



OFFGRIDMASTERS

COMPANY PROFILE



Making Your Life Easy



OFFGRIDMASTERS

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1.0 FORWARD

In PNG, it is estimated that about only 13 percent of 8.6 million people have access to grid-connected electricity. That means the majority of the population are still facing major challenges with poor access to electricity and even for those with access; unreliable power supplies and lengthy blackouts are impacting basic living conditions in every home, disrupting normal businesses operations and affecting the delivery of critical services to the whole PNG community. It is evident that the lack of access to affordable, reliable power is limiting economic growth in urban areas, constraining growth in smaller urban centers and contributing to poverty in rural areas.

Currently in PNG, there are three main power grids – the 1st grid is in Port Moresby and the 2nd grid is servicing the Lae – Madang- highlands areas (the Ramu grid) and the 3rd grid is in East New Britain (Gazelle grid – Kokopo, Rabaul, Kerevat). Also, there are other smaller grids servicing the smaller urban centers. Although this existing power grids are already in place, the challenges of maintaining reliable power supply are inevitable due to the rough PNG terrain, the aging power grid infrastructure and the high operational cost. It may take years of development before any change can be seen throughout PNG. Because of the unreliability of the grid power supply, there is considerable self-power generation capacity in both the urban and rural area to explore and develop further for the benefit of the people of PNG.

In these most crucial times when there are always continuous power outages, switching to solar or wind energy has almost become a necessity for any community, any businesses, educational institutions, health centers, agricultural institutions and even residential homes both in urban and rural areas. Using green energy solution is the way forward because it is highly efficient with low operational cost, more reliable and more environmentally friendly. But while the decision to shift to clean energy may be easy, the process of using the right type of energy system and the engineering behind it to meet specific requirement can be a daunting task. As an investor there are a lot of factors that needs to be considered before making an informed decision. These factors involve knowing the geographical location, the daily power consumption and monthly/year electrical cost, the reliability of the existing power supply if there is any and etc.

Here at Off-Grid Masters, we exist to make life easier by assisting you to make an informed decision about the kind of energy system that is not only right for you but also one that can serve you and your community better in the years to come. We understand that no one wants to be left in the dark, nor experience the struggles and the difficulties of being without any source of power. Life is just not the same anymore when there is no reliable power supply or no backup power systems in place. Right from the planning and design stage, we will bring you the best of the best solutions that will meet any requirement that you may have. Off-grid Masters exist to bridge the gap by improving everyday life through the use of safe and sustainable renewable energy. To address the continuous power issues, constant blackouts and unplanned disruptions of basic services within PNG and the pacific islands and in time, drive positive change across all public and private sectors. To support the government of the day to achieve its vision of connecting 70% of the population to electricity by 2030 as outlined in the 2010-2030 Development Strategic Plan.

We hope and look forward to working with you to harness the untapped energy resources that we have and make a positive impact in the lives of our people in PNG. We believe that having reliable power is a necessity to life in general and everyone should have access to it because power is the life blood to a better Life.

Kind Regards,
Terence Nirigut
Founder of Off-Grid Masters



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2.0 INTRODUCTION

Off-Grid Masters limited is a 100% locally own company with the main focus in promoting access to clean energy as well as providing cost effective, reliable solar and wind energy solutions to government agencies, businesses, home owners and international organisation operating in the remote areas of Papua New Guinea.

We strongly believe that the use of renewable energy technology will revolutionize access to energy in areas where power grids are unreliable or non-existent. There is so much potential and opportunity for self-generation of the natural energy resources to sustain and maintain an improved living condition for the entire PNG population.

With the establishment of Off-Grid Masters Limited Company in today's technological market space will now give an opportunity for residential homes and businesses to make a switch to clean and reliable power supply, hence improving living conditions and maintaining business continuity in order to foster further economic growth within the communities and in the long term contribute positively in the development of Papua New Guinea's economy as a whole.

3.0 IPA AND IRC REGISTRATION

Off-Grid Masters Limited is a company which was formally registered in 17th of October 2022 with the Investment Promotion Authority (IPA) and Internal Revenue Commission (IRC) in compliance with the Company Acts (1997).

- a) **Certificate of Incorporation - 1-138186**
- b) **IRC TIN - 502196936**



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4.0 OFFICE ESTABLISHMENT

4.1 OFFICE LOCATION

Section 431, Lot 20, Gabone Street.
Ensis Valley
National Capital District, Papua New Guinea

4.2 POSTAL ADDRESS

P.O.BOX 1126
WAIGANI, VISION CITY
National Capital District, Papua New Guinea

4.3 CONTACT DETAILS

Mobile: (+675) 74688860 / 75314777 / 71268740
Email: contact@offgridmasters.com.pg | tnirigut@offgridmasters.com.pg
Website: www.offgridmasters.com.pg





5.0 VISION

- To be the leading Off-grid Solution provider in PNG and the Pacific Islands by creating positive change and making a difference where it matters most through the use of safe and sustainable renewable energy.

6.0 MISSION

- Offgrid Masters aims to make clean energy accessible to PNG and the Pacific
- Off-grid Masters exist to bridge the gap by improving everyday life through the use of safe and sustainable renewable energy.
- To address the continuous power issues, constant blackouts and unplanned disruptions of basic services within PNG and the pacific islands and in time, foster economic growth in Agriculture, Health, Road, ICT, Transport, water & sanitation, Energy
- To support the Government vision to connect 70% of the population to electricity by 2030 as outline in the 2010-2030 Development Strategic Plan.
- To give power back to the People and make life easy.

6.1 COMPANY VALUES

- Trust
- Equality
- Respect
- Quality
- Innovation

6.2 COMPANY VALUES

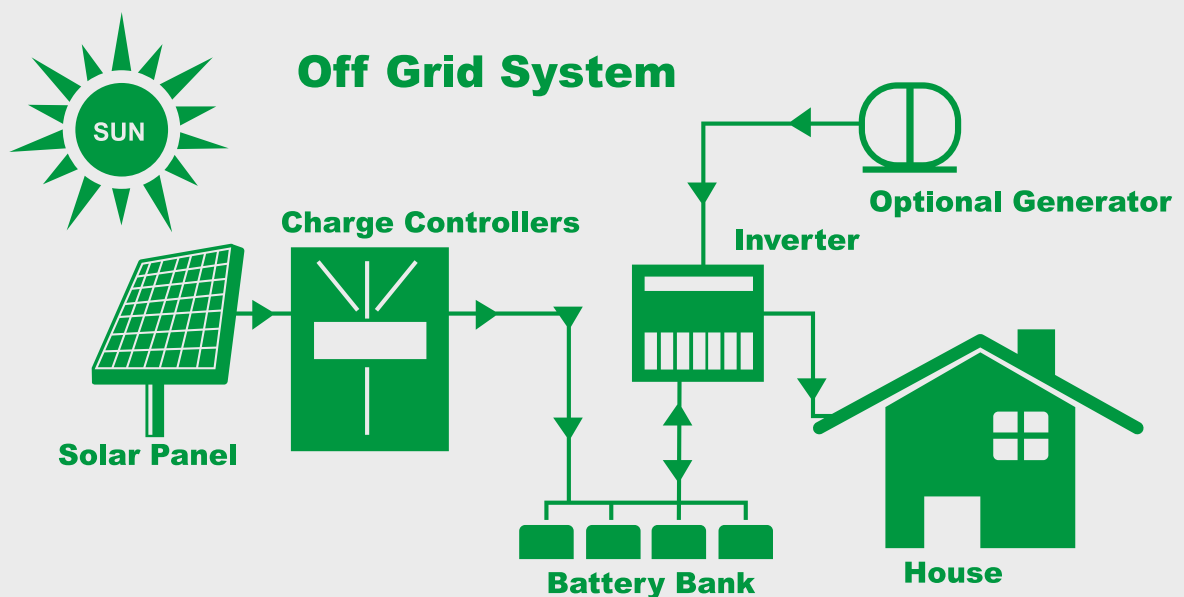
- Focus on Quality, Price and Service
- Aim to help organizations, government agencies and businesses transition to clean solar and wind energy by providing practical cost saving solutions.
- 20 plus years' hands on experience in planning, procurement and project rollout by certified and Licensed Electrical Engineers and tradesman.
- We provide technical guidance to help find you the right solution that would meet your operations or business requirement.
- Quality and Safety Checks carried out by License Certified Electrician to ensure every deployment is within safety regulations.
- Offering Highest quality products and installation with best practice and standards.
- Best customer and after sales support services
- Low cost and guaranteed savings.
- Quick turnaround time



The main activities of Off-Grid Masters Limited is to provide products and services (Installations and maintenance) in the following areas:

Solar/Wind Off-Grid System

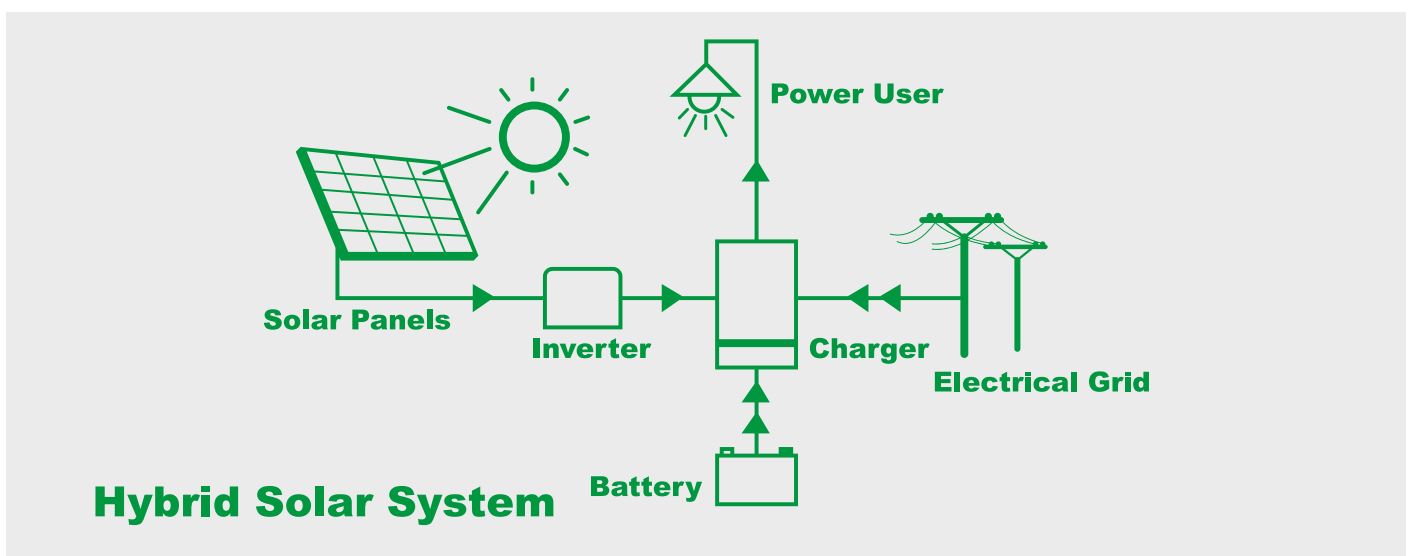
The Off-Grid system (Solar/Wind) is fully independent of the grid as they are fully equipped with battery backup storage. For this setup, the inverter charges the battery and powers the work/home appliance during the daytime while at night time or during power outages, the stored power in the battery can be used by the load. The Off-grid Systems can be designed to allow you to choose whether the solar panels charge the battery first or power the rest of the property. The installation of this type of off-grid system can be deployed in remote or rural areas that experiences frequent power cuts but get exposed to sunlight all year.



Hybrid Solar/Wind Off-Grid System.

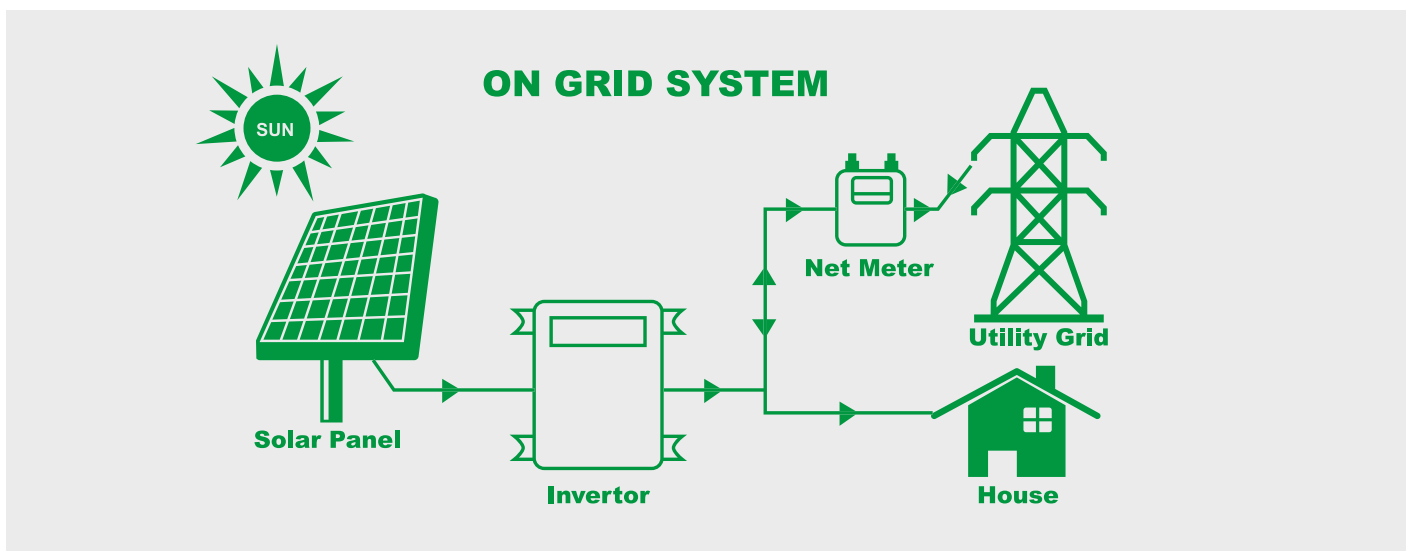
Hybrid Solar or Wind system refers to a system that is connected to the main utility grid and has an attached battery bank to store excess energy. Whenever the electrical power from the main grid is available, the solar inverter will work as an on-grid inverter however when the main power fails it will work as an off-grid inverter. The main benefit of a Hybrid setup is its availability of power in all situations. The solar panels or the wind turbine will first power the office/home devices while using the excess energy to charge the battery. In cases there is a surplus, it can be optional for the end user to send back to the utility grid. Sending power back into the grid is not usual a mandatory requirement.

During the night when sunlight is not available, the stored power in the battery can be used. Moreover, the main utility power when available either during the day or at night or during raining days, has the potential to charge the battery.



On Grid Solar/ Wind System.

The management of Off-Grid Masters Limited trust that the service our firm provides to its client is second to none. We take pride in our management team of experts and our quality products and services.





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8.0 PRODUCTS



a) Small Load Power Systems

This is a small load easy installed off-grid remote power system for small loads such as remote gates, security civilians and monitoring/CCTV, internet repeaters, irrigation controllers, pond/dam aerators and dosage pumps.



Irrigation

Utilise solar PV pumping systems to operate a pressurized irrigation system



Cow Milking

Dairy farmers can harness solar energy to reduce their electrical bills



Sheering Shed

Power your sheering shed using solar energy, minimising electrical bills



Solar Sprayer

Solar pesticides sprayer machines are designed for farmers to improve their productivity through the use of rechargeable batteries



Solar powered tractors

Electrical charged tractors, reducing consumption of oil and thus, reducing the budget of farming



Solar dryer

Solar drying systems, used for the drying of agricultural products like potatoes, grains, carrots and mushrooms



b) Mobile WiFi Solar Trailer or Fixed Solar setup Solutions

This is a great solution to support quick response to Civil defense emergencies or any other rapid deployment or event that needs immediate attention. This equipment or product will ensure that faster delivery anytime, anywhere. This is a high-tech trailer to provide power and internet access when it is needed the most. The solar-powered Trailer is designed to supply emergency power and internet for up to seven days without recharge, even in remote or rural locations.

Internet accessibility is critical in order to respond quickly to any emergencies and to allow for any business continuity to proceed normal. The Wifi Solar Trailer will ensure access to any cloud-based IT system is maintained at all times.



It is great for any events or community-based activities. The WiFi-Trailer is kitted with batteries, solar panels, Telescopic mast if required, inverter and 1+1 satellite electronics.

The product utilizes a Rapid Deploy Solar Array, mounted on a heavy-duty trailer that has been designed to survive the harshest conditions while being versatile for the clients' needs. Its applications include disaster response, agricultural intelligence, telecommunications, defense, geo camps and much more.



Agriculture



Telecommunications



Disaster Response



Remote Working Teams



Mine Sites



CCTV & Video Surveillance



c) Power Repeater Solutions

- Present day telecommunication systems are often located in rural areas, far from grid supplied power, primarily relying on diesel generators, costing in oil and maintenance whilst causing detriment to the environment.
- This problem has the perfect solar solution whereby generators can be supplemented with solar power systems, producing no carbon emissions as well as saving cost on oil and maintenance. Furthermore, the dependency on external sources is reduced, resulting in a more stable and secure telecom site.
- The utilization of solar powered systems maximizes energy management efficiency, maintaining optimum energy procurement, whilst reducing energy costs and waste.



Remote Towers



Back-up-systems



Repeater Stations



Base Transmission Station



Two-way-radio



Satellite earth stations



d) **Smart Solar Wind Hybrid Street Lights.**

- Wind and Solar Hybrid Street light solution is a great solution. As the name suggest, the Street light uses both Solar and wind dual-engine generation with fast charging speed. Even at night or rainy days, it still can be charged which ensures its battery power is always sufficient.
- It has as inbuilt pathway Led indicator which will be turned on with a street light simultaneously and can be preserve for pathway guidance and traffic warning by emitting a red rhythmic light. The product uses Microwave Sensor Technology. Which means it optimizes brightness automatically whenever there is movement.
- or management of the device, a mobile app can be used to monitor and control the light via the Bluetooth connection





e) Water and Sanitation

Bore Water Desalination Systems on and Off-Grid Solutions

Create unlimited fresh water straight from the sea, bore, ground or channel at your remote property or village is now possible for our people in the rural community.

Having fresh water can be very challenging for areas in PNG which don't have proper water supply. That is why at Off-Grid Masters, we have partnered up with our suppliers to bring you a Fresh water Solution that is affordable.

Our Off-Grid solutions cost nothing to run and instantly give you fresh water truly made by nature. Our smallest system produces approximately 100 litres per hour. We also have 200 and 300 lph solutions which can meet your requirement. The system uses approximately 1,650w of electricity. If you have solar and run the system during the day when the panels are producing - then you truly have water with no ongoing costs.

It is important that every home should have a reliable supply of fresh water to their remote area or seaside villages using our solutions which can be adapted to any size requirements.





f) Solar Powered Cold Room. (Mobile or Fixed)

- Portable solar powered cold store is an innovative new solution which enables smallholder farmers to store temperature sensitive fresh agricultural produce. This solution helps smallholder farmers avoid huge investments in creation of storage space, enabling them to focus in producing high value horticulture and dairy produce.
- These off grid portable solar cold stores are designed and built with the user reliability, performance and running costs in focus. Solar Freeze brings a new dimension to the temperature controlled, portable cold storage market. The product is great for storing fish and also food crops.
- Customized Solar Freezer Solution for a fixed location
- It is important that every home should have a reliable supply of fresh water to their remote area or seaside villages using our solutions which can be adapted to any size requirements.



f) Solar Powered Cold Room. (Mobile or Fixed)



Rapidly deployable skid mounted stand-alone power system. DC Only, Single Phase or Three Phase. The World's first fully integrated and engineered, solar generator for industrial applications as shown below



Disaster Response



Telecommunications



Agriculture



Defence



CCTV & Video Surveillance



Mine Site

9.0 CONSULATION AND PROFESSIONAL SERVICE

Do you need help designing your system? Don't hesitate to consult with us today.

From the design stage we will take you step by step through the process of safely designing your off-grid solar, wind (Solar + Wind + Generator) system. We believe that anyone living or creating off-grid should know their system inside out and be able to personally troubleshoot their system.

9.1 DESIGN STAGE

Load Analysis

A thorough Load analysis must be done for every off-grid system. This is the vital component in understanding your energy needs and understanding how many watts and Amps each appliance will draw from your battery bank. Knowing this information is very important because this will determine your battery bank and solar/wind system.

Battery Choice and sizing

There is a wide range of battery options to choose from however, depending on the load analysis reported that will be generated specifically for you, we will then be able to help you decide which battery size is best for your requirement as well as the choice of battery voltage and how to configure your battery bank accordingly.

Equipment choice and sizing

We will assist with right choice of which Charge controller to use, the right type of inverter to use, the number of Solar panels to use or what size of wind turbine to choose from. Also, we will assist in choosing the right type of monitoring tool and will assist with choosing the accurate cable size for safe installation.

9.2 IMPLEMENTATION STAGE

We will engage you in the process of exactly installation so you are fully aware and can perform any troubleshooting tasked as and when required.

9.3 COMMISSIONING & TESTING STAGE

Our team of certified electrician will help you with any configuration, programing and testing in order to safely commission your system as well as answer any questions you may have because we are committed to being part of quality installation.

10.0 MEET THE EXECUTIVE TEAM

The management of the company is consisting of the following:



10.1 THE MANAGEMENT TEAM

Mr. Terence Nirigut Founder and Technical Director

Before starting OFFGRIDMASTERS, Terence Nirigut works as an IP Network Engineer for Telikom PNG Limited for about 12 years in the IP Core Department which he oversees the daily operations of the Telikom IP Metro and MPLS Network. Also helped in rolling out the Telikom Wifi during the 2015 Pacific Games and also assisted in building Telikom/Bmobile 4G LTE Network. Then he went on to work as a Senior Network Engineer with SPEEDCAST which is an Overseas Company specialised in Internet Service provisioning via Microwave and Satellite for about 2 years. Later He was employed with another Overseas company called SPRINT NETWORKS. He worked with Sprint Networks for 2 years and took up the role as Sprint Network Country Director in PNG as well as the Lead Network Engineer which he managed and support Westpac HQ and all Westpac remote Branches in PNG in terms of Network Connectivity, ATM machines, Eftpos and also providing 24/7 Support. Mr. Nirigut was also responsible for building Kina Bank Security's Main End to End Licensed Carrier grade Microwave link from their Data Recovery site in Town, Port Moresby to their Head Office in Waigani.

Mr. Nirigut then went on and Co-Founded an ISP Company called Genesis Communications and also took up the role as a Lead Technical Director/Country Director where he oversees the provision of Satellite Internet Services to rural PNG communities using hybrid Solar Energy.



Mrs Rose Stewart Co Founder/Director and Operational Manageress

Ms Rose Stewart serves as the Co-Founder and Director of OFFGRIDMASTERS Limited as well as the Operational and Administrative Manageress. She brings with her a great wealth of Knowledge and experience in the areas of management and organising of the company's day to day operations. She also holds a Full Technological Diploma in Telecommunications and Electronics Engineering attained under the City and Guilds Institute of London and has over 10 years of experience working in the Telco Industry particularly in the Information Technology Department of Telikom PNG whilst holding various managerial positions. She has the ability to manage, organise and execute tasks with minimum supervisions and also brings a wealth of knowledge to help move the company forward.



Mr. Patrick Andowa **Senior Licensed Electrician**

Mr. Andowa is a qualified Licensed electrician, with 30 plus years working in the electrical industry. He brings with him a wealth of knowledge and experiences. He has been involved in a lot of projects and trainings of the years with various Electrical companies including PNG Power. He brings a wealth of experience, very knowledgeable and is an expert in his own electrical field. He will be overseeing managing the installations, testing and commissioning to ensure every deployment carried out by Offgridmasters is done within acceptable and quality standards before any project is handed over to the client for use.

**Glenson
Tamanabae** **Team Leader Electrical and ICT
expert**

Glenson Tamanabae is an Electrician and Information Technology expert and certificate Holder with more than 6 years of experience. He has vast knowledge and experience in domestic and industrial electrical appliances, its usages and its safety procedures. He also experiences in Solar Installations, Telecommunication Tower rigging and installations of Wireless GSM Antennas and microwave link installations and commissioning. Mr. Tamanabae brings with him experience with NodeB/BTS/Transmission performing telepower commissioning, microwave/wireless commissioning and also has troubleshooting skills sets in the areas of Diesel Generators and Electrical systems.

Vincent Kelis **Project and Design Electrical
Engineer**

Vincent Kelis is also a Certified Trade Electrician and is one of our lead technicians with 3 years' experience working in the field of ELECTRICAL TECHNOLOG. Mr. Kalis has worked with JEC POWER LIMITED and has gain experienced in Electrical maintenance, Genset and Aircon installation and service, fault finding (Testing), problem solving and Solar Installation. He is also able to design electrical sketch diagrams for both domestics and industrial wiring. Mr. Kelis brings with me leadership management qualities

11.0 OUR PARTNERS





12.0 CONCLUSION

We welcome any business big or small that will give us a challenge to prove to the general public and ourselves that PNG OFFGRID MASTERS Limited Company can be competitive in an elite market place and also, be affordable to the ordinary Papua New Guineans in this entrepreneurship.

The company has adequate manpower strength, logistics and financial capability to produce quality workmanship at reasonably affordable price to its potential clients.

The Management Team will be more than happy to hear from you and also provide you with your solutions when you do Contact us via email, telephone number or address shown as shown above.



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