel is over 20 years.
Because of no heat generation while other manufacturer one is replaced every 5 years.
3. Land size of solar plant and quantity of solar panel can be decreased to half.
4. ROI is 7-10 years while other solar plant is over 10 years.
5. Any solar panel from any manufacturer is applicable to our solar system.
6. Current solar plant can be rebuild only through our inverter and charger combination to generate more electricity 5~10 times.
Control ,billing system(AMI), grid system(smart-grid, micro –grid) can be supplied to customer.



Business Model

Energy Supply

Supply solar energy to domestic, commercial and industrial enterprises in need of clean, efficient and reliable solar energy.

Panel Installations

Installation of solar panels, repair and maintenance services thanks to a qualified and reputable installation and quality assurance team.

Plant Constructions

Construction of Solar Power Plants, through power plants using the latest environmentally friendly technologies.

Consultation

Consultation, energy analysis studies and designing of integrated solar system plans. This involves holding discussions with potential customers to determine their solar needs and recommend an appropriate solution.

OUR PROCESS

In order to make a solar project bankable we need to have:

1. A suitable location

2. Permits and approvals

3. A feasible grid connection

4. A PPA

Pre-Installation Project Development

3-6 Months

- Site Survey
- Planning permits
- Grid connection approval
- Grid Impact study
- Environmental studies
- Land lease agreement
- Suppliers agreements
- Financial structure
- Power Purchase Agreement
- Commercial close
- Financial close

EPC

6-12 Montrhs

- Project Engineering
- Performance optimization and costs reduction
- Procurement of components
- Site preparation
- Installing modules
- Inverter and grid connection
- Testing and commissioning

O&M

25 + Years

- Operations and maintenance
- Periodic technical inspections
- Real time monitoring (remote)
- Reporting (performance)

SWOT

+ Where We Stand

Strength

Aside from the fact that we have a vast hectares of land in a strategic location for our solar farm, Our core strength lies in the power of our team; our workforce. We have a team of certified and highly trained and experienced solar panel installation, maintenance, and repair engineers and technicians, a team with excellent qualifications and experience in various niche areas in The Solar Pack Developers industry. Aside from the synergy that exists in our carefully selected workforce, our services will be guided by best practices in the industry.

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Weaknesses

As a new solar pack and solar panel installation, maintenance, and repair company in Mumbwe, it might take some time for our organization to break into the market and gain acceptance.

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Strength

No doubt, the opportunities in the Solar Pack power plant industry are massive considering the support from the government and of course the number of individuals and corporate organizations who are now switching over to alternative energy such as solar energy.
We are ready to take advantage of any opportunity that is available in the industry.

O

Threats

Just like any other business, one of the major threats that we are likely going to face is an economic downturn. It is a fact that the economic downturn affects purchasing/spending power.
Another threat that may likely confront us is the arrival of a new solar farm or solar panel installation, maintenance and repair company in the same location where our target market exists and who may want to adopt the same Business model as us.

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Some of the Lunyati Project Sites on Map

Get In Touch

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